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Z. ROMÁN

INDUSTRIAL POLICY IN HUNGARY – TODAY AND TOMORROW*

The article shows how the objectives of Hungarian industrial policy have changed under the effect of changes in the internal and external conditions and how the system of instruments, organization and decisions should be corrected accordingly. In defining the objectives of development the author deems necessary to increase selectivity reckoning with foreign economic interrelations, while in the system of instruments the selective tools should be reduced in number and the normative elements of control should be strengthened.

Do we need an industrial policy?

Although the priority economic policy research project of the National Long-term Scientific Research Plan** explicitly sets the target "scientific foundation of industrial policy", yet this point is repeatedly at issue in Hungary.

The main argument against industrial policy is that the integrity of the economic policy should be maintained; industry is interconnected with other branches of the economy by so many ties that the problems of its development should not and cannot be handled separately.

This aversion to industrial policy in Hungary dates back largely to the period (around the turn of the 40's and the 50's) usually called the period of forced industrialization. At that time economic policy as a whole was indeed subordinated to industrial development to an extent that had grave disadvantageous consequences for many other areas. Similar strivings for treating the industry with excessive emphasis are met nowadays only sporadically. On the other hand, campaigns for maximum support to the preferred development of certain branches within the industry keep recurring. An industrial policy covering the entire industry may be, however, an effective instrument against these actions.

A forced separation of industrial policy could not, of course, be tolerated. This is thwarted by the increasing interdependence of the different branches of the economy, and the close relations between research and development, production and consumers' services manifesting themselves also in organizational integrations. (Nearly 2/3rds of

*Based on a paper prepared for the 2nd International Conference on Industrial Economics: "Industrial Development and Industrial Policy", held between 5–9 September 1978, at Székesfehérvár, Hungary.

**For details see [1]

domestic R and D are used by industry.) Because of the diversification of production the share of industrial activities of the non-industrial organizations is also increasing (it amounts now in Hungary to nearly 10 per cent, measured by employment). Foreign trade relations of the industry are also of growing importance. Nearly half of the output for final demand of industry is exported, and 30 per cent of the materials used by the industry is imported.

The *interdependence between economic and social activities is also strengthening.* Industry provides the working place for 1/6th of the Hungarian population and for 1/3rd of all employed. The character, the conditions, the "quality" of work in the industry are of decisive importance from a social point of view as well. At the same time – to quote a less known relationship of another type – it is an extremely important Hungarian feature that 4 out of 10 workers employed outside agriculture belong to families who also carry on small-scale agricultural activities.

The integrity of the economic policy (and its harmony with policy-making in general) are prime requirements. This has been corroborated again by the findings of the economic policy research team headed by I. *Friss* [2]. In practice, however, – *if only for the institutional system, the expertise, and the special skills of the expert staff, – a certain degree of separation among the different branches of the economic policy breaks through in any way.* The complexity of the economy necessitates special treatment of its various areas, objectives and instruments, and, on the other hand, also requires adequate coordination of these activities for the sake of implementing the basic goals of the economic policy.

While on the one hand the scope of movement and independence of the industrial policy are confined by the many kinds of interdependencies, on the other hand these also justify such an integrating activity. An industrial policy torn out of the context of the overall economic policy might hurt and hamper the implementation of our ultimate economic and social goals, the lack of a coordinated industrial policy might curtail the desired assertion of the objectives formulated for the industry from various sides, and of the instruments exerting their effects from various directions.

Pondering the aforesaid as well as the fact that the control of the Hungarian industry is divided between quite a number of ministries and other authorities, and that adequate coordination has to be provided also among these institutions, the arguments for a more definite formulation and the assertion of an industrial policy appear to have more weight than the involved disadvantages and possible risks.

Do we have an industrial policy?

Remarkably, in the course of discussions, affirmations to this question came mostly from those who did not deem it necessary to have an industrial policy, while doubts were voiced by those who pressed for a more clearcut industrial policy. This in itself indicates that the answer to the question depends very much on what is meant by industrial policy.

The main arguments for the positive answers were the following: there exist plans and programmes with quantitative targets for the development of the industry; a great number of high-level decisions and many organizations deal with the tasks and the control of industry; the industry shows significant development.

The unconvinced referred to the lack of a comprehensive concept for industrial development, considering also its qualitative characteristics; there is not always proper harmony between the many resolutions concerning and the many organizations dealing with industry; part of the resolutions are not carried out; despite the marked development of the industry progress is not sufficient in several respects such as productivity and efficiency, technology, competitiveness, management and organization, modernization of the pattern of production.

If industrial policy means that in a country targets are set for the development of the industry and competent organizations are engaged in the implementation of these targets through many kinds of instruments, then we certainly have an industrial policy. But if the question is put as follows: is our industrial policy as elaborate, coordinated and efficient as it should be, the answer is not so easy. For this, the first question we have to answer is what a comprehensive industrial policy concept is supposed to contain. By what criteria can we judge whether a country's industrial policy is properly coordinated and really efficient.

Today we are not yet in a position to give quite reassuring answers to these questions, but the doubts do not seem to be unbased. It is distressing, first of all, that we are unable to overcome some recurring difficulties, to accomplish perfectly even the acutest tasks calling for qualitative changes in the industry. Therefore, it seems to be worth our while to devote some efforts to the analysis of the nature of our industrial policy, how it works, and how it could be improved.

The study of such basic issues has been stimulated also by the analysis of the requirements. What does it mean: "scientific foundation of industrial policy"? It is only one of the ways towards the implementation of this target to summarize, enrich and systematize the relevant knowledge, to carry out additional research facilitating realistic and objective judgement of the situations, identification and elaboration of alternatives, as well as better evaluation of their consequences, main and by-effects.

What is the guarantee that this knowledge will be really applied to industrial policy? The receptivity and willingness of the decision-makers and those preparing the decisions for the findings of science and research is highly different. Industrial policy is a science and an art at the same time. To its art belongs the utilization of the achievements of science and research, but this must be given a hand from the research side as well. This requires better insight into policy, research to find the points through which the relevant knowledge can be channeled the best into the routine of industrial policy. The first results of these studies are reported in the following, presenting first of all the framework, foreseen also for comparative studies at a later stage, and some lessons for the Hungarian industrial policy.

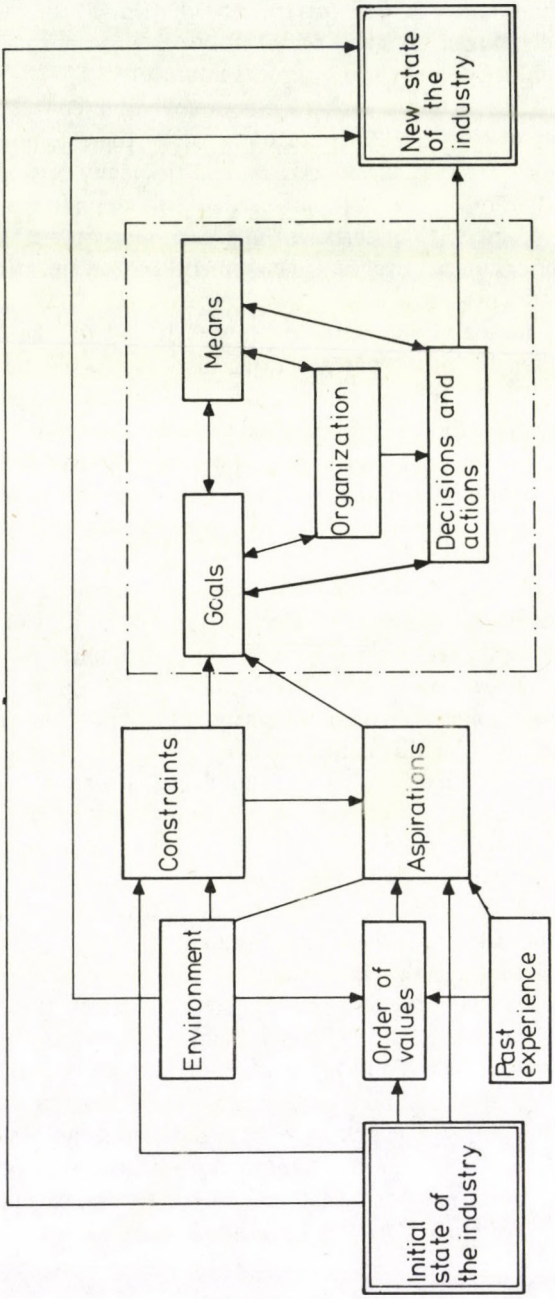


Fig. 1
Industrial policy and the factors shaping its goals

The main elements of industrial policy

There is no generally accepted definition of industrial policy either in Hungary or abroad. What is more, while in the market economies increasing attention is focused on industrial policy – mainly due to the problems of integration, technical progress and structural changes – in the Soviet Union the notion is not used so often. Moreover, many problems of economic policy are approached rather from the aspect of the theory of control. E. g. according to the interpretation of academician *Fedorenko* [3], the synthesis of the required (R) and the possible (X) state of the economy is produced by control (F) according to the model on p. 4 (op. cit. p. 43). This interpretation puts the control of the economy in the centre, and relegates to its sphere not only the implementation of the targets of economic development, but also the setting of goals. Numerous problems of industrial policy are examined under the title of the control of industry, e. g. in the book of *Popov* [4] and *Taksir* [5].

In our concept economic and industrial policy is the complex of

– goals
– instruments
– organization ("agents") and
– decisions and actions.

The main interconnections are shown – of course, in a very simplified way, with emphasis on the factors affecting goals – in Figure 1.

Both the systems of goals and instruments and the actual decisions and actions are profoundly affected by the agents in the economic and industrial policy, by the individuals, groups and organizations setting and implementing the targets, disposing of the instruments and reacting to them, accepting or refusing, promoting or hampering the assertion of the goals and of the instruments called upon to serve the former. What will be finally realized from the declared economic and industrial policy goals depends very much on the organization in this broad sense. For this reason, from the main elements of industrial policy organization will be treated first in brief.

Industrial organization, the enterprise subsystem*

The main agents of industrial policy are the industrial enterprises and the institutions controlling and representing industry. It is the first condition of a consistent and efficient industrial policy to have a clear idea about industrial organization and its functioning, and to harmonize this with the goals and instruments of industrial policy as much as possible.

At present 1,8 million persons are employed in the Hungarian industry: 84 per cent of them are employed by 712 state-owned enterprises, 13,5 per cent by 701 cooperatives, and nearly 50 000 people work in the private handicrafts.

*This part of the paper is based on a more detailed study [6].

By international comparison the enterprise concentration is almost uniquely high in the Hungarian state-owned industry. In the West-German industry the unweighted mean of the share of the 3 largest enterprises is 29.9 per cent (in 1970, on the basis of 68 branches), the share of the 4 largest enterprises in the French industry (in 1969, based on 48 branches) 27.9 per cent, in the Belgian industry (in 1976, based on 96 branches) 51.5 per cent. The comparable Hungarian data computed for 1975 (on the basis of 61 branches) are for the largest 3 enterprises 68.6 per cent, for the largest 4 enterprises 75.4 per cent. (These data refer to the state-owned industry producing 93 per cent of the value of gross output of total industry.)

In the Hungarian industry the share of enterprises with more than 1000 employees was 76 per cent in 1975. The approximative data are 57 per cent for the GDR, 55 for Yugoslavia, 47 for France, while in Denmark and the Netherlands the share of enterprises with over 500 employees is 38 and 44 per cent, respectively.

If there are great differences between the labour productivities of the countries compared, the size-distribution of employees does not give a true picture of the concentration of *production.* Since the output of a one-thousand-men enterprise in Hungary is produced by 500-men companies in the West and in North-European countries, an adjustment of the employment size-distribution data can be recommended. Even the adjusted figures do not change the conclusion that enterprise concentration in the Hungarian industry is extremely high.

Multi-plant enterprises are characteristic of the Hungarian industry. In the state-owned industry only a quarter of the enterprises consist of one single plant, while two-thirds have three or more establishments. The other side of the coin: only 3 per cent of the industrial plants of the state-owned industry are independent enterprises (single-plant).

Plant-sizes are relatively large according the unadjusted employment data but the figures corrected for productivity differentials do not show particularly large *outputs on plant-level.* In certain branches (engineering, textile, clothing and food industries) the share of small plants is in particular low, and their autonomy and potential for growth are everywhere strongly limited.

We distinguish as a special subsystem of the industrial organization the infrastructure of the industry – the organizations that serve industrial enterprises. These are partly organizations classified as industry (e. g. repair shops), partly belonging to other sectors (e. g. construction, transport) and, last but not least, organizations offering intellectual services (for example technology, design, consultancy, training).

Circumstances were not favourable for the development of a balanced industrial infrastructure in Hungary (and similarly of the infrastructure in general). This often causes difficulties and occasionally excess costs in the production sphere. The industrial enterprises display a fairly high amount of activities which are performed in the advanced countries by specialized infrastructural units; in other cases (computer services) the network is apparently oversized. The development and rationalization of the industrial infrastructure is a pressing task of industrial policy.

The present pattern of industrial enterprises in Hungary is a product of a longer historical process, but its main features were formed 15 years ago when, between 1960 and 1965, the 1338 state-owned enterprises were amalgamated into 840 larger units. The number of enterprises was reduced to 779 by 1975, and between 1975 and 1977 with a new wave to 712 (the number of cooperatives dropped in these two years from 793 to 701).

In 1968 a far-reaching reform of the system of economic control and management was introduced, and also other internal and external conditions of the economy underwent substantial changes. This necessitates an urgent revision of the present enterprise pattern. The existing, extremely centralized organization is probably advantageous for the concentration of resources, for the entry to the world market, for certain types of economies of scale, and for carrying out some major strategic changes in the pattern of production. As our further analyses will show, this pattern, on the other hand, is in many respects not in full conformity with the present system of economic control. The dominance of multi-plant enterprises means a considerable internalization of the buyer- and seller relations; the increase of flexibility, the curbing of rivalry for subsidies and exemptions, rationalization and/or closing down of establishments that are dispensable seem to be more difficult in the case of large enterprises than for small and medium-sized firms. Most probably in many branches a more balanced enterprise size-pyramid would be in better conformity with the goals of the industrial policy formulated for the coming years. However, instead of uniform and prompt changes – drawing on the lessons from earlier experience – considerate, *differentiated* and gradual modifications accompanied by a corresponding updating of the system of enterprise management and of ministerial control can be recommended.

Industrial organization, the control subsystem

The major control institutions of the Hungarian industrial organization are the industrial ministries supervising the major (543) state-owned enterprises and exercising "sectoral control" over all industrial activities within their sphere of competence (there are now 5 such ministries in Hungary); the local communities (councils), supervising the 236 "local state-owned enterprises" and in some respects coordinating also other industrial activities in their area; and the central (functional) authorities (as e. g. the National Planning Office, the Ministry of Finance, State Board for Technical Progress), resp. their subunits dealing with and monitoring industrial activities. The major representative institutions are the Association of Industrial Cooperatives, the Chamber of Commerce, the Trade Unions, and the Handicrafts Association.

The reform of the system of economic control and management introduced in 1968 in Hungary significantly increased the autonomy of the enterprises. Nevertheless, due to the complexity of this control subsystem they are subject to influences of different character from many sides. This has a strong impact both on the freedom of action and

the behaviour of the enterprises. In addition, this control subsystem may initiate basic changes in the first and second subsystem, in the structure of the productive and infrastructural organizations.

It was a great help in the drafting and introduction of the Hungarian reform of economic control that the need for a more explicit consideration of the enterprise interests was realized. The organizational (and individual) interests are similarly to be reckoned with in the control subsystem. It would be an over-simplification if only the interests of the national economy and of the enterprises were distinguished. The interests of the national economy can be interpreted in many cases in different ways ad the institutions of the control subsystem define and enforce it with some adjustments to match their own interests.

This is also manifest in the existence and strong impact of the sectoral subsystems within the industrial organization, connecting the sectoral components of the enterprise and the control subsystems. Since the sectoral relations can be identified quite precisely it is somewhat more than a pure informal organization. The enterprises' and the control institutions' interests may be often conflicting, but in the rivalry for the development and privileges of a given branch (or regional unit) in most cases these meet and support each other. If we deal more explicitly with this phenomenon in the industrial policy – both in the preparation of decisions and in their implementation – then every process will become clearer and perhaps more manageable, too.

In the following we are going to distinguish – for the sake of brevity – 4 "agents" of the industrial policy:

- a depersonalized "Center" setting and representing the principal social and economic objectives,
- the control subsystem of the industrial organization,
- the enterprises as organizational units, and
- the employees of the enterprises, as individuals.

Deeper analysis is needed first of all into the control subsystem consisting of central, sectoral, regional, state and social institutions, and also the abstraction of a depersonalized Center is to be to lifted later on.

Objectives and their changes

In studying and shaping industrial policy it will be expedient to distinguish

i) the *explicitly formulated* objectives of industrial policy (laid down in different resolutions and documents, quantitatively defined in the national economic plans and summarized in industrial policy concepts),
ii) the *goals of the individuals* working in the industrial organization (in its broad sense),
iii) The *goals of the industrial organizational units,* and
iv) the *goals actually asserted* in the development of the industry.

Compatibility of these four sets of goals (and their interactions) may be of various degrees and cannot be enforced but always through compromises. For industrial development necessarily a number of partly complementary, partly competitive goals are formulated. The individual, too, has many goals; it is only natural that these come into collision with each other and with others' objectives. The organizational goals emerge as a compromise of the different individual and group aspirations, depending on power relations.

As regards the interaction of these set of goals: the individuals and the organizations in our economy identify themselves with the formulated goals of industrial policy to a great extent, yet, beside that (and to a certain degree against it) they also enforce their own objectives as well.

The formulated targets of industrial policy may be derived primarily from the objective-system of the economic policy. In Table 1, without aiming at completeness, 11 economic policy objectives – different in type – are enumerated. These are surveyed from two points of view: whether there has been any change in the importance attributed to them and whether their implementation gives more or less trouble than it used to in the years before 1974–75.

Table 1

Changes in the importance of, and in the efforts needed for, implementation of economic policy objectives

Objective	The same	Greater	Smaller	The same	Greater	Smaller
	importance is attributed than earlier			efforts are needed than earlier		
A) Improvement of living standards and living circumstances	X				X	
B) Full employment	X					X
C) Growth			X		X	
D) Higher efficiency		X		X		
E) Modernization of the pattern of production		X		X		
F) Balance of the state budget	X				X	
G) Balance of international payments	X				X	
H) Adequate relative incomes	X				X	
J) Regional equalization (levelling)	X					X
K) Stability of the purchasing power of money			X		X	
L) Quality of working life (claims on the meaning of work)		X		X		

Following the train of thoughts of Fig. 1, our "initial state" can be characterized briefly by these statements:

- Hungary is a medium-developed country with 10.5 million inhabitants, a member of the socialist economic community, but the weight of its foreign trade with the market economies is also considerable,
- a very high percentage – one third – of all active earners are employed in industry, with mediocre productivity and efficiency,
- despite the relatively significant R and D inputs the standards of technology, management and organization are rather uneven,
- analyses using aggregated indicators show a production pattern of the industry similar to that of the advanced countries. However, the share of up-to-date, marketable, competitive products is low.

Recently the following new features are to be added:

- industrial employment already shows a declining tendency,
- the industry has difficulties in adequately counterbalancing its growing import consumption and the losses due to the deteriorating terms of trade,
- the problems of investment equilibrium have again aggravated.

Amongst the *internal changes* following the exhaustion of supplementary labour resources a pressing shortage of labour is felt – often due to exaggerated demand and a corollary of low performances – and we are not yet in possession of suitable tools for mastering this imbalance.

Beside the healthy political stability it is typical of the *domestic environment of industry* that there is a strive for the preservation of the existing state of affairs even in fields of economic life where the well-known changes in the *external environment,* in the

Table 2
Indicators of the dependence of the Hungarian industry on foreign markets

Indicator	1959	1965	1972
Import consumption per unit of gross value of output	0.09	0.12	0.15
Complementary imports per unit of gross value of output	0.14	0.18	0.26
Exports per unit of gross value of output	0.16	0.19	0.24
Total (aggregated indicator)	0.39	0.49	0.65

Source: Input-output tables of the Hungarian economy. Central Statistical Office, 1961, 1968, 1975.

world economy would demand more prompt adaptation. This is more and more important because our dependence on foreign markets is increasing (see Table 2). This dependence of the industrial branches may be characterized with the sum of import consumption, complementary imports and exports per unit of value of gross output. The value of this indicator was in 1972 above 0.75 in 22 from 65 branches. This aggregated indicator contains an overlapping with regard to the entire industry, considering import consumption and complementary imports, still its jump from 0.39 to 0.65 is remarkable.

Owing to the changes in the external conditions we have to cope with *more rigid constraints* than earlier when setting the goals for industrial policy. Along with the more and more difficult foreign economic conditions it may be regarded as another outside impact – demanding adequate adaptation – that for a medium-developed country it is harder and harder to keep pace with technological progress.

Regarding the economic policy goals listed according to the above analysis the essential changes can be found in the following (see Table 1):

1) it is more difficult than earlier to establish the equilibrium of the state budget and of the balance of international payments;
2) bearing also the other goals in mind, it is harder to attain even a more modest growth target than formerly;
3) the increase of efficiency and modernization of the pattern of production are more imperative, their implementation is nevertheless invariably a difficult problem;
4) finally, instead of full employment we face the problems related to moderating the excess demand for labour, a better balanced manpower-policy and the satisfaction of requirements raised towards the "quality of work".

The understanding and resolving of these problems could be helped if we realize: they originate to a great extent from a conflict of goals.

Goals and their conflicts

The different types of goal-conflicts are well-known phenomena in economic policy, as a recurrent example the controversy between a high rate of growth and the equilibrium requirements might be quoted. These problems are aggravated in our economy (as illustrated in Table 3), i) by the transformation process of the economic policy goals and ii) by the different tanking these goals by the agents of industrial policy. A detailed analysis of the discrepancies owing to these two factors by each goal category would take too much space; what seems important is that the transformation is induced primarily by two circumstances:

1. the strive for formulating simple indicators in the process of "operationalizing" the goals;

2. the interests of organizations entering the scene.

It may be attributed to the first circumstance that the objective will be

– instead of higher contribution to the national income (net product) the increase of gross value of output,

Table 3

Economic policy objectives and their actual appearance in industrial policy

Economic policy objectives	Industrial policy goals derived	Actual, additional or substitute goals
A) Improvement of living standards and living conditions	Implementation of the goals C), D) and E) for creating the relevant conditions	The same
B) Full employment		Regional industrial development, increase of the number and income of people engaged in industry
C) Growth	Increase of national income originated in industry	Increase of the gross value of output
	Development of selected industrial branches (see E)	Development of all industrial branches
D) Higher efficiency	Increase of productivity and operational efficiency	Increase of gross value of output per man-year
	Increase of profits	The same
	Increase of the efficiency of investments	The same and
		More resources for development (investment)
E) Modernization of the pattern of production	Product development and investment Cut-backs, divestments	Only exceptionally, if not affecting whole productive units or branches
F) Equilibrium of the state budget	Increase of enterprises' contributions	The same
	Reduction of subsidies	More grants and subsidies
G) Balance of international payments	More net income in terms of foreign exchange	More gross export revenues
	Saving in imports (for current and investment purposes)	The same

– instead of the increase of overall productivity and efficiency (comprising both living and embodied labour), the increase of the gross value of output per man-year,

– instead of greater net foreign currency earnings the increase of gross export revenues, since first of all these will be demanded by and reported to the control organizations by the enterprises. The way how gross indicators keep pushing forward in spite of the crushing critiques can be labelled as an "indicator trap". A similar case is the overvaluation of the records related to the previous (base) period.

The enterprise, sectoral and regional interests are manifest in cases where

– the industrial organizations want to assert the improvement of the living standards and circumstances as well as full employment in their own field, perhaps differently from the central regulations, or at the cost of other targets;

– there is a strong effort aimed at obtaining more development and investment resources, grants and subsidies;

– there is a strong resistance against any cut-backs.

Implementation of the objectives is influenced not only by their transformation but also by the importance the different organizations attribute to them. This may be subject to more detailed empirical studies, but we may perhaps venture to illustrate the *essential* differences without that. In Table 4, 20 targets set to, or asserted in, our industry are listed, each with the *estimated* ranking of their importance, *assuming a typical attitude* of the organizations controlling and carrying out industrial development. (It may not be really necessary to note here that we tried to consider not the declared but the actually pursued goals.)

The assumed qualification of the importance of each goal (with 3 sub-clauses altogether 23 items) is presented in Table 4 according to five degrees: outstanding, high, medium, low and Ø. In the 115 positions figuring in the table the distribution is as follows:

"outstanding" rating	in 49 cases
"high" rating	in 27 cases
"medium" rating	in 18 cases
"low" rating	in 7 cases
"Ø" rating	in 14 cases

and from the 23 cases for identical goals the priority ratings and Ø conflict 5 times, "outstanding" or "high" and "low" or Ø conflict 11 times. The statistical processing of the assumed qualifications was carried out by assigning 5, 4, 3, 2, 0 scores to the five types of qualifications and determining the score totals and averages as well. Let us only quote some findings from these computations primarily intended for a methodological experiment.

As regards all the scores: the goals obtain the highest score from the sectoral industrial control agencies; they strive for identification with both the economic policy and the enterprise goals. The same is shown by the score differences between the economic policy and sectoral control agencies (28.2) and between sectoral and enterprise goals (30.8), which are both much less than that between the economic policy and the enterprise goals [55].

Perfect identity of the ratings was found in the case of 2 general economic policy goals (2 and 12), while the biggest divergence came up in the goals reflecting specific enterprise and at the same time sectoral interests (6/b, 11, 16) and as regards resistance to cut-backs (13/b).

The many types of interdependences and interactions of goals are taken into consideration the most comprehensively in the framework of national economic planning.

Table 4

Rating of economic policy goals by importance by different agents of industrial policy

Goals	Economic policy	Ratings given by			Enterprises
		Central	Sectoral	Local	
		Industrial control organizations			
(A)					
1. Improvement of living standards conditions					
1/a as centrally planned	Outstanding	Outstanding	Outstanding	High	Medium
1/b in the given sector, area, enterprise	ø	ø	Medium	Outstanding	Outstanding
(B)					
2. Full employment	Outstanding	Outstanding	Outstanding	Outstanding	Outstanding
3. Greater employment in the given sector, area, enterprise	ø	ø	Medium	Medium	Outstanding
(C)					
4. Increase of national income originated in industry	High	Outstanding	Medium	ø	ø
5. Increase of the gross value of output	High	High	Outstanding	Outstanding	Outstanding

6. Increase of industrial capacities					
6/a in selected sectors	High	Outstanding	High	High	ø
6/b in the given sectors, area enterprise	ø	ø	Outstanding	Outstanding	Outstanding
(D)					
7. Increase of productivity and operational efficiency	Outstanding	Outstanding	Outstanding	Medium	Medium
8. Increase of gross value of output perman-year	Medium	Outstanding	High	High	High
9. Increase of profits	High	High	High	Outstanding	Outstanding
10. Greater efficiency of development and investment	Outstanding	Outstanding	High	High	High
11. More resources for development in the given undistry	ø	ø	Outstanding	Outstanding	Outstanding
(E)					
12. Expedient development and investment	Outstanding	Outstanding	Outstanding	Outstanding	Outstanding
13. Expedient liquidations					
(a) concerning product-mix of the given unit	Outstanding	Outstanding	High	Medium	Medium
(b) concerning production units and branches	Outstanding	High	Medium	Low	ø

Table 4 Cont.
Rating of economic policy goals by importance by different agents of industrial policy

Goals	Economic policy	Ratings given by			Enterprises
		central	sectoral	local	
		industrial control organizations			
(F)					
14. Increase of enterprises' contribution to the budget	Outstanding	Outstanding	Outstanding	High	High
15. Reduction of subsidies	Outstanding	High	Medium	Low	Low
16. More grants and subsidies	ø	ø	Medium	High	Outstanding
(G)					
17. More net returns in foreign exchange	Outstanding	Outstanding	Medium	Low	Low
18. More (gross) export revenues	High	Outstanding	Outstanding	Outstanding	Outstanding
19. Ensuring domestic supply, too	Outstanding	Outstanding	Outstanding	High	Medium
20. Saving in imports (for current and investment use)	Outstanding	High	Medium	Low	Low

National economic planning is thus of decisive importance from the aspect of the foundation, consistency and efficiency of economic policy. In the "centrally planned economies" it is indeed a fundamental factor of economic progress and success. However, it is impossible to reckon with, foresee and control everything in detail in the plan. Further orientation is given by incentives and limits, norms, rules, directives, prices, various (including market) informations, working contacts, direct negotiations, instructions, orders. The degree to which the industrial policy goals and sub-goals are formulated in the plans and to which the targets may be stated and re-stated in the daily practice of industrial policy depends on the given system of control and guidance of the economy. Since these goals and targets are implemented by organizations and people pursuing (also) their own objectives, adequate transmissions must ensure as much as possible that the efforts of the individuals and organizations ultimately yield the implementation of the main targets of the industrial policy.

On the basis of our analysis neither overheated investment nor the deficit of the balance of foreign trade can be considered to be unexpected. In the search for the deeper motives we should, firstly, study the functioning of our "economic mechanism" and its major components (the price system, the subsidy system, etc.) see the recently published article of *I. Friss* [7] and secondly, we could go on tracing the relationships noted in Figure 1. For instance, as regards our *order of values,* it plays an essential role that the standards of economic performance are coming up to the new requirements at a very slow rate. The enterprise and sectoral *aspirations* do not take the constraints into account adequately, and invariably aim at more capital and other resources (that is, at an extensive-type growth). In developing the set of instruments of the industrial policy all these factors must be borne in mind.

Instruments

By the term "instruments of industrial policy" we often imply the ways and methods by which the goals could be met, namely the sub-goals, the targets serving the attainment of the ultimate goals. This is a reflection of the peculiar feature of the ends-and-means hierarchy. For the different judgement of the sub-goals (= means) examples were given in Table 3.

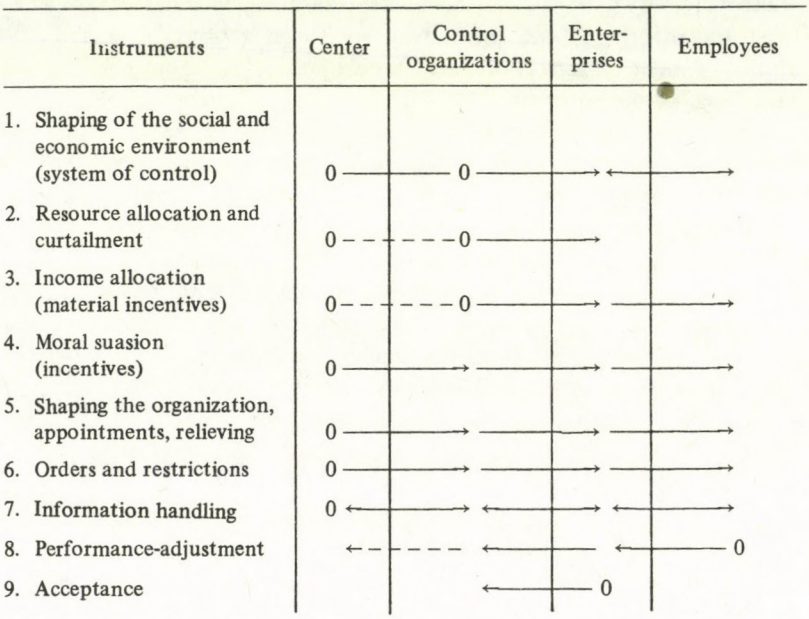
In the narrow sense of the term "instruments of industrial policy" we often understand only those of the control subsystem of the industrial organization. In a more complete systems-approach it has to be taken into account that each "agent" of the industrial policy is in possession of means for enforcing beside the common targets his own objectives as well.

We apply the instruments of the control subsystem in the way specified by national economic planning, and planning itself – target setting and assignment of the necessary means – is considered an instrument of economic policy. The breaking down of the aggregate indicators planned and their imposition on the industrial enterprises, on the

other hand is, according to the concept prevailing in Hungary, not necessarily part of national economic planning. Implementation of the plans is supposed to be guaranteed by a more complex system of instruments of economic control. Planning, control and organization are usually called the three main elements of this system. By control primarily a set of financial regulators is meant, but obviously other control activities, including direct instructions and orders also belong here. (László *Horváth* [8] enumerates four functions of the sectoral control: planning, regulation, checking, intervention.)

Figure 2

Instruments of the agents of industrial policy, directions of their effects



In the Soviet Union *Rumyantzev* [9] distinguishes the following elements of the economic mechanism: planning (and forecasting); economic incentives; organizational pattern; control of the implementation of the planned targets. In the theory of management, beside economic (indirect) and administrative-organizational (direct) tools usually also socio-psychological ones are listed here (see e.g. *Kozlova–Kuznetzov* [10]). "Suasion" is considered also in market economies an instrument of economic policy (see e. g. *Pütz* [11]), and in the French economic policy the drive for "consensus" plays a particularly prominent role (see *Young* [12]).

In Figure 2 still with certain simplifications, a broader range of the instruments of industrial policy, 4 "agents" and 9 instruments, are presented as well as the direction of

action of these means. (Planning and control do not appear separately here, only by components.)

It is a characteristic feature of the relations between the agents of industrial policy that a variety of instruments act "downwards from the top" (in the table from the left to the right), while only a few can act "upwards from below" (right to left in the table), but these latter are powerful means. The most important of these are [7] the forwarding or withholding of information (or desinformation) and [8] performance adjustment. An opportunity is given for the effective use of information handling, e.g. in investment project evaluation, in economic efficiency calculations, in fact, in the whole process of planning and preparation of decisions, since experts of the "lower levels" are necessarily involved in such works. The mechanism of performance adjustment was observed and described by sociologists mainly for individuals and groups; its process is similar but more complex in bigger enterprise units or in the enterprise sphere as a whole.

The manipulation of information and performance adjustment may be considered as mere reactions by the enterprises to the use of the instruments of industrial policy. But this interpretation would blunt the fact that by applying them the enterprises permanently influence the Center and the control subsystem. The opportunity to abuse information can be fairly well reduced but not eliminated by the decentralization of decisions: it always has to be taken into account, its effects have to be neutralized as far as possible. Nor is it possible to eliminate performance adjustment, but it is not an objective either; what is needed is to lessen its negative impacts, *inter alia by* allowing for greater differentiation, for higher rewards for outstanding performances.

We are not going to indulge now in the positive possibilities of the "upward" actions that could be strengthened *via* socialist democracy, nor its sometimes positive, sometimes negative manifestations through the informal contacts. However, in order not to forget the latter completely, one of them is listed among the means under the entry "acceptance". By "acceptance" we refer to the two directions of the flow of personnel between the control organizations and the enterprises (particularly in higher positions). Employees of the former expect to eventually have an enterprise job in the given branch, and it is of consequence how they will be received there. This also applies to the jobs in functional organizations in charge of individual branches (industries).

From the point of view of the effectiveness of control it is essential to distinguish direct from indirect, as well as global (normative) from selective instruments and to use them in a complementary way in adequate proportions. This will be discussed in the closing chapter of this paper dealing with the problems of selective development.

The success of industrial policy depends to a high extent on the proper consideration of the instruments at disposal and of their future impacts, on the proper choice of the ways how, and the measures to which, they should be applied. In this context the following problems occur the most frequently:

- incomplete consideration and treatment of the set of instruments;
- isolated analysis of the impact of the different instruments, independently of the simultaneous effects of others (*ceteris paribus*);

- inadequate consideration of the possible reactions of the different agents of industrial policy;
- neglect of the "side effects" exercised on other goals;
- belated consideration of the internal and external changes taking place in the meantime;
- failure to observe the actual effects;
- belated corrections, for prestige or other reasons.

Examining the implementation of the industrial policy goals from the aspect of the instruments, beside learning the positive experiences, we also have to find an answer to how much the cause of missed achievements may be attributed to the inadequate extent or way of application of the different instruments, or the wrong prediction of their effects or to unexpected other (among them external, environmental) effects. If we can manage to explain why we applied and which instruments inadequately or not at all, why the use of another one failed to bring about the anticipated results, then the setting of the targets and the choice of instruments can be better based in the new decisions.

A few words on decisions

In the course of our research on industrial policy we have not yet had the opportunity for a systematic analysis of a bigger number of actual industrial policy decision processes. Thus we will only quote some general lessons of decision theory and practice.

Three factors act in a primary role in the decision-making process:

1) *what goals* govern the valuation of the alternatives;
2) *what courses of action, what alternatives of decision* can we see in the given case, and
3) *how the consequences* of the different alternatives and choices are judged.

The problems of goals have been already dealt with, the problems of alternatives and their evaluation will be discussed in brief.

The decision-maker is in an advantageous situation if, as a result of a proper preparation of the decision, on the basis of adequate informations, he may choose from a number of feasible alternatives and is given an objective analysis of their presumable consequences.

It is a general experience emerging from the study of decision processes that the decision-maker and those preparing the decisions often get in so-called cognitive dissonance or with a new term: *cognitive stress* situation (Cf. *Kirsch,* [13], *Sieben–Schilbach* [14]). This occurs when he finds that

- he does not possess sufficient information for the decision, or his informations are too vague and controversial, or
- there is inconsistency between his targets, or
- he could not yet find a suitable alternative.

The positive way of lifting the stress are:

1) complementation of the informations,
2) revaluation of the goal-system,
3) continued search for alternatives.

The solution of the personal conflict can be sought also by

4) reducing the requirements,
5) accepting satisficing alternatives instead of quasi-optimum ones, but very often the way out is found in
6) "embroidering" the reality or in
7) substitutive actions.

According to our experience industrial policy decisions could be improved first of all by increasing the number of alternatives and by their more objective evaluation and confrontation.

It is an often contested but quite widespread practice that the decision-making bodies are seldom given the opportunity to choose between alternatives. Even if there were alternatives in the preparatory process of the decision these are filtered out in the course of preliminary coordination and the only option left to the decision-makers is to choose between "Yes" or "No". In some cases this is an institutionalized system to a certain degree: some bodies prefer to discuss drafts on which all those concerned have already agreed. The propensity for compromise prevails in many cases without that too, and elimination of an open confrontation of interests is supported also by the routine that propositions for decisions on competitive targets and the use of resources are presented separately, one by one.

As regards the national economic plans it is more or less acceptable that *detailed drafts* are elaborated only for a single variant, but even in case of decisions offering relatively simple and obvious alternatives it is a rare proposition which presents the advantages and disadvantages of the recommended solution with equal weight.

The problem is accentuated by the fact that though the consistency of economic decisions is to be checked above all in the framework of planning, *many decisions are taken outside the scope of planning.* This follows in part from the periodicity of planning. We draw up five-year plans which are loosely connected by long-term planning, and decisions need to be made in the meantime, too. The often recommended continuous (rolling) planning is used by some enterprises, but is not applied in national economic planning. We cannot properly foresee the consequences of our decisions beyond the given five-year plan.

All these can be caught red-handed in investments: we experience repeatedly that in the period of preparation of the next five-year plan (that is, two or three years before the plan period) most of the investment resources were already allocated in advance. There are deliberate efforts aiming at this: claims to take decisions are put forward at a time when free investment resources are still available, and the decision itself is based not on selection from among competing investment targets but on accepting that the demands presented are justified.

Everyday routine offers plenty of examples for the problem that in the course of decision preparation those submitting it do not present the alternatives and the advantages and disadvantages of the different alternatives with full objectivity. Feasibility studies, project evaluations as a rule deal with forecasted data, i.e. there is ample opportunity to manipulate these figures in the presentation of future returns and costs. For this reason, beside the improvement, refinement of the methods, it is of similar or even of greater importance to ensure the conditions for their objective use – through an adequate shaping of *the whole system of decision making.*

An example: selective policy

The terms selective development, selective industrial policy have spread in Hungary from the late 60's on and the strengthening of selectivity is often considered the most important postulate of industrial policy. However, the notion – if we scrutinize what it does and what it could denote – is far from being sufficiently unambiguous. Let us attempt to give a more definite meaning to this notion by our method of analysis.

The claim for selectivity implies first of all not to develop everything but to select from the opportunities by relying on clearly formulated priorities. But this has always been the way in our economy since the main development targets have been set and in most cases determined also in quantitative terms by the national economic plans and by top-level resolutions. Some kind of selectivity has always dominated our industrial policy decisions.

Relying on the analysis of our industrial policy objectives the accentuation of the following requirements could give new content to selectivity:

1) the system of economic control should bring about *increased natural differentiation and selection;*
2) we should select more rigorously, and increasingly assert the *economic* – market and efficiency – *requirements in the development decisions;*
3) selectivity should result in *greater specialization, better adaptation to the international division of labour;*
4) both on higher and on enterprise level, decisions should be taken also on reductions and liquidation of activities and production units, and these decisions should be enforced more resolutely.

The system of technical-economic criteria recommended for use in the development of the pattern of production structure also by the Hungarian Socialist Workers' Party (HSWP) Central Committee resolution of October 20, 1977 [15], expands requirements 2 and 3 in detail, while the other two postulates are formulated by the resolution in an other context. The four groups of the technical-economic criteria:

1) the scale of production;
2) the standards of technology, management and organization,
3) market and trade positions,
4) production background,

set fundamental tasks for the development of Hungarian industry:

– to pay more attention to specialization as well as to economies and other advantages of scale;

– competitive production requires higher standards of products and technologies, management and organization;

– production must be more in line with demand and prices on the domestic and foreign markets and with the changes in world economy,

– adequate infrastructural, material supply and manpower backgrounds must be provided for efficient production.

The National Planning Office and the State Board for Technical Progress published recently guidelines [16] for the application of these criteria to the preparation of central and enterprise development decisions. With its aid a preselection of the development alternatives can be carried out, but this must be naturallly followed by analyses of economic efficiency, as well as of risk-sensitivity.

Namely, formulated as they are, the criteria do not specify the input requirements (research and development, purchases of licences and know-how, investments, current import consumption) enough, and do not show in themselves the different costs and risks implied or the different returns promised by the various development opportunities. Usually a big number of development opportunities will pass through these "filters", and the final decisions will require more refined methods, efficiency and profitability calculations, risk analyses. At the same time, the studies made on the basis of this set of criteria are very important because they help each enterprise and branch to identify the main bottlenecks and tasks of development and modernization.

Similar criteria for the preparation of investment decisions are often recommended in the literature (see [17]). In applying these for the ranking of production branches the main problems are

– the lack of suitable data and information, and aggregation problems,
– to guarantee the objective treatment of the estimated or prognosticated data, further, the circumstance
– whether these criteria provide sufficient orientation without economic efficiency computations taking into account input requirements, too.

For this reason in the said guidelines further criteria are devised for the ranking of production branches: preference should be given to a higher degree of processing materials, to using more highly qualified labour, to domestic natural resources (if these are justified by adequate returns), to more flexible capacities, and to developments supported by international agreements. With these amendments our criteria well agree with the factors so often dealt with recently in *ex-post* analyses of the international division of labour [18], [19].

The general guidelines derived from these *ex-post* analyses for small countries intending to keep pace, from the lessons of the past and of other countries, are on the whole the same. Technically advanced products and branches, characterized by increasing demand, low capital requirements and less simple labour, high R and D and qualified

labour-intensity, product differentiation, etc. are to be preferred. (According to the first such analyses the foreign trade pattern of the Hungarian industry does not yet correspond to these requirements [20].) For a small country the need for resource concentration is also obvious, although limits have to be set to these aspirations in view of the development risks and the foreign trade dependence.

As a rule, it is easier to earmark those products and branches which had better be abandoned, and it will be more of a problem to define in which branches we shall be really able to develop competitively, to enter into the market and to hold on there. Analysis of the production branches, the domestic conditions and the comparative advantages according to the mentioned set of criteria, supplemented with efficiency and risk analysis is supposed to aid this.

This leads us to the question of *the instruments of selective policy.* The above outlined new requirements of selectivity should be enforced both in national economic planning and central decisions, and in the activities of the enterprises. The first task concerns mostly the decision-making system, while the latter the problem how the selective policy could be enforced by the economic and industrial control organizations. What was said above about the decision system fully apply to the development decisions discussed here. The sphere of enterprises would need more detailed analysis but here only the distinction between and the rational combination of the direct and indirect, the global (normative) and the selective instruments will be treated.

By the general instruments of industrial policy we intend to enhance the development of industry as a whole; here belong, first of all, the (normative) elements of the system of economic control, planning and the regulators, which are equally valid for each industrial branch and enterprise. Naturally, also the general instruments of industrial policy have different bearings on the individual branches or enterprises and produce (if no limits are set) differentiation and in a certain (healthy) sense selectivity as well.

The selective instruments are distinguished by their being aimed directly at given enterprises, groups of enterprises and branches. These too, however, have general effects: e. g. the way the subsidies or grants are decided upon in individual cases; the criteria by which enterprise managers are appointed, relieved, rewarded: all these have far-reaching general impacts, too. We are taught by experiences *that excessive use of selective instruments weakens the effects of the general ones,* especially if the rules and motives of the former are not transparent.

The indirect instruments (addressed quantitative targets, orders, etc.) are always selective, while the direct ones (i.e. the various elements of the control system) may be used both in normative and in selective ways. The practice of selective interference is now gaining ground in several market economies* – amidst disputes – while in Hungary its reduction is desirable. Since this is now generally accepted in Hungary, instead of further argumentation two experts will be quoted briefly. *"Excessive individual regulations",*

*See for example the new Belgian industrial policy guidelines [23]

writes B. *Szikszai* [21] "make the evaluation of economic performance uncertain. . ." (Op. cit. p. 34). E. *Nyúl* states: "The control of the economy failed to properly coordinate the various regulators and by the frequent use of individual regulators intended to differentiate income depending on efficiency." [22]

The use of selective instruments is of course needed, and in a period of sharpening tensions and sudden changes threatening with shock even more than normally. It is the way and extent of using the selective instruments that should be always pondered thoroughly, also bearing in mind the shorter and the longer-term impacts and the need for as much transparency of their uses as possible.

Summing up: at present in the Hungarian economy and industry selectivity should be strengthened (in the sense explained above) in defining development targets, while as regards the instruments to aid this fewer selective instruments, i.e., the strengthening of the normative elements of control is needed. The tasks of industrial policy as regards modernization of the production pattern can be elaborated correctly only in a systems framework.

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ВЕНГЕРСКАЯ ПРОМЫШЛЕННАЯ ПОЛИТИКА – СЕГОДНЯ И ЗАВТРА

З. РОМАН

Согласно концепции автора, задачей промышленной политики, как составной части экономической политики является содействие согласованному осуществлению многосторонних целей, которые ставятся перед промышленностью. Для этого необходимо устанавливать цели промышленного развития с учетом меняющихся внутренних и внешних экономических условий и при этом считаться: 1. с столкновением отдельных элементов целевой системы; 2. с транформацией целей экономической политики при их выражении в форме показателей, а также 3. со стремлением организаций, предприятий, отраслей и областей к осуществлению собственных интересов и целей.

Часто под средствами промышленной политики понимают только средства управления экономикой и промышленностью. При более полном, системном подходе необходимо учитывать, что у каждого „действующего лица" промышленной политики имеются средства для осуществления своих целей. В системе управления венгерской экономикой предприятия обладают двумя основными орудиями: „селекцией" информации и регулированием выработки. Возможность злоупотребления подачей информации можно уменьшить прежде всего путем децентрализации принятия решений, а негативные эффекты регулирования выработки – путем допущения большей дифференцированности и лучшего материального стимулирования высоких результатов, а также смягчения крайностей подхода „от базисного периода".

В статье анализируется организационная система промышленности. Автор указывает, что концентрация предприятий в венгерской промышленности чрезвычайно высока, что прежде всего является следствием перевеса территориально разбросанных предприятий. Настало время для пересмотра этой организационной структуры. Хотя она имеет и некоторые преимущества, она ставит значительную часть связей покупатель-продавец вне влияния рынка; повышение гибкости, ослабление борьбы за предоставление субсидий и исключений, бесспорно, гораздо труднее в случае крупных предприятий, чем в случае мелких и средних предприятий.

В заключительной части статьи анализируются требования селективной политики. Требование селективного подхода в венгерской промышленности сегодня прежде всего означает необходимость большей естественной дифференциации и отбора; селекция должна быть более строгой, требования экономичности (рынок и эффективность) должны учитываться в большей степени при принятии решений в области развития; селективность привести

к большей специализации и лучшему включению в международное разделение труда; необходимые решения также и об ограничении развития ряда деятельностей и производственных единиц или об их ликвидации и эти решения должны проводиться в жизнь более последовательно.

Понятие селективности автор относит не только к целям, но и к средствам промышленной политики. Наряду с общими, служащими развитию всей промышленности в целом средствам необходимы селективные средства, непосредственно касающегося отдельных предприятий, групп предприятий, отраслей, однако слишком широкое применение их (особенно, если правила или мотивы этого нельзя охватить) может ослабить влияние общих средств. В настоящее время в венгерской экономике желательно снижение роли средств селективного характера и укрепление нормативных элементов регулирования.

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INTERNATIONAL COOPERATION AND INDUSTRIAL DEVELOPMENT IN EUROPE

A vast amount of literature is available both on industrial structures and on international cooperation. This paper may disappoint all those who expect either new theories or quantitative analyses to be added to these abundant sources. The aim of the following reasoning is more modest. So much has been said about the future pattern that a sort of puzzle game of putting the dice in its proper place may help to develop a consistent and realistic alternative for the future prospects of our already industrialized continent.

Introduction

When visualizing future industrial patterns, decision-makers, both at higher and lower levels, are inclined to focus their attention on internal conditions and, in particular, on domestic supply. This is certainly not due to their unawareness of the definitely growing role of the outside world in their economic development. The reluctance to concentrate on external conditions may be rooted in the following actual problems:

i) the pattern and development of external demand is highly uncertain and uncontrollable by domestic forces,

ii) the available domestic potentialities developed in the past are not fully utilized, and in some industries they are even strongly under-utilized,

iii) the external supply may impose heavy constraints on domestic development by cutting deliveries in, or eventually by dramatically raising prices of fuel and some raw materials in which most European countries have deficits.

To eliminate or minimize the impact of unpleasant external conditions is a normal reaction of human nature. However, to follow this defensive line, and thus ignore the long-term realities, may involve much greater risks. Can we assume that the time for important decisions to shape the future industrial structures has not yet come?

A long time has elapsed since the development level of productive forces first began to outstrip the size of domestic markets. Looking for external markets is therefore a precondition for economic development in the industrialized countries. The smaller the size of the domestic market, the greater the dependence of that country on foreign markets. Since this dependency on external demand is growing with the level of development, there is no reason to believe that it will reverse in the longer run.

Nowadays both experts and politicians are pointing to the increasing need for fuels and basic materials as the main cause of the growing dependence of industrialized countries on the outside world. There is no doubt that there exists a growing demand for

some resources (though, even this requires qualifications). Looking deeper into the actual roots for the need for expanding international contacts, another answer may be closer to reality.

An industrialization process characterized by cheap and abundant primary energy, close to full employment, if there is no labour shortage, and if technological innovations presumably raise the competitiveness of products, creates economies of scale and thus develops an industrial pattern for which a rapidly growing external market is a question of life or death.

To focus on internal conditions (on the availability of material resources, the existing capacities or a specific pattern of skilled labour) and to try to influence the external demand seems, however, getting less efficient for the future. What has to be considered seriously is the possibility of concentrating on the likely future pattern of external demand and to adjust the domestic industrial patterns to the new demands.

While this concept is voiced rather widely, actually very little has been done so far for a definite turn in this direction.

The reasons for the contradiction between the underlying objective necessities and the low propensity to take adequate action are manifold and highly understandable. Policy-makers give priority to considerations arising from the domestic supply, even if they are aware of the short-term nature of such considerations. At the same time, the need for internationalization of the production and distribution process which corresponds to the present state of the forces of production is a long-term issue calling for mutual, definitely multilateral efforts, rather than for decisions taken unilaterally at the national level.

The creation of the forms of economic integration is a clear sign of the recognition of the need for international effort. However, for the time being, in approaching long-term and structural issues, national considerations usually have a greater weight than international aspects.

As for the longer run, there is no doubt that the industrial adjustments to be pursued by individual countries and the expansion and pattern of international co-operation are not only closely related: in fact, they are the same issues considered from different angles.

The changing pattern of external relations

On a lower level of industrialization the pattern of foreign trade depends highly, if not exclusively, on the internal potentialities and the needs of the countries involved. It follows that the *complementary* nature of the economies of the trading partners determines their pattern of international cooperation. A country short in some commodities indispensable for its domestic needs is ready to import these commodities to the extent it can sell another commodity (or commodities) available in excess as compared to its domestic demand. As long as the trading partners are at different levels of industrialization, the complementary nature of their external contacts may prevail.

This was and remains true even nowadays when the trade pattern of highly industrialized countries is compared with that of developing countries. (See Table 1.)

The changes in the pattern of trade among industrialized areas suggest that the earlier task for international cooperation defined as complementarity has given way to cooperation on a higher, more sophisticated level called *specialization.* There is a clear shift perceptible in the longer-run towards engineering, chemicals and manufactured goods at the expense of basic commodities.

There are also new forms of international cooperation which have developed more fully, such as cooperation in form of joint undertakings (see automotive industries, electronics, etc.) and various forms of capital flows, cooperation in scientific research, etc. These changes, rooted in long-term structural needs, seem to be objective trends even when the outlooks for economic development appear to be rather gloomy.

Table 1

Total exports of industrial and developing areas by commodity groups*
(percentage distribution)

	Industrial areas		Developing areas	
	1972	1974	1972	1974
Food	11.7	11.7	22.5	14.0
Raw materials	4.1	4.1	8.4	5.0
Ores and minerals	1.7	1.9	4.5	3.2
Fuels	3.4	4.8	38.0	59.6
Total primary products	20.9	22.5	73.4	81.8
Non-ferrous metals	2.4	2.8	3.5	3.1
Iron and steel	5.7	7.7	0.9	0.7
Chemicals	8.7	10.5	1.9	1.6
Engineering products[a]	29.6	27.6	4.0	3.3
Road motor vehicles	10.3	8.6	0.1	0.2
Textiles and clothing	6.4	5.5	7.1	4.4
Other manufactures	13.9	12.7	6.1	4.0
Total manufactures	77.0	75.4	23.6	17.3
Residue	2.1	2.1	3.0	0.9
Total	100.0	100.0	100.0	100.0

Source: International Trade 1975/76, General Agreement on Tariffs and Trade; Geneva, 1976, Table 5.

*Centrally planned economies are not included

[a]Excluding road motor vehicles

Changes in the pattern of external relations are, and should be in the future, reflected in shifts in the industrial pattern. The efficiency of these adjustments depends not primarily on the perception of appropriate adjustments, but on the pace of their implementation. An adjustment considered right today may appear obsolete tomorrow.

Changes in industrial patterns: how to measure?

It is well known that industrial patterns are closely related to the level of economic development. The level of economic development of a country is usually defined by the comparative growth of its per capita income (per capita GDP). Without going into details about the difficulties arising from statistical comparisons of such data and the traps inherent in analysing the differences between development levels on this basis, I suggest to abandon the per capita income indicator when defining the level of industrialization.

The actual level of industrialization might better be described by a combination of such indicators as the share of industry in domestic output, in total employment, in exports; furthermore, the share of engineering industry and, in particular, of industries producing plant equipment in industrial output, employment and exports; etc.

It is justified to answer the question whether the per capita GDP indicator is relevant or not when ranking some country according to the level achieved in the upwards-leading way of industrialization with a definite no. Striking arguments have been offered by the dramatic changes in oil prices when countries with a rather low level of per capita GDP jumped immediately to a higher rank in the income hierarchy without being backed by an adequate industrial background. But the opposite also proves it. Some countries giving high priority to accelerated industrialization – as was the case with Japan and with most of the socialist countries – may deliberately postpone realization of the

Table 2

Share of industry in output and exports in the centrally planned economies*

(percentage)

	Net Material Product		Exports	
	1960	1975	1960	1973
Bulgaria	45.6	51.3	80.3	93.2
Czechoslovakia	57.1	64.4	97.9	98.7
German Dem. Rep.	54.4	62.2	...	...
Hungary	36.0	47.0	93.7	89.9
Poland	40.1	52.1	96.1	95.9
Romania	42.1	57.1	90.6	92.8
USSR	52.3	52.7	...	...

Sources: National statistics.

*Processed food included.

fruits of industrialization reflected in the per capita GDP figures to promote investments yielding results in the longer run.

Whenever the industrial basis is there (i.e. when investments, skills, adaptable advanced technology, adequate and experienced management are available) then the importance of industry within the economy is and should be expressed in the structures both of the domestic output and external relations. This is true even if experience shows that this is not always the case.

One example from the European scene: The industrial pattern of centrally planned economies shows a rather high level of industrialization. It is high, whether compared to their past structure or to the present structure of many industrialized market economies. (See Table 2.)

The same structural changes appear in the trade figures, though, with considerable differences in their intratrade and in the trade between East and West. (See Table 3.)

Table 3
The commodity pattern of East-West trade
(percentage distribution)

	Western imports[a] from the east (c.i.f.)		Western exports[a] to the east (f.o.b.)	
	1970	1975	1970	1975
Food and live animals	16.8	9.1	9.2	11.8
Beverages and tobacco	0.7	0.6	1.3	0.7
Crude materials (excl.fuels)	17.9	12.7	7.2	4.3
Mineral fuels, etc.	20.3	35.8	1.3	0.8
Animal and vegetable oils and fats	1.5	1.6	0.6	0.4
Chemicals	5.7	5.3	11.9	11.6
Basic manufactures[b]	21.0	16.8	25.9	29.1
Machinery and transport equipment	9.0	10.0	35.6	36.0
Miscellaneous manufactured articles	6.3	7.5	6.4	4.8
Goods not classified by kind	0.8	0.6	0.6	0.5
Total	100.0	100.0	100.0	100.0

Source: Overall Economic Perspective for the ECE region up to 1990, United Nations Economic Commission for Europe, 1978, Appendix, Table B.4 (ECE/EC.AD./17).

[a]Western Europe and North America, excluding Turkey for lack of data.
[b]Products of leather, rubber, wood, paper, textiles, non-metallic materials and metal products.

Table 4
Share of exports of high-technology products[a] *in the total exports of South Europe*[b]

1965	13.1 percentage
1970	15.2 percentage
1975	18.6 percentage

Source: ECE Secretariat
[a]SITC, Rev.2, subgroups and items 53, 54, 55, 71, 86, 722, 723, 729, 731, 732 without 732.1, 732.8 and 732.9, 734 and 735.
[b]Greece, Spain, Portugal and Yugoslavia.

One could dispense with the rather widely used explanation that the difference between the direction of trade is due to differences in the level of industrialization of both areas. Looking particularly at the figures of some South European countries with a lower level of industrialization, there is clear evidence that along with their industrialization, their trade pattern also shows adequate changes. (A growing share of high-technology products in their exports). (See Table 4.)

How to cope with future changes in industrial patterns?

The awareness of decision-makers of the need for industrial adjustments is undoubtedly growing. May I quote a few lines from the European Community document "Programme of the Commission for 1978". "Community operations which up to 1978 have been mainly concentrated on urgent commercial policy and market measures will now have to be focused on action on the structures themselves". (See para. 21 of the Programme). [1] In the centrally planned economies the identification of the five key areas where the need for harmonization of development policies was generally recognized went even further. On top of this, some countries, both in the East and the West have already embarked on new roads for making their adjustment process efficient.

Prerequisites for success: quick response to red signals

Any structural adjustment process is a painful undertaking. It is painful not only in the sense of developing new areas for successful industries, since this might be difficult and risky, but also because it is challenging for innovative people and for decision-makers.

The nature of the adjustment process is even more painful on the negative side, starting with the recognition and identification of the "ailing", ("crisis" or "soft") sectors

by the decision-makers, and then making the decision of whether and how to discourage, or stop "non-efficient" activities.

There exists a very complex and interrelated network of interests, pressures, socio-economic considerations, traditions, local interests, etc., which are feeding the resistance to the liquidation of the already recognized loss-making or inefficient activities. Even more difficulties may arise from the evaluation of productivities which seem to be critical even in the light of the fulfilled targets. It is not easy to seperate cyclical effects from structural ones, or to identify the actual roots of the negative effects, such as lack of innovations, improper management, short-sightedness in decision-making, etc.

I am emphasizing the difficulties in restricting some activities because failures in the implementation of such policy may influence more heavily the adjustment process than lack of innovations or uncertainties of future external demands or even a growing competitiveness of newly industrialized areas.

There is clear, historically proven evidence, that the greater the propensity of an economy (sector, enterprise) to liquidate obsolete activities, the better its chances to succeed in the adjustment process.

Efficiency in putting brakes on loss-making activities paves the way for, or channels resources towards, new and promising activities.

Proper criteria for future development-decisions

The general approaches should definitely avoid the following two traps:

– simple extension of past trends;

– unqualified adoption of the "catch-up" principle.

It is most unlikely that past trends will prevail, or more closely, that they will prevail in the same way as witnessed in the past.

The "catch-up" principle that "less industrialized countries will catch up with the industrial structure of the industrialized ones" seems to be too simplified and too general for being implemented as a clear guideline for decisions to be taken on future developments. Furthermore, the catch-up principle could hardly be implemented for economies on a high level of industrialization. Let us therefore dispense with these often implemented tools for qualifying future growth.

There are other rather widely voiced arguments in favour of some development criteria, the implementation of which seems to be misleading. Here are only a few of them:

"High priority should be given to industries either because they are
'labour intensive' (if labour is abundant or cheap), or they are
'energy or basic-material intensive' (if endowments in natural resources are rich)".

The consideration of factor-intensiveness is only one side of the coin. These factors may have an impact on the unit costs of products, thus on competitiveness when costs are meant. To focus, however, on this single aspect when deciding on future orientations may

fail unless the outlook for future demand for the respective goods has not been found to be highly promising.

"Priority should be given to products to be developed in the future which are attractive for *all* markets and may therefore have an easy access to *all* markets".

At first glance one may sympathize with this criterion because it implicitly calls for challenging producers to meet the highest external requirements. Looking however into the substance, it is not only unrealistic from the point of view of the potentialities of the domestic supply of most countries, but it ignores the diversification of demand on various markets. Exporters with chances to make economic gains (or profits) should certainly adjust their supply to the very specific demands of their would-be foreign customers.

Therefore, it is important that the future pattern of – both internal and external – demand be carefully scrutinized.

The industrialized countries will have to take more resolute steps towards social considerations than they have done so far. Thus their domestic demand may be heavily influenced by environmental considerations, including energy-saving, and by the need for reshaping their human-settlements pattern. They will establish new types of services both for creating jobs and for facilitating living conditions.

As to the *consumption* pattern, two seemingly different orientations may be accentuated:

– an enlarged quantity of cheap consumer goods, certainly to be imported from less industrialized areas;

– a growing share in domestic production, and in mutual trade with other industrialized areas of highly sophisticated goods (and also of some services) in order to respond to new requirements arising from changes in life-style.

These two orientations for meeting future consumer demand are in fact not contradictory and the need for taking them into consideration properly in the industrial patterns is a challenge rather than a constraint imposed on future economic cooperation.

Similar criteria might be implemented to industries supplying *intermediate products* and *equipment.* Industrialized economies may retain and even further increase their comparative advantages in producing goods where *economies of scale* and *research* have a predominant role. As to the impact on future external relations, there is again an opportunity for specialization and for expanding cooperation among already industrialized countries with a high capability to absorb capital-, research- and skilled labour-intensive activities.

At the same time, through developing capital and research-intensive activities, the *complementary* features of international cooperation among countries with different levels of industrialization might be enhanced as well. More exactly, the provision of equipment for enlarging energy supply, basic materials, refined products and also for producing components should be secured from where advantages of economies of scale might be combined with an adequate level of skills. This may reveal new possibilities for complementary trade between highly and less industrialized areas.

Crisis and growth industries

Industrialized countries will have to learn to live with the new conditions arising from the industrialization of previously non-competing areas. The recognition of this "must" has led to the conclusion of identifying some industries as "ailing" or "crisis" industries.

Due to the 1978 evaluation of the EEC these are the following: textiles, shoes, steel, paper, shipbuilding. But certainly there will be others as well. Does it mean that all these branches, as a whole, should be considered as obsolete?

As to the mass-production in the existing plants, the outlook is certainly gloomy. But looking at these branches from another angle, there may be potentialities for the development of new products which would meet future requirements and thereby create new prospects *within* the otherwise "ailing" sectors.

Decisions to be taken for developing activities (or products) in "ailing" sectors, might be checked in the light of prospects for future demand, both domestic and external.

While scrutinizing external demand the following problems should be faced: Is there a long-term possibility to deliver these specific products to less industrialized areas in a competitive way? Or, are there any chances for specialization with industrialized countries in this particular field? If the doubts are overwhelming, it would be advisable to look for other possibilities.

There are a few branches which are, or might be, considered as likely winners in future competitions. Again referring to the already quoted 1978 EEC programme, it includes the following: telecommunication, data-processing, and the aero-space industry.

The criteria for selecting these branches are clear: high research and capital-intensive activities, based on comparative advantages reached so far by certain highly industrialized countries.

For future development orientations, however, this list is far from being satisfactory. Some problems are evident:

– Would the expected increment in the exports of these products balance the shortfall of exports of obsolete goods?

– Would late-comers in the industrialization process be able to adapt their demands to the newly developed products?

– Are there promising outlooks for specialization within these branches among the industrialized countries themselves (including one between East and West)?

– On selecting these branches was the likely pattern of future consumption taken into consideration, and if so how.

Industries between the two extremes

There is a long range of industrial activities which are "in between" the two extremes. There are, *inter alia:* food processing, a wide range of chemicals, automotive industries, other products of engineering and many others.

As to the future, it is unlikely that either their products may become generally obsolete, or that there is any assurance for going ahead successfully with the unqualified expansion of their products should some of them indeed become obsolete. The considerations outlined previously are certainly relevant to these branches.

All those products which may have chances of remaining competitive in the future, either because of their low costs or by their specific features responding to qualified demand (domestic and/or external demand either in less or in highly industrialized areas) should get a high priority for future development. It follows that those activities (products, branches) which have a low ranking in the light of these criteria could and should be eliminated, giving way to imports from highly competitive suppliers.

To sum up

1. There is no reason to be gloomy about the longer-term prospects of economic development and the potential of the industrialized countries for expanding external markets, unless these countries fail to face up in time to adjustments necessitated by future changes in internal and external demand.

2. The adjustment process for industrial structures should be based on thorough analyses of future demand rather than on constraints imposed by the factors and conditions of industrial output. Whenever an industry (enterprise or even a country) may consider its market sure and open to additional supply, it may easily overcome any difficulties arising from the relative scarcity of labour, energy, or financial means. (See the case of Japan and the Federal Republic of Germany).

3. The adjustment process needs time. But the shorter the transition period, the greater the chances for successful adjustments.

4. Research and capital intensive developments may ensure relative advantages for highly industrialized areas. Adjustment to these fields calls for close cooperation in sciences, in developing technologies and in financing among countries already industrialized with access to financial resources.

5. In the course of adjustment, there is no reason to eliminate industries or branches as a whole. Only obsolete activities and, in the longer run, non-competitive production should be abolished thus giving way to imports for meeting domestic demands.

6. Adjustments of industrial pattern and of international cooperation are interdependent. It follows that unilateral decisions made by individual countries on shaping their future industrial structure would be less successful than decisions based on internationally made efforts at harmonizing development policies.

Reference

1. *European Economic Community. Programme of the Commision for 1978.* Brussels–Luxemburg, Febr. 1978.

МЕЖДУНАРОДНАЯ КООПЕРИРОВАНИЕ И РАЗВИТИЕ ПРОМЫШЛЕННОСТИ В ЕВРОПЕ

Ю. ЗАЛА

Как промышленной структуре, так и международному кооперированию посвящена обширная литература. Цель статьи состоит не в выдвижении новых теорий или проведении количественных анализов. Цель схематически изложенных рассуждений гораздо скромнее – оказать помощь в разработке целостной и реальной альтернативы перспектив будущего нашего промышленного контингента.

1. Нет причин для пессимистического подхода к долгосрочным перспективам экономического развития промышленных стран и потенциальному расширению внешних рынков, если эти страны способны вовремя осуществить структурные изменения, требуемые изменением внутреннего и внешнего спроса в будущем.

2. Процесс изменений промышленных структур должен основываться скорее на глубоком анализе будущего спроса, а не исходить из вынужденных обстоятельств, определяемых факторами и условиями выпуска промышленной продукции. Если данная отрасль производства (предприятие или даже целая страна) может считать свой рынок надежным и открытым с точки зрения дальнейшего предложения, то она легко может преодолеть все трудности, которые вытекают из относительного дефицита рабочей силы, энергии или финансовых средств (о чем свидетельствуют примеры Японии и Федеративной Республики Германии).

3. Процесс структурных изменений требует времени. И все же, чем короче переходный период, тем лучше шансы успешной перестройки.

4. Науко- и капиталоемкое развитие обеспечивает значительно промышленно развитым регионам относительные преимущества. Структурные изменения в этих областях делают необходимым тесное научное, техническое и финансовое кооперирование между странами, имеющими доступ к финансовым источникам.

5. Нет смысла в ходе структурных изменений ликвидировать отдельные сектора и отрасли промышленности в целом. Необходимо ликвидировать только устаревшие виды производства и неконкурентные в длительной перспективе производства. Одновременно нужно открыть дорогу напраленному на удовлетворение местного спроса импорту.

6. Изменения промышленной структуры и международного кооперирования взаимозависимы. Из этого следует, что односторонние решения отдельных стран, принимаемые ими в интересах формирования своей будущей промышленной структуры, окажутся менее успешными, чем решения, которые основаны на международных усилиях к согласованию политики развития.

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THE FUTURE COURSE OF INDUSTRIAL DEVELOPMENT: SOME PROBLEMS AND DILEMMAS*

This article deals with some of the main problems which are likely to arise in the coming 10–20 years: possible scarcity of energy; the adequacy of those industrial materials which are the bases of today's industrial operations; the investment capital for further development; the problem of employing the labour force; the foreseeable structural changes, including concentration and competition; the protection of the environment; and social questions.

Industry is faced with many problems. Some of them are uniquely European, others concern the advanced areas outside Europe as well. This conference provides the right forum for pointing to some of those which, if not already with us, are likely to arise in the coming 10–20 years, presenting serious questions or creating dilemma situations on both macro- and micro-levels. They are likely to affect all industrial countries, though perhaps at different points of time; therefore, no distinction will be made between centrally planned and market economies. The problems are likely to be similar: the approach to their solution may perhaps be different.

In a paper of this kind it is imperative to be selective. A start will be made on the supply side: energy, materials, capital and labour. Structural problems will follow and then environmental and some social topics will be dealt with. Obviously, there are many other problems but even after this delimitation, the 'broad brush' technique remains unavoidable. It is intended, therefore, that we restrict ourselves to the problem without the solution. In many cases the solutions are not known, though perhaps the tentative avenues of approach to them may be dimly guessed. This paper is therefore provocative: its purpose is to spark off thinking and discussion.

Energy

There are two reasons for starting with energy. First, industry cannot function, and the style of life in the industrial countries cannot be imagined, without an adequate supply of energy. Second, mankind has had to face shortages of various types in the course of its history; these were overcome by scientific advance and technological change, but always, without exception, at the cost of using more energy for the solution. Energy

*Based on a paper for the 2nd International Conference on Industrial Economics on "Industrial Development and Industrial Policy" held between 5–9 September 1978, at Székesfehérvár, Hungary.

has always been a precondition of solving – for example – material problems and the importance of its availability precedes everything else.

Much has been written about energy since the 1973 OPEC action. It will, therefore, suffice to say here that according to the consensus of most experts, of many disciplines, the world will be facing an energy shortage some time around the year 2000. The forecast reproduced in Table 1 is that of the more optimistic ones, and even that foresees the exhaustion of the oil reserves known at present shortly after 2000, and that of the reserves of natural gas only somewhat later.

Table 1
Life index numbers[a] of crude oil and natural gas

	Crude oil		Natural gas	
	static[b]	5% growth	static[b]	5% growth
Proven reserves at end 1972	37	21	41	23
Estimated ultimate reserves[c]	103/206	37/50	333	59[d]

Source: Economic growth in the future – the great debate in national and global perspective. Edison Electric Institute; New York, 1976. McGraw–Hill.

[a]This indicates the number of years the reserves will last if consumption continues at the static level and/or at the rate of 5% a year.

[b]At 1972 level.

[c]Estimated ultimate quantities of oil in place and ultimate discoveries. The dual figures for oil represent a recovery factor of 0.3 (as at present) and 0.6.

[d]Assuming 10% a year growth: 37.

The problems arising are clear: first, to prolong the lifetime of the reserves by energy conservation, i.e. the better use of the existing resources; second, to step up exploratory activity for finding new deposits of oil and gas; third, to work out new methods for utilising coal, of which we have much more; and finally, to find and develop new sources of energy and methods of producing them on a large scale. This last problem is obviously the most important, and probably also the most difficult. Equally significant are the tasks for industry along the long line from research and development to eventual production.

Industrial materials

The preoccupation with the future adequacy of energy has directed attention to other natural resources. Three of them are of outstanding importance: food, water and industrial materials. Without belittling the importance of the first two, they will not be covered here since the primary tasks for securing supplies of food and water belong to

sectors other than industry, although industry plays a very important part in supporting agriculturists and hydrologists, stemming from the closely intertwined nature of the functioning of the various sectors of any economy.

Industrial materials, however, require more detailed discussion. They are conveniently split into two different categories: non-renewable materials, i.e. minerals and metals, and renewable ones, produced by agriculture and forestry. The first group has

Table 2
Life expectancies of world reserves of selected minerals[a]

	Average annual production growth, 1947–74 per cent	Life expectancy in years at a growth rate of production of		
		2%	5%	10%
Asbestos	6.5	18	15	12
Barite ($BaSO_4$)	4.1	31	23	17
Bismuth	4.4	22	18	14
Copper	4.8	38	27	20
Diamond (industrial)	5.4	18	15	12
Fluorspar (90% CaF_2)	7.5	19	16	13
Gold	2.4	24	19	15
Mercury	2.0	17	14	11
Molybdenum	7.3	44	31	22
Nickel	6.9	43	30	22
Silver	2.2	17	14	12
Sulphur	6.7	32	24	18
Tin	2.7	31	23	17
Tungsten	3.8	31	23	17
Zinc	4.7	18	15	12
Germanium	...	16	13	10
Rutile	...	26	21	17

Source: Tilton, J. E.: *The future of non-fuel minerals.* Washington, 1977. Brookings Inst.; US Bureau of Mines. *Commodity data summaries.* Washington, 1972.
[a]Minerals with a relatively short life expectancy only have been included. Unless otherwise stated the data concern metal content.

much in common with fossil fuels: their stock on this planet is finite. Indeed, reserves of many of them – as recorded at present – are not larger than, and in some cases are even smaller than, those of petroleum, as related to their past and/or expected depletion. This is indicated in Table 2, which shows the life expectancy of those minerals and metals whose reserves in the mid-1970s might be exhausted within a relatively short and foreseeable period.

The point to be emphasized is that these life expectancy estimates are based on deposits which are considered at present as commercially exploitable reserves. This,

however, is a dynamic concept; and for a number of reasons there is hope for expecting the situation to be less gloomy than that conveyed by the estimates in Table 2. First, no one has, as yet, found it necessary to know the absolute limit of resources and no one has been motivated to try to find out. As the known reserves are exploited, further areas are explored and new deposits found which add to the reserves. Secondly, a large part of the earth has not yet been explored at all. Even in the United States major finds of mineral deposits have been announced practically every year; elsewhere, exploration is much further behind. Thirdly, reserves depend on price; at higher prices it becomes worth-while to exploit reserves which at lower prices are not considered commercially viable. Fourth, stepping up recycling – that is, the recovery of metals for secondary use – can prolong the lifetime of reserves. And finally, long before the steep rise of the price of any material nearing exhaustion, 'backstop' technologies are likely to be developed and introduced. This may take the form of synthetic substitutes, of substituting one material for another natural one, of the more fundamental change in technology making the traditional material unnecessary – and so forth. Indeed, without technological advance, past industrial progress would have been impossible. History does not necessarily repeat itself and cannot provide a guarantee that every material problem will be solved by research and development; but, similarly unwarranted is the taking of the opposite view, that of many eco-doomsters, and the ruling out of further progress in science and technology. In the case of many of the minerals listed in Table 2 partial solutions are already in existence, and in others the avenues of departure for solving the scarcity problem, as and when it emerges, begin to be seen.*

The case of renewable materials is somewhat different. The main constraint on their production is the availability of land in suitable climates. Many of these industrial materials, such as cotton, compete for the land with basic food, hence this constraint is of some importance, especially in the developing countries where population growth is rapid and pressure to produce more food may be overwhelming. There are, however, factors on the positive side, too. First, there are still areas where production is possible that are not, or not fully, utilized. They may be less suitable than the land already under cultivation, but there will come a time when, with rising price levels, it becomes economic to draw them into production. Secondly, yields can be raised; differences in yields are very large, offering plenty of scope for the spread of best practice techniques. Thirdly, science and technology play, in this area, dual roles, the results of which are, on the one hand,

*For example, considerable further copper and zinc deposits are known, which will come into production at higher prices. Competitive synthetic products have been developed for the replacement of natural diamonds and rutile. The quantity of tin used for one ton of tinplate has been reduced by at least 25 per cent in the past 10–15 years. New processes bypass the use of mercury in chlorine production, or of silver in the various sectors of the photographic industry. Whilst there is no perfect substitute for asbestos as yet, various other materials are already in use for replacing it in some applications and their further development appears promising.

higher-yielding, more resilient and/or more rapidly maturing varieties; and on the other, man-made materials replacing natural products.

To sum up, it does not seem likely that, in the next 20 years, industrial activity will be handicapped by serious shortages of materials because of the exhaustion of reserves or the scarcity of renewable materials, although the prices of some of them may become higher in real terms at the far end of our horizon.

This seemingly optimistic statement does not exclude, however, temporary shortages caused by natural disasters, political troubles, or artificial shortages engineered by some cartel-type association of producers in their price-raising attempt. The likelihood is, however, that such shortages, if they occur, will be short-lived.

Capital

Industrial development requires new investment and hence investment capital. Its availability depends upon savings. Corporate savings, in turn, depend upon profitability – whatever the economic system. In recent years profitability has been reduced and, unless it can be re-established on a reasonable level, the internal sources of industrial investment may be adversely affected, particularly in view of the relatively high rate of inflation which reduces the 'investing power' of the previous year's profits in any case. Inflation, of course, affects the other major source of investment capital too, that of private savings.

Costs of investments are naturally also gradually increasing under inflationary pressure. This is particularly important in primary production where costs of exploration are rising in any case and the chances of success decreasing. For example, the cost of locating a single mineral deposit of copper, lead or zinc can range up to $ 1 million in an area of good mineral potential, and even then there is only a 1 : 50 chance that it will prove to be worth exploiting [3]. Investors in exploration in faraway lands may be European companies. The location of major new projects tends to be more and more remote and the cost of allied infrastructural investment very high, often including water and power supply, transport and community facilities.*

Europe's own financial capacity for industrial investment is now being reduced by the drain on its balance of payments brought about by the high oil prices, whilst at the same time the Middle East countries are building up a powerful and efficient industrial base.

Under such conditions, industrialists and their bankers will have to be much more adroit than in the past in obtaining investment capital for major projects in the 1980s and 1990s, especially in the manufacturing industries – since it has to be remembered that more and more capital will be required for other purposes, such as energy and other primary production, environmental protection, infrastructural and social schemes.

*For example, in the 10 years ending 1970, 65% of the capital investment in Western Australia was for infrastructural facilities – and this was not an unusually high proportion [4].

Labour

Whilst scarcity may be a long-term problem in the cases of energy, materials and capital, the dilemma of labour points the other way: how to create permanent employment. Unemployment rates are, at present, very high in most industrial countries (Table 3) and, whilst isolated shortages in certain specialised skills are quite possible, there is little indication that the reduction of unemployment, to anywhere near full employment level, can be reached in the foreseeable future. There are, however, further considerations which make the outlook gloomy. Raising labour productivity, and thereby reducing labour costs, is the admitted aim everywhere. Innovations, in industry and elsewhere, usually result in labour-saving.

Table 3
Unemployment in major industrial countries

	Per cent of total labour force[a]					
	1972	1973	1974	1975	1976	1977
United States	5.6	4.9	5.4	8.3	7.5	6.9
Canada	6.3	5.6	5.4	7.0	7.1	8.1
Japan	1.4	1.3	1.4	2.0	2.1	2.1
France	2.9	3.1	2.7	4.1	4.6	5.2
Germany FR	0.9	1.1	1.5	3.6	3.6	3.5
Italy	4.0	3.8	3.1	3.6	6.4	7.5
United Kingdom	4.0	2.9	2.9	4.5	6.9	7.6

Source: OECD Main Economic Indicator, *National Institute Economic Review.*
(a) Unemployment rates standardised to international definitions.

Table 4
Employment in manufacturing

	Per cent of total civilian employment					
	1963	1965	1970	1975	Peak	
					Year	%
USA	33.6	32.8	32.3	29.0	1953	36.3
Japan	21.3	24.3	27.0	25.8	1973	27.4
Belgium	33.5	33.4	32.7	30.1	1963	34.4
France	27.9	28.3	27.8	27.9	1964	28.7
Germany FR	34.7	36.3	37.4	35.9	1970	37.4
Italy	26.6	28.9	31.7	32.6	1974	32.6
Netherlands	28.6	28.2	26.2	24.0	1955	30.2
United Kingdom	35.8	35.0	34.7	30.9	1955	35.9

Source: OECD and ILO statistics.

In earlier – and in many countries even recent – times, the mainstream of the flow of labour was from agriculture into industry. In most industrial countries this trend has passed its peak, and employment in manufacturing has been on the decline for some time. The turning point was in 1953 in the USA, 1973 in Japan, and in various years between 1955 and 1974 in Western Europe (Table 4). The recent flow has been rather from industry into services; this migration of the labour force has so far been just as powerful as the earlier one into industry. In approximately the last 10 years employment in services has increased every year by over 1 1/4 million in both the USSR and the USA, by about 1 million in Western Europe and by about 1/2 million in Eastern Europe (Table 5). How far can this addition to services employment continue? It obviously must have, and will have, a limit. Yet, the labour force in most industrial countries is forecast to increase. The question, therefore, can be formulated thus:

– if, as seems likely, productivity in agriculture and industry is going to continue to rise, and hence these sectors will have to shed labour (since output is unlikely to rise rapidly),

– and if the labour-absorptive capacity of the service industries is limited,

– what will those people be doing who enter the labour force, or who are being 'freed' from any of these sectors because of technological progress reducing labour requirements?

One answer could be the reduction of working time and/or of the retirement age; these may offer a partial or total solution, but could create other problems of a social/sociological nature.

There already have been, and there are likely to be further structural changes, particularly affecting European industry, which may have further employment implications. We turn now to these.

Structural factors

The structure of the economy is permanently changing, albeit the change may be slow, and in the very short term almost unnoticeable. New requirements will create new tasks for industry or for other sectors. There will be an increasing need, for example, for technologies and industrial equipment for making desert areas fertile to help satisfy increasing food requirements; environmental protection may hit industry but will also create demand for new industrial products; the industrialisation of less developed areas will require the supply of productive equipment (although in many cases what the industrially backward countries ideally need are the technologies of the early 1900s, which the industrial world of today can hardly provide).

Whilst these kinds of structural change may offer new and additional opportunities for the industrialised countries in East and West, there are many other factors which more than offset them. These tend to throw a shadow on the rate of future industrial growth, especially in Europe, but elsewhere, too.

Table 5
Employment in services[a]

Country	Years covered	Increase of service employment in period		Annual shift[b] in per cent of civilian labour force	Employment in services[c]	
		000 a year	per cent a year		Million	per cent
(i) *Market economies*						
USA	1963–76	1275	2.7	0.6	56.8	67.0
Canada	1962–76	195	4.4	0.8	6.0	64.6
Japan	1963–75	690	3.1	0.9	26.9	51.5
Belgium	1962–75	40	2.3	0.8	2.1	56.5
France	1962–75	240	2.7	0.8	10.4	50.1
Germany FR	1962–76	140	1.3	0.7	11.5	47.0
Italy	1963–76	130	1.9	0.7	7.8	41.1
Netherlands	1961–75	45	1.8	0.8	2.7	58.6
United Kingdom	1962–76	150	1.2	0.6	13.9	56.4
Denmark	1963–75	35	2.8	1.4	1.4	58.7
EEC total[d]		785	1.8	0.8	50.4	50.2
Austria	1961–75	15	1.2	0.9	1.4	46.6
Finland	1968–75	35	3.8	1.3	1.1	49.0
Norway	1962–76	30	3.6	1.1	1.0	57.1
Portugal	1960–74	20	2.2	0.8	1.2	38.2
Sweden	1963–76	50	2.4	1.0	2.4	58.4
Switzerland	1960–75	20	1.9	0.5	1.3	47.1
EFTA total[e]		175	2.3	0.9	8.4	49.4

(ii) *Centrally planned economies*						
USSR	1966–75	1385	3.5	0.5	46.8	40.0
Bulgaria	1966–75	45	4.5	–	1.2	33.5
Czechoslovakia	1966–75	65	2.8	0.5	2.8	37.1
Germany DR	1966–75	45	1.6	0.1	3.2	42.8
Hungary	1966–75	35	2.2	0.4	1.7	33.7
Poland	1970–75	190	3.9	0.4	5.6	32.0
Romania	1966–75	60	3.0	0.5	2.4	23.2
East Europe total		445	2.7	0.4	16.9	32.8

(a) All sectors excluding agriculture, forestry, fisheries, mining, manufacturing, construction, gas, electricity and water. Figures are rounded.
(b) Change in the percentage of service employment in total civilian employment: shift to services.
(c) In last year of the period covered.
(d) Including Ireland and Luxembourg.
(e) Including Iceland.
(f) In total civilian labour force.
Source: OECD and ILO statistics.

First, it is instructive to look backwards, since structural change will not start tomorrow: it has been going on since time immemorial. During the 35 years from 1913 to 1948, the volume of world production rose at an annual rate of about 2%, population growth and productivity increases contributed equally to this increase. Over the same period, the volume of world trade grew by only about 1/2 per cent a year – hence world trade per person fell and the degree of specialisation in the world economy also declined. In sharp contrast, during the 25 years from 1948 to 1973, world production rose at an annual rate of 5%; population growth accounted for 2% and productivity increase for 3%. Thus, output per person was increasing three times as rapidly as in the earlier period. World trade, in volume, increased sixfold in the postwar period, rising at 7% a year, i.e. much faster than output – whilst earlier it had grown at only one quarter of the rate of output growth.

Four factors explain this dramatic change: institutional developments (trade liberalisation, integration, international organisations such as GATT, IMF, EEC, OECD, EFTA, CMEA, etc.); demographic trends and the flow of labour into industry; technological innovations; and the greatly increased international specialisation. It is natural, however, that after their initial impact the beneficial effect of these factors – which were 'new' at the outset, but have become part of the traditional establishment by now – should wear off. Another brake on further advance is the, already mentioned, effect of higher energy prices. All this adds up to the expectation of lower growth rates in the coming 10–20 years than those enjoyed by the industrial countries, East and West, in the 25 years to 1973.

In this atmosphere, competition is understandably sharpening. For Europe the most spectacular competitor is Japan. A relative newcomer in the industrial camp, the Japanese advance has been formidable. It is well known how, and to what extent, they have achieved their success in areas such as shipbuilding, motor vehicles, cameras, watches, pianos or electronic consumer goods, how they have developed from efficient imitators into ingenious innovators. One of their recent success stories is that of colour television sets; Table 6 indicates how they have more than doubled labour productivity in the

Table 6
Indicators of Japanese colour–TV producers[a]

	1972	1976	1976, 1972 = 100
Sets produced, million	8.4	10.5	125
Number of employees,[b] thousands	47.8	27.7	58
Sets produced per employee	176	379	215

Source: Financial Times. 1 February 1978.
[a]The seven largest firms only.
[b]Those working on other than colour-TV manufacture are excluded.

manufacture of colour–TVs in the space of four years – an achievement which probably no European producer can compete with. Whilst earlier successes of Far East producers, which hit for example the European textile and clothing industry, were due to low wages, this is not the case any more in Japan: their strength lies elsewhere, as first the American, and soon after the European industrialists, had to learn at their expense.

Slower growth itself brings structural problems, but these are aggravated by the geographical shift of industrial activity. The threat may be Japan today, but we do not know what the industrialisation in the Middle East will bring tomorrow, and the same trend in the developing countries the day after.

In their thrust for a 'new international economic order' the countries which are, at present, usually considered less developed, wish also to significantly expand their industrial base. Apart from developing consumer industries, they wish to see the processing of the industrial raw materials, produced by them, located near the producing areas. Whilst this endeavour is understandable, it is by no means always clear that it is in the host countries' interests. There is evidence, for example, indicating that the processing of base non-ferrous metals (aluminium, copper, lead, zinc), apart from skills and infrastructure not always available in LDCs, employs relatively few people, requires relatively very high investment per job, and its return can be easily surpassed in other branches of industry, as demonstrated by Habenicht [5].

Industrial production in the developing countries has, in any case, been growing more than twice as fast in recent years as in the advanced market economies (and was also less severely hit by the 1975 recession) – these diverging trends are likely to continue (Table 7).

Table 7

Changes in manufacturing production

	Developed market economies	Developing countries	Centrally planned economies[a]
	per cent		
Annual average rate of increase, 1970 to 1976	3½	7¼	8½
Annual change:			
1972	7	8	8
1973	9	10	9
1974	0	6	9
1975	–7	3	9
1976	10	8	8

Source: UN Monthly Bulletin of Statistics.

[a]Excluding China.

Within the advanced countries, the shift of certain industries away from the traditional production centres has already caused considerable structural changes; the most problematic change, however, appears to be the much discussed shift from an industrial to a service economy.

Services, apart from employing an increasing share of the civilian labour force (Table 5), also account for a growing part of national output. Many scholars maintain that the ascent of the service industries in the coming decades is unavoidable. Thus, the historical shift from primary to the secondary activities of the past will be followed by a similarly marked shift from secondary to tertiary activities. In some countries this has already started, in others it will inescapably come as and when they reach a certain level of industrial maturity. Industry will, no doubt, have special tasks for serving this transition, but a number of problems emerge in this context. Three only should be mentioned here: first, that of employment – already touched on – which consists of

Table 8
Indicators of concentration

(i) Share of the 100 largest enterprises in manufacturing net output[a]

United States		*United Kingdom*	
Year	% share	Year	% share
1909	22	1909	16
1929	25	1924	22
1935	26	1935	24
1947	23	1949	22
1954	30	1953	27
1958	30	1958	32
1963	33	1963	37
1970	33	1968	41

(ii) Share of the largest exporters in total British exports of goods,[b] 1974

The largest x exporters:	5	10	25	50	75	100
% share in total exports:	13	19	30	39	44	48

[a] *Source:* S.J. Prais: *The evolution of giant firms in Britain.* Cambridge University Press, 1976.
[b] *Source: Financial Times.* 13 June 1975; *Overseas Trade Statistics of the U.K.*

finding jobs in this service economy for the civilian labour force to a desirable degree. Second, since many industrial countries have to import a good deal of their energy, raw material and food requirements, will the service economy produce sufficient export earnings for purchasing them on world markets? And third, social problems may arise.

Another aspect of structural change is that of concentration. Large enterprises, among them the multinational corporations, account for an ever-increasing share of economic activity. The share of the 100 largest enterprises in total manufacturing net output increased from 22% in 1909 to 33% in 1970 in the USA, in the same period from 16% to 41% in the United Kingdom, and the trend has been very similar in other industrial countries as well. The 100 largest exporters account now for about one half of all British exports (Table 8). How far can this trend go? And is it a Good Thing? Many experts take the view that this course of development is unfavourable, because of its social and sociological consequences (to which we return below) and tend to believe that 'small is beautiful', to use the term coined by Schumacher [6].

Environment

The protection of the natural environment – and indeed of man himself – has recently come into the fore, and legitimately so: rapidly rising world population and economic activity have polluted the atmosphere, the natural water supply and the air, to an extent which may jeopardise human, animal and plant life. Measures have to be taken to prevent any further deterioration, as well as to remedy the present situation.

Industry is, no doubt, one of the main culprits, though not the only one. It is easy to say that the polluter should pay for the damage caused, as well as adjust its operations in order to avoid it; it is more difficult to implement this principle.

For example, in order to reduce the high sulphurdioxide content of the air, in the heavily industrialised and densely populated Ruhr areas, extra high chimneys were built recently in order to better disperse the noxious emission; whilst this measure was successful in reducing the sulphurdioxide content locally, it caused deterioration in Sweden since the ruling wind simply carried it there [8]. This kind of symptomatic treatment is therefore not radical enough.

The magnitudes involved in some environmental problems of industry are enormous. Two examples will give an idea: the sulphurdioxide emission of industry in the United Kingdom equals approximately one million tons of elemental sulphur each year – which compares with about 3/4 million tons a year imported into the UK for industrial purposes. The Union Electric Company of St. Louis, Missouri, USA, reports [9] that the cost of sulphurdioxide removal equipment, which they have to provide for two of their power stations following the instructions of the Missouri Air Conservation Commission (and maintained, after the company's petition, by the US Supreme Court), would be in excess of $ 630 million at 1976 prices, and that the operating and maintaining of such equipment would cost $ 115 million annually.

These amounts are very large indeed. Even if industry accepts them in principle, there are arguments as to what extent pollution should be avoided. Ecologists take the extreme purist view: reduce it to nil; industrialists, and many others, believe that nature can easily manage its own purification up to a point, hence reduce pollution to that point and not necessarily to nil. This seems to be arguing about semantics, but has very important practical implications. To cite another example, federal authorities in the US demanded that an extra cooling tower should be added to the Indian Point No. 2. power station of the Consolidated Edison Company of New York, at the cost of about $ 100 million. The company appealed on the grounds that the results of a seven-year biological study of the Hudson River indicated that the cooling tower was not needed, and indeed would be an environmental liability [10].

Table 9

The contribution of various factors to the average total radiation dose received by man in his lifetime[a]

	Per cent in total
Cosmic rays[b]	26.9
Terrestrial[c]	36.5
Body internal[d]	20.2
Natural background total	83.6
Medical[e]	13.5
Fall-out from weapon tests	2.1
Occupational exposure	0.4
Waste from nuclear power industry	0.1
Other[f]	0.3
Total	100.0

Source: C. H. Clarke–H. F. Macdonald–B. M. Wheatley: *Nuclear power and the environment.* CEGB Research, January 1978.

[a]Data concern the United Kingdom.

[b]Gamma and neutron.

[c]From rocks, buildings, etc., due to the presence of natural radioactive species, such as isotopes of radium formed by decay of naturally-occurring uranium.

[d]Naturally-occurring radioisotope potassium (K-40) present in all body tissues.

[e]Diagnostic and therapeutic.

[f]Television, air travel,luminous clocks and watches, etc.

The complex problem of the environment is full of similar contradictions which affect industry's decisions. But there are more fundamental questions, too. Climatologists advocate the possible harmful consequences of the so-called 'greenhouse effect'; this theory says that the enormous emission of various matters (CO_2, particles, etc.) create a layer around the earth operating as a greenhouse and raising the temperature. Other, similarly respected, climatologists take the view that the world may be facing another 'Little Ice Age' with cooling temperatures, following the century from 1875, which is regarded as the warmest in the past 4000 years. Even small long-term changes in the average temperature can have dramatic consequences; the warmer temperature during the past century extended the Canadian wheat line by at least 100 miles northwards – lower temperatures may result in the opposite move and perhaps bring starvation for millions. Higher temperatures, on the other hand, could expand arable land, but bring drier conditions. This dilemma is, of course, not that of industry alone; it raises profound and general questions, well documented by Matthews [11].

A similarly debated point concerns the technology which, according to many of its advocates, is the only way out of mankind's energy problems: nuclear generation. The environmental aspect of this new technology is the danger of radiation. Again, on the one hand, we find those scientists who assert that – barring calamities – the radiation caused by the waste of the nuclear power industry is negligible for the average citizen; in the United Kingdom, which operates nuclear reactors for peaceful purposes at a degree still among the highest in Europe, this accounts for no more than 0.1% of the total radiation dose an average British citizen is exposed to (Table 9).

On the other hand, the similarly powerful and scientifically supported opposition points to the dangers stemming from proliferation and from possible calamities.

Social problems

Last, but certainly not least, industry is likely to be faced with considerable problems of a social and sociological nature. They are of various kinds, and only some of them can be mentioned briefly here.

The first concerns the non-financial problems caused by insufficient employment – that is, those of unemployment – which, however, are more problems of society as a whole, and not unique to industry.

Second, there will be social problems allied to the industrialisation of the developing countries. In most cases industrialisation means urbanisation. It also often means – as can be seen in Calcutta, Rio and elsewhere – squalor, overcrowding, and the lack of public services, as the landless 'rural surplus' streams into the towns and cities where they hope to work in industry. Many LDCs mistakenly neglect rural development in their drive, following the conventional wisdom, for industrialisation, with the result that the pressure on the land increases and industry does not bring any real relief.

Third, there are the problems – social and psychological – of the employed labour force in the advanced areas. In the main, they stem from the disappearance of the craftsman, the 'assembly line' type of boring work, the fear of computerised operations creating more and more redundancy, and, in rather general terms, from the alienation of the worker from his work, which he has to perform in ever larger and more impersonal surroundings. There have been attempts to create better working conditions but, so far, they have remained isolated (as, for example, in the Swedish Volvo works) and, whilst it is generally accepted that the 'small is beautiful' idea is offering a way out, no one has as yet found a method of replacing a major steelworks, chemical plant, or a substantial automobile factory with anything small enough to provide for the job satisfaction many workers in such establishments miss.

Concluding thoughts

The above is certainly not a complete list of industry's problems and dilemmas – there are many more. Nevertheless, they suffice to convey the view that industrialists in East and West will have a formidable task to solve, overcome or bypass in the coming decades. One can do no more than agree with, and emphasise, *Tinbergen*'s word [13] which he wrote well before he received the Nobel Prize: 'Spiritual leaders and statesmen should try to ensure that genuine human priorities are not forgotten. It is an imbalance that natural scientists and technologists have so far been much more successful inventors than social scientists or spiritual and political leaders'.

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ПУТИ БУДУЩЕГО РАЗВИТИЯ ПРОМЫШЛЕННОСТИ: НЕКОТОРЫЕ ВОПРОСЫ И ДИЛЕММЫ

Д. Ф. РЕЙ

Из проблем, которые в ближайшие 10–20 лет, по всей вероятности, будут оказывать влияние на развитие промышленности, независимо от того, об индустриальной экономике какой общественной системы идет речь, в этой статье на селективной основе рассматриваются те, которые, по-видимому, в будущем будут наиболее серьезными. В первую очередь к ним относится энергетический вопрос: срок службы известных в настоящее время запасов нефти и газа конечен, будут ли своевременно найдены новые методы продления сроков их использования или открыты новые источники энергии?

Во многих отношениях таково же положение с промышленным сырьем, в основном с теми видами сырья, которые являются невоспроизводимыми природными богатствами; они едва ли будут полностью исчерпаны в ближайшие 20 лет, однако в этой области перед научными исследованиями и проектными разработками также стоят большие задачи.

Вопрос, сможет ли фонд капитальных влажений удовлетворить постоянно возрастающие потребности, ведь затраты на капиталовложения – независимо от инфляции – все время растут, особенно в области энергии и сырья.

По линии рабочей силы возникает обратная проблема: будет ли достаточно рабочих мест для полезного использования возрастающего количества рабочей силы? Введение новых методов, как правило, приводит к сокращению потребности в рабочей силе. В индустриальных государствах за последнее десятилетие повысилось число занятых в сфере обслуживания почти на 5 миллионов человек (в США и в СССР, соответственно, на 1 1/4 и 1 1/3 миллиона), но такие темпы роста не могут сохраняться вечно. Численность занятых в промышленности – по крайней мере в западных государствах – проявляет тенденцию к сокращению. В интересах снижения или избежания безработицы, таким образом, нужны новые решения. Новые задачи промышленности – помощь развивающимся странам, охрана среды, введение новых технологий и новых изделий – потребуют создания новых рабочих мест, однако будет ли это достаточным для компенсации вышеупомянутых негативных тенденций? В данных условиях едва ли вероятно сохранение темпов роста национального дохода и, тем самым, производства и занятости, имевших место за четверть века, прошедшую со времени войны, так как действовавшие на протяжении этого периода стимулы (в частности, либерализация международной торговли, интеграция, например, СЭВ и ЕЭС, рост специализации, различные технические новшества и т. д.) отчасти имеют лишь однократное воздействие, а отчасти сомнительно, будут ли они повторяться в таких же темпах. Международная конкуренция обостряется не только со стороны Японии, но и со стороны Ближнего Востока и быстро развивающихся стран „третьего мира". В то же самое время возрастает концентрация, и мы все больше приближаемся к такой экономической системе, в которой будет доминировать не промышленность, а сфера обслуживания. То есть структура изменяется не только внутри промышленности, где возникают новые отрасли и постепенно уменьшается значение и роль старых отраслей промышленности, но и внутри экономики в целом за счет промышленности.

Бесспорная по своей важности проблема охраны окружающей среды полна противоречий: в какой степени необходимо „охранять" окружающую среду? Связанное с этим бремя, которое ложится на промышленность, пока – на основании американских примеров – не поддается четкому учету; необходимо также выяснить, насколько „опасно" для среды распространение атомных электростанций, от которых многие ожидают коренного решения энергетической проблемы.

Наконец, автор обращает внимание на социально-социологические проблемы промышленности. В развивающихся странах это зачастую проявляется в создаваемых урбанизацией бесчеловечных условиях. Индустриальное общество борется с другими проблемами: роль квалифицированного рабочего – и тем самым „радость творчества" и удовлетворенность им – происходит процесс отчуждения рабочего от монотонной, повторяющейся работы. Видимо, в этой области ощущается самая большая необходимость в поиске кардинально новых решений.

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PRODUCTIVITY AND LABOUR SITUATION IN HUNGARY

The growth rate of labour productivity was considerable in Hungary in the years 1950–1970, nevertheless, its level is only half or one third of that in economically advanced countries. From among the tasks related to raising productivity it is important to eliminate the structural contradictions in employment in respect of industries, trades and areas, the improvement of the efficiency of labour utilization in particular fields, making up for lags in mechanization and the improvement of working conditions.

Growth rate and productivity level

The social productivity of live labour (whose most comprehensive indicator is national income per employee) grew in Hungary to 3.6-fold in 1977 in comparison with 1950. Per capita national income increased in the same period to 3.9-fold. Examining the period of 27 years the statement can be made that the growth rate of per capita production accelerated in each period. In the first 15 year's period the yearly average growth rate was around 4.7 per cent, and it reached 5.9 per cent between 1966 and 1977.

Labour productivity in industry rose to almost 3.5-fold in 25 years (in terms of gross output per man-year). In the first ten years a comparatively smaller part of the increase of industrial production originated in the growth of productivity, while in the 1960s about two-thirds of the growth of output came already from the improvement of productivity. After 1970 almost the whole growth of output – and since 1975 the whole – may be attributed to higher productivity.

The picture is less favourable if we look at the development of productivity not as compared with our own past, but in an international comparison. The level of labour productivity in Hungarian industry reaches only one half or one-third of that in economically advanced countries and is by 50–60 per cent lower even than that in the GDR. The productivity level of Hungarian industry corresponds approximately to that of Spain, Greece or Yugoslavia.

Relying on a mutual data supply the Hungarian Central Statistical Office and the Austrian Statistical Office made a joint comparison of the productivity levels of the two countries in 1975. The results showed that the productivity level in Austria was by almost 75 per cent higher than in the Hungarian industry. Clarification of the causes of this fact requires further thorough analysis. It is already known that the technological equipment of labour (technological level) is higher in Austria. This is indicated by the fact that the electric energy used by an industrial employee amounts to 7892 kWh in Hungary, while it

amounts to 18 217 kWh in Austria, i.e. to 130 per cent more. (What is more, 67.4 per cent of electric energy was generated in Austria by hydroelectric power stations, which is, of course, cheaper than the electric energy produced almost exclusively in thermal power stations in Hungary.) In the difference between the industrial productivity of these countries it is not a negligible factor, either, that in regard of various services the Austrian industry is self-sufficient to a smaller extent than the Hungarian industry, which is explained partly by the different pattern and more advanced level of its infrastructure.

In Hungary the productivity of agricultural labour was growing on an average by yearly 5 per cent between 1950 and 1970. From the early 1960s the growth rate of productivity accelerated, while employment diminished at a moderate rate. In the last five years productivity growth has reached a yearly 7 per cent which may be considered as an extremely high rate even by international comparison. As regards the agricultural productivity level attained in Hungary, we are ahead of a number of socialist countries and, among the European capitalist countries, it is Spain and Italy whose agricultural productivity level is about the same as ours. We are behind advanced capitalist countries in the productivity of this field, too.

International comparisons allow, finally, to draw the conclusion that the international position of Hungary computed on the basis of social labour productivity has not changed much in the past 25 years. This is because the development of productivity accelerated not only in Hungary, but, under the effect of scientific-technological progress, also in foreign countries. It is true that as regards the level of economic development we have approached more advanced countries,* but that has been achieved mainly by utilizing our extensive reserves and by improving the sectoral structure. Since, however, the sources of extensive growth have been exploited, we can approach economically more advanced countries in the level of per capita production only to the extent we approach them in productivity.

We must be aware also of the fact that in this competition there are disadvantageous factors among Hungarian conditions. It is, e. g. a disadvantage that our lag in accumulated national wealth (industrial and agricultural capital, road network, urbanization, communal network, etc.) is even greater than in per capita production and that we are in no position to draw foreign labour into less attractive jobs to such extent as is done by economically more advanced countries. The basic cause of the lag in productivity behind economically advanced countries is a lower degree of the social division of labour and a lower degree of the technological equipment of labour. Therefore, in order yet to be able to hold out in competition, we must fully explore and extensively utilize the advantages inherent in the socialist nature of our socio-economic system and the possibilities of a socialist planned economy. A factor promoting the improvement of

*Hungary belongs now to the group of medium-developed countries (Austria, Italy, GDR, Czechoslovakia, Poland, Spain, Argentina, Greece, etc.) In these countries per capita GNP is between 35–65 per cent of the value of this indicator in the USA. In Hungary it may be estimated at about $ 3900 per capita in 1977, in the USA it was about $ 8000.

labour productivity and not fully exploited as yet is a deepening of the international division of labour – first of all with CMEA countries –, and the use of the known advantages of producing for large markets. Raising the technological equipment of labour to a higher level requires obviously important investments with an increasing efficiency.

Labour resources

In Hungary today 48 people out of 100 are economically active. (The rate is similar in other socialist countries.) In the majority of European capitalist countries this rate moves between 35–42 per cent. By this percentage we have achieved such high employment rate as can hardly be raised any further. This is proved best by the fact that in 1977 75.9 per cent of the population in the working age (from 14 years to pensionable age) and, within it, almost two-thirds of women in the working age were economically active. It should be mentioned that an increasing part of young people entering the working age continue their studies and therefore, the real labour resource is smaller than the population in the working age. Reduction of the working hours also diminished the work-time fund. In the coming years only a very small increase in employment is expected, and in certain years, in accordance with the demographic fluctuation, even a reduction is expected to take place.

According to demographic prognostications, the population of Hungary will increase, from the present 10 million 671 thousand, to 10 million 900 thousand by the turn of the millennium.

Labour resources become scarcer – with the present high rate of employment – mainly due to demographical causes, and partly also because of the prolongation of

Table 1
Age composition of population in the working age

Year	Total number of population in the working age	Of which: Number of those between	
		15–39 years	40–59/54 years*
1976	6240	3910	2330
1981	6190	3850	2340
1986	6140	3830	2310
1991	6210	3810	2400
1996	6360	3740	2620
2001	6390	3720	2670

*The legal age of retirement in Hungary is 60 years for men and 55 years for women.

education. It is known, namely, that the natural increase of the population has been low for quite a long time. As a result, the population in the working age, i.e. the number of employable population, will diminish by 1981. At the same time, along with a longer average lifetime, the number as well as the ratio of the population in pensionable age have been rising (the ratio of those above 60 years grew from 12 to 18 per cent during the past 25 years). It is true that in the last 3–4 years the number of births has temporarily increased along with the increased number of women in child-bearing age and also as a result of measures aimed at encouraging births. The bigger age-groups gradually entering working age will, however, add to the number of employable population only after 15–20 years. Even if high fluctuations in the increase of the population could be eliminated and the birth-rate could be permanently increased, it would help to mitigate manpower difficulties only at the turn of the millennium but not those of our days. According to our present knowledge, it cannot be expected that the favourable rates of live births of recent years will prove to be lasting, yet in this paper we cannot discuss the reasons.

Examinations carried out so far considered the possibilities of a wider, reasonable and novel, as well as a more active employment of the population: encouraging those in the pensionable age to continue working, employing women in a more flexible way, supplying the disabled and the handicapped with more varied work, drawing young people temporarily into work (the social importance of which exceeds its economic effect), using more actively part-time work and the putting-out system (work at home), activating economic work accomplished outside the main job (including work done in the household-plots and complementary farms, representing a huge value), etc.

As far as these measures will be realized, their positive effect will show, presumably – beyond their economic importance –, in the way of life, respect for work, and the general atmosphere among the population. A very important condition of success is that diversified forms of work organization should be brought about and that they should adjust to the group whose working capacity cannot be utilized and developed through the existing work organizations and legal frameworks. The long-formed and rigid tradition must be given up now in which there was a universal framework for work organization and those employed either could conform to it or not. Beside the universal work organization life needs more varied and flexible forms.

It should be mentioned in this context that the formation of the way of life of the almost two millions of pensioners cannot yet be considered as settled in our socialist system. Diversified methods have to be found for the pensioners' social activity. Flexible forms of their participation in the social division of labour should be encouraged. In this process not only the human and social, but also the economic effects are obvious.

Finally, it might be stated that in planning economic growth we can count only on a labour resource of a similar size as today. This constraint must be taken seriously into consideration not only in formulating economic development conceptions, but also in enterprise planning, implementation, and economic control.

Employment structure

The structure of employment is an important factor of productivity. Its role is increasing in the present phase of development. It is an important task to restore balanced employment and to eliminate contradictions within the sectoral and regional employment structure and that by trades. In 1950 52 per cent of the economically active population were working in agriculture, forestry and water control, and 43 per cent in industry and construction. International comparisons show that at this stage of economic development a diminishing ratio of agricultural workers and an increasing ratio of industrial workers is a general phenomenon. It seems that in Hungary employment in industry is high as compared with output; it corresponds to the ratio in the most advanced industrial countries. At the same time, the ratio of those employed in the sectors not mentioned previously – primarily in services in the wide sense (in the so-called tertiary sectors) – is comparatively low (35 per cent).

The previously intensive regroupment process among sectors has slowed down in recent years and its main direction also changed. It is found to an increasing extent that labour released from agriculture is not employed by the industry or in construction, but by the tertiary sector. (In the last five years the staff of industry and construction has not increased, while the number of the active wage-earners of other, non-agricultural sectors grew by 194 thousand, i.e. by 12.1 per cent.)

In spite of these changes in tendency, the labour situation in the tertiary sector is even more difficult than in other economic branches. Labour shortage in the tertiary sector is estimated at about 60–80 thousand. Masses of people are missing from the commercial network, from railway and road haulage, from the health service and from child-care institutions. A considerable part of kindergarten teachers' jobs is filled by unskilled labour, and nurses, salesmen, ticket-inspectors, couplers, surfacemen are missing, which often causes tensions and breakdowns in supply.

Vacancies exist, however, not solely in the field of services. The Central Statistical Office observes regularly the degree of utilization of industrial machinery. The measuring method has become more refined, and attention is centered on the so-called basic machinery of factories. Of course, even these cannot function through the calendar year. That is why it is better to measure utilization against the hours of work planned according to the established system of shifts, and this reached 72.8 per cent in 1976 and did not change much in comparison with 1975. In the Yugoslav industry the utilization reached 80 per cent on the same basis. The losses of Hungarian industry within the planned hours of work are larger also in comparison with the Polish industry. The capacity utilization of metal-working machine-tools constituting almost two-thirds of the machine-stock of the engineering industry have to be separately mentioned. The average number of shifts in this field was 1.63 in Yugoslavia, 1.51 in Poland, 1.35 in the Soviet Union and 1.16 in Hungary. The utilization of machine-tools relative to the planned shifts reached 89.5 per cent in the Soviet Union in 1975, and 79.4 per cent in Hungary. In the Soviet industry 81 per cent of the machines worked in the first shift, 56 per cent in the

second and 5 per cent in the third; in Hungary 75 per cent worked in the first shift, 53 in the second and 8 in the third.

The statement can be made with regard to the whole of industry that over one-quarter of the time during which the productive machines should run according to the planned shifts remains unutilized. This is partly explained by technological reasons, unexpected breakdowns, organizational shortcomings and, finally, 14 per cent of the interruptions was attributed by enterprises to labour shortage. It is, therefore, a fact that in several fields the staff is insufficient even today for the jobs created.

In industry it is particularly difficult to fill jobs requiring great physical effort, or those unfavourable from some other aspect, jobs where work is organized in shifts or where worktime is scheduled unfavourably. Thus there are not enough miners, metallurgical workers, locksmiths, spinners and weavers. A large number of those having qualifications in these trades choose to do other jobs. Because of labour shortage equipments of high value cannot be utilized to the desirable extent in certain fields of industry. The raising of the shift-bonus was intended to improve this situation, but this measure can be successful only if other jobs are abolished in favour of jobs where there are several shifts to be worked. Therefore, this has also a job-eliminating, i.e. rationalizing-effect somewhere. I think that in Hungary the fact of labour shortage has not been fully realized; a careful and labour-economizing management has not become general at all. And yet it is a fundamental truth that economic growth does not become intensive merely because the labour reserve has been exhausted, but because the economy, having reached a higher degree of technological development and organization, does not require expansion of the labour resource. The more complaints are voiced about labour shortage, the surer we can be in that economic management, technological development and organization are not equal to their task. This is confirmed also by the long-prevailing false belief that shortage can be overcome by "wage competition".

An important question of the employment structure is the ratio of manual to intellectual workers. The number of manual workers showed an absolute reduction

Table 2
Percentage distribution of the economically active population in the whole national economy
(1941–1977)

	Manual	Non-Manual
1941	93.0	7.0
1949	91.0	9.0
1960	82.4	17.6
1970	74.3	25.7
1977	73.3	26.7

between 1960 and 1977: it went down from 3 million 920 thousand to 3 million 726 thousand, while the number of intellectuals grew from 840 thousand to 1 million 357 thousand. It is not without interest to look back thoroughly on that process. The population has changed fundamentally along with the fast economic and cultural development of Hungarian society, demonstrated by the following data.

According to international comparisons, as regards the ratio of intellectual workers we have practically reached the Soviet Union disposing of a much larger economical potential than Hungary. In 1970 the ratio of intellectual workers was 32.8 per cent in Austria, and 30 per cent in Finland. There are countries in which the ratio of intellectuals reaches even 40–50 per cent (United States, Canada, Sweden), but there the per capita national income is double of that in Hungary, or even more.

Therefore, the establishment and preservation of a correct proportion between manual and intellectual workers is a timely task. The raising of "productivity" and efficient organization aimed at this objective is just as important in intellectual spheres of activity as in manual jobs. This infers modernization of management and administrative work, since the tasks of these spheres are also increasing. It is also a question of organization of management and of intellectual work that there are in Hungary, it seems, too many organizational units and thus also too many executive jobs. Let us see the census data on the subject. In 1949 8300 persons held executive jobs, in 1960 224 100. That is, in ten years the number of those holding executive posts grew to 27-fold (no misprint!). The number of executives grew by a further 61 600 between 1960 and 1970 and reached 285 700. To this point a few comments should be added.

The data for 1949 indicate the executive staff to be smaller than it was in reality, for several reasons. The fast increase in their number in the 1950s is explained by the setting up of the socialist state administration system, the foundation of management, accounting, planning and statistical systems, in the enterprises and institutions and by a further increase in staff following the internal division of the growing number of economic units. In the 1960s the establishment of socialist large-scale agricultural farms necessitated the creation of new executive function which is natural. The large-scale fusion of industrial enterprises, and even the increased enterprise independence introduced in 1968 with the reform of the system of economic control and management also entailed in certain spheres the organization of new management bodies. On the whole, the tendency was necessary, although its extent and numerous details are disputable. In the 1970s this process is going on already within more rational limits, however, a final appreciation will be possible only when the data of the next population census will have become known.

It is found also in intellectual occupations that existing jobs cannot be filled because of labour shortage, so that equilibrium could not be created as yet in this field, either. Nor is coordination of training and needs free from problems.

It is a world-wide tendency that along with mechanization and automation the size of the apparatus doing no manual work – production management, preparation and control – is growing; also in absolute terms, but particularly relative to the number of

manual workers. This growth has, however, also its reasonable limits, even if it is difficult to find its objective measure. Relying upon various comparisons I think that this process is faster in Hungary than would be justified by the actual state of development of our economy; the apparatus for management, preparation and control is oversized at many places. According to an international comparison made in 1970 there were 347 administrative employees for 1000 industrial workers in Hungary, 291 in Czechoslovakia, 252 in Poland, 233 in the Soviet Union, and 567 in the GDR. Therefore, it seems right also in the enterprise sphere to adjust proportions to the numbers needed in reality, i.e. to raise the standards and efficiency of the activity of intellectual workers: to make them contribute more to raising the general efficiency of the economy.

It can be stated, too, that there is a widening deviation between the structure by qualifications (trades) and the job structure. The establishment of correct proportions requires a deliberate and planned influence. Important guiding principles for this were given by the decision of the Central Committee of the Hungarian Socialist Workers' Party made on 20th October 1977, on the "Guiding principles of long-term foreign economic policy and of the development of the production structure". It is clear from the decision that the main guiding principle of production and economy is efficiency: product patterns must become more versatile, they have to adjust faster and more flexibly to external and internal needs as well as to efficiency requirements. Versatility of the product pattern thus interpreted is that axis of production organization to which jobs, professional structure, the training of labour, etc. have to be adjusted. Thus certain jobs have to be abolished, knowing that this will cause some loss; labour regroupment is necessary, although we are aware that this also involves additonal costs and human difficulties.

The misunderstanding, traditional in Hungary, must be dispelled that stability of the national economy is equal to the stability of every economic organ and every job. The real and planned stability of the national economy means adjustment to changing conditions. The feature of enterprise management to be intensified is versatility, adjustability, fast reaction on consumer's needs, and adjustment to efficiency requirements. To this the organized rearrangement of production factors (jobs, technology, labour) must be subordinated and labour has to be released from the sphere of unprofitable activities. Sooner or later it must be recognized, too, that the job for which no labour is found has practically lost its justification of existence, so that there a technical solution must be found. This is a reality which is better to face now than later.

Improvement of the efficiency of labour utilization

The rise in productivity in Hungary is often characterized, with satisfaction, by saying that the growth of production is due entirely to the improvement in productivity, or, that it was achieved without an increase in employment. This is really a good thing. However, it is no answer to the question' what is the efficiency of labour utilization, and

what is the proportion between the expansion of production and the amounts spent on the technological equipment of labour. In 1976, e.g. in the whole of the economy national income per employee was 36,4 per cent higher than in 1970, and the per capita value fixed assets (the indicator characteristic of the technological equipment of labour, although not expressing it exactly) was 39,8 per cent higher.

During the same period the value of industrial output per employee rose by 42,6 per cent, and the per capita value of machinery grew by 62,1 per cent. What relative proportion of the two indicators can be called favourable or good? There is no answer that would hold always, for every development period. According to the majority of economists, the tendency of productivity is favourable in case the per capita production grows faster than the per capita value of machinery. In that case namely, machinery does not only replace labour, but is efficient in itself. If we appreciate economic processes in such complexity, we can no more consider the growth rate of productivity as clearly favourable.

The growth of productivity depends largely on the technology used. The level of mechanization in Hungary improved considerably: the technological equipment of workplaces in industry grew by 6 per cent in the past 15 years. In 1965 the ratio of workers working on machines was 46 per cent, in 1975 56 per cent. The large number of new machines enables modernization of production.

But improvement in the utilization of productive fixed assets has not kept pace with growing mechanization. In industry the output per unit of productive fixed assets decreased by 12 per cent between 1960 and 1976. This tendency is characteristic not only of Hungarian development, but is found in several CMEA countries as well. For example, the rate of decline was 21 per cent in Bulgaria during the same period, and 18 per cent in the Soviet Union. Yet, this tendency is not necessary. This is well illustrated by the practice of several CMEA countries. During the 15 years under examination production per unit of fixed assets grew, e.g. in Czechoslovakia by 17 per cent, and in the GDR by 4 per cent. These countries entered a more intensive phase of production.

The view is rather widespread among economists – including myself – and is also supported by the mathematical models that in an early period of mechanization the value of output per unit of fixed assets necessarily decreases, then, after reaching a certain level, the tendency turns, and output per unit of machinery will increase. When this turning-point can be attained depends to not a negligible extent on the conscious direction of product development and on the product pattern. In sectors where product development is intensive, the turning-point can be attained after only a short mechanization period.

A survey of the Central Statistical Office (of the 25th May 1977) shows that the level of mechanization in industry leaves much to be desired. In the activity of 46.5 per cent of those working with machines in the industry directly supervised by ministries manual work predominates. The number of those doing really mechanized work was 239 thousand or 27.1 per cent of the workers. Automated work, i.e. control and supervisory activity of machines (equipments), was done by 4.1 per cent of workers. In the GDR this rate is about the double.

As regards the number of those engaged in handling, transporting and storing materials, it has not diminished in the industry supervised by ministries in comparison with 1972, but even grew by 7 per cent (while the total number of workers went down somewhat!) The ratio of full-time material handlers thus attained 16 per cent of the total number of workers. That is, no improvement has taken place.

Another reserve that is often mentioned is the staff of repair and maintenance workers. Between 1972 and 1977 their number rose, too, by about 14 per cent, which was partly justified by the growing stock of machines. 135 thousand workers were engaged in repairs and maintenance, which is 15.3 per cent of manual workers. In this a role was played, presumably, also by the fact that scrapping of obsolete machines did not keep pace with the increase of the machine-stock, so that the ratio of machines "written off to zero" grew to 18 per cent in industry (in engineering from 20 to 30 per cent).

Finally, opinions agree also in that in comparison with the number of workers doing basic industrial activities the ratio of those engaged in auxiliary activity is much too high (50.8 and 49.2 per cent). The summary final conclusion (which does not refer equally to each industrial branch), is that mechanization has to be increased, in coordination with technological conditions, and first of all it has to be rendered more complex. This is a considerable reserve which needs, however, important rearrangements in production and, of course, investments.

The attained level of labour productivity is influenced by numerous factors beyond insufficient mechanization, which I can only just mention. Such are the attained degree of social division of labour, insufficiency of specialization, the high ratio of productive equipments with lower than optimum capacity, the lag of specialization and cooperation behind international development, etc.

When evaluating the considerable increase in agricultural productivity in Hungary the important role played in it by the increased use of materials of industrial origin, as well as by the substantial amount of labour-releasing investments have to be considered. It is fortunate that this was coupled with the emergence of a few dynamical elements of intensive development (gaining ground of production systems, spreading of new species, etc.) Yet, the level of productivity and efficiency leave much to be desired also in agriculture. Further development of agriculture depends basically on intensive factors, since the classical resources of extensive development (land and labour) show a decreasing tendency, and the increase in material utilization runs against financial and other constraints.

It is an important contribution to the improvement of productivity that the level of qualification has been rising after World War II. The basis for this has been established by the constant development of the Hungarian educational system. In these days we are on a level with advanced countries in regard of educational standards. (At this point I wish to mention that the rising number and ratio of efficiently employed intellectual workers is an extremely positive factor in raising productivity). The fact that formal education in Hungary is obligatory up to the age of 16 (completion of the eight grade), that 92 per cent of the age-group in question complete in fact primary school, 32 per cent obtain

secondary school-leaving certificate, and 7 per cent study at other institutions of higher education and universities creates favourable conditions for the continuous raising of the general level of vocational qualifications. The level of qualifications is further improved by continuation of studies beside work.

According to the data of the 1973 microcensus, 6 per cent of all employees have a university or similar diploma, 16 per cent have secondary school-leaving certificate, and over one-quarter are employed as skilled workers. (The same ratios in 1949 were' diplomas 2 per cent, secondary school-leaving certificates 4 per cent, skilled workers 11 per cent.) Thus the level of qualifications has been rising fast during the past 25 years. Change was particularly rapid in agriculture and the construction industry, in which large-scale production replacing earlier small-scale production increased considerably the need for qualified labour.

On seeing the high level of qualifications the idea emerges sometimes, whether there is no overqualification in this country, and whether we need so many highly qualified specialists. In my opinion the problem is not in the dimensions of qualifications obtained, but partly in their structure, and mainly in the way of utilizing the work of available specialists. It is true that wasting of values created through serious sacrifices of the valuable intellectual potential is found also in this field. E. g. the circumstances that many skilled workers, high- and medium-degree specialists do not work in jobs corresponding to their qualification causes a huge loss to the national economy. And this loss does not yet include the cases when somebody, though working at a place corresponding to his qualification, spends part of his worktime with other activities (the engineer fulfils technicians tasks, the doctor does paperwork, the skilled worker handles materials, or does cleaning, etc.). To this category belongs also the damage caused by frequent changing of workplaces on account of the lost training time and other losses (though in the case of qualified young specialists the change of jobs may be even useful for the national economy through accumulated experience and widening horizon).

What could be the solution? By no means a general cutting down of education. On the contrary: the increasing demand of the national economy for specialists requires an expansion of training. Yet, a change of proportions between training in various lines may prove necessary.

The pattern of specialists has also to be adjusted to the modernization of the production structure. This requires in certain cases that specialists adjust themselves to changing workplaces. And in education the future demand for specialists should be better prognosticated.

Techniques and technology have been developing comperatively fast in the whole world during the past 15 years. A number of comparative studies have been made on the subject, showing that Hungarian technical progress could keep pace practically with that rate, but the relative position of the country has not improved. This is indicated also by the investigation according to which ten modern manufacturing technologies (among them continuous steel casting, manufacturing of NC machine-tools, installation of shuttle-less weaving machines) were introduced in Hungary with a delay, or, with some of them, we are only making the initial steps.

Various estimations were made of the losses owing to production organization within or between enterprises. The Central Statistical Office investigated by statistical methods the utilization of the worktime in 1973 and 1975 in industry, construction industry, and in transport and telecommunications. It appeared that only because of permitted but unpaid leaves and unauthorized absences – 3 million 774 thousand days – or a value of output of about Ft 6–7 thousand million – was lost in 1975 in the three sectors of the national economy examined. Unauthorized absences caused 13–14 per cent more time lost in 1975 than in 1973 and corresponded to a one-day absence of approximately 7 thousand people. These data render the losses originating in lack of discipline clearly perceptible.

Quite a few efforts have been made recently in order to improve organization. Some enterprises have taken coordinated organization measures in the fields of material supply, processing technology, accomplishment of work, transport, packaging, etc.; as a consequence, productivity grew by 10–30 per cent in some cases, while employment went down. These examples prove that the application of similar methods may lead to good results also at other places.

Nature of the work done – working conditions

One characteristic of the present phase of development is that working people raise increasing demands on the nature of work, and on working conditions. This is, otherwise, a phenomenon found not only in Hungary but everywhere in the world; it is present in socialist and non-socialist countries alike, if labour reserves have been exhausted. Working conditions and the nature of the work at certain places and in certain cases do not come up to the expectations of the employees. It adds to the difficulty that in public opinion manual work does not possess the prestige due to it, while comparatively simple intellectual (i.e. office) work exerts unduly great attraction.

In this field tasks are extremely diversified. First of all we have to improve working conditions as much as our energy and possibilities allow and, at the same time, efforts have to be made that the contents of the work should satisfy ambitions better and correspond to the educational level and qualification of employees. At the same time, improvement of the working conditions must be linked, as a matter of course, to higher performance requirements.

A task of no less importance is to form public opinion in a way that each kind of work wanted by society should have the due prestige. Proportions in training should be also better adjusted to real needs. Last but not least, appropriate wage proportions should counterbalance the factors judged unfavourable by workers: those that cannot be changed for the time being or for a long time to come (work in several shifts, great physical effort, various harms, etc.). The Government has recently taken measures for a better financial acknowledgement of work in shifts.

These tasks are, of course, not at all new, and in many respects important successes have been achieved already. An efficient system has been developed for protection of the

health and working ability of the working people. Between 1970 and 1977 the value of both social and health investments doubled and this growth is considerable even if price changes are taken into account. E. g. in industry Ft 1381 million was spent on labour safety between 1971 and 1975. The continuous modernization of productive equipments entails the regular improvement of working conditions. The ratio of technological solutions involving the heaviest physical efforts has perceptibly diminished. This is demonstrated also by the data of the following Table:

Table 3

Reduction of the ratio of heavy manual labour

	1960	1970	1975	1976
Ratio of coal broken with hand	98.0	72.4	50.4	44.1
Ratio of hand-loaded coal at the site of work	83.5	42.1	26.8	23.9
Ratio of cotton-weaving production with traditional (not automatic) machines	83.9*	62.4	28.5	25.7

*1961 data.

In Hungary several allowances were made also with a view to counterbalancing unfavourable working conditions. However, improvement of the working conditions, facilitation of heavy work, and the use of science and technical achievements in the service of work have remained questions of primary urgency for Hungarian development in human, economic, and productivity relations. Let us see a few fresh data; they will throw light upon a few realities: they show that we cannot make quick progress, but must work with perseverance for the improvement of workplaces.

The Central Statistical Office carried out an investigation in May 1977 in the industry directly subordinated to ministries to explore such problems. The work of 54.9 per cent of those employed here (approximately half a million workers) was qualified as heavy manual work. Almost two-thirds of them worked under disadvantageous conditions (e. g. in high humidity, at dusty or noisy places, etc.). Within this several tens of thousands of workers were working in especially disadvantageous conditions. A further example: in the textile industry, where half of the manual workers are women, 45.9 per cent of the workers do their work in rooms with high temperature and humidity.

72 per cent of workers engaged in handling, transporting and storing materials do heavy manual work. Also heavy work is done by 52 per cent of repair and maintenance workers and their working conditions are often objectionable. True, in many cases these conditions are unfavourable not because of a lack of good intentions: they are so because, in lack of means, they could not yet be changed. Still, even as long as we have not enough

means for fundamental improvements, the most valuable treasure of people: health and working ability must be protected by every possible means. Efforts at improving working conditions have to be intensified even if investment possibilities are limited. It is particularly the crucially difficult and harmful working conditions that should be improved with special care. Working conditions have to be handled as a highly important human question, in view of the fact that unfavourable working conditions are also a factor restraining output, and are thus a source of losses (disease, partial incapacity for work, change of job, accident, etc.).

This survey of the problems of the labour situation and productivity further supports the much repeated fact that in this field we have still large unused reserves. Their revealing and utilization require assiduous work; in certain cases a revision of the long-accustomed management and control methods would be necessary, as well as a full assertion of the requirements of both employment and labour economy in the course of current management and in developments.

ПРОИЗВОДИТЕЛЬНОСТЬ ТРУДА И ТРУДОВЫЕ РЕСУРСЫ В ВЕНГРИИ

Й. БАЛИНТ

В 1950–1970 гг. Венгрия достигла значительных темпов роста производительности труда. Однако в международном сравнении эта картина менее благоприятна. Относительный уровень развития страны в этой области за прошедшие 25 лет по существу не изменились. Уровень производительности труда в венгерской промышленности составляет лишь треть или половину производительности труда в экономически развитых странах, основной причиной чего является более низкая степень общественного разделения и технической вооруженности труда.

С исчерпанием источников экстенсивного роста (сужение резервов рабочей силы и т. д.) рост производительности труда стал единственным средством соревнования с экономически более развитыми странами. Поскольку важный фактор производительности труда – это структура занятости, то существенную задачу представляет достижение равновесия в этой сфере, ликвидация противоречий отраслевой, профессиональной и территориальной структуры занятости. Исходя из выпуска продукции, число занятых в промышленности относительно велико, в то же время серьезные проблемы вызывает недостаток рабочей силы в сфере обслуживания. Еще не удалось достичь необходимого равновесия в соотношении работников физического и умственного труда, которое бы соответствовало степени экономического развития страны.

Темпы роста производства еще не соответствуют средствам, затрачиваемым на механизацию, имеется много нерешенных задач в улучшении эффективности использования рабочей силы. И в этом отношении темпы роста производительности труда еще нельзя считать однозначно благоприятными. К тому же в отдельных областях (перевозка грузов, складирование, подсобные работы и т. д.) имеется сербезное отставание в механизации. Несмотря на быстрое развитие, нет особых причин для удовлетворенности использованием квалифицированной рабочей силы и улучшением условий труда.

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K. SZÉKFFY

RELATION BETWEEN WAGES AND PRODUCTIVITY IN THE HUNGARIAN INDUSTRY BETWEEN 1950 AND 1974

The authoress surveys the theoretical constructions and practical measures of the period from 1950 to 1974 that were intended to prevail *ex ante* in the actual control of enterprise activity, those *ex* post interrelations asserting themselves on the macro-level between productivity and the trend of real wages. She uses statistical data to prove the failure of such efforts and outlines the social and economic factors whose interplay led to the emergence of processes producing exactly the opposite effect.

Wage control is to serve the realization of economic policy aims, that is, it has to encourage more and better work and must be effective toward maintenance of the equilibrium position of the economy.

If we look back from a distance of 30 years at the construction of the wage control system theoretically formulated and put into practice in Hungary, the suggestion connected with the stimulating function will emerge that a close and positive connexion has to be established between wages and productivity in the different sectors as well as in enterprises. Here are a few quotations formulated at different dates, but of the same content: "A serious danger is latent in the fact that during the last months wages have been rising faster than productivity. . ." [1] "Several people hold the view that the present 'rigidity' of the average wage control system could be mitigated if supervisory authorities did not determine the average level in absolute figures, but brought it into close connexion with enterprise productivity." [2] "This rigid system of average wage determination naturally restrains the stimulative effect of distribution according to work on increasing the productivity of labour. It is our task, therefore, to create a system where average wages change as a function of the growth of productivity. A condition of this is to perfect the methods of measuring labour productivity. . ., which would allow to sufficiently state the growth rate of productivity in each factory, and also, to determine the source of productivity increase"; [3] ". . . such wage and personal income regulation is to be developed, as will link the rise in wage level to labour efficiency more closely; and will determine such proportion between efficiency increase and wage level, which will ensure that the improvement in economic results should provide the cover for the wage needs of increased efficiency." [4] "It may be also a source of a rise in prices, if wage rises in certain sectors exceed considerably the growth of performances." [5]

For the analysis of economic processes such ideas – arising almost independently of changes in a number of elements of the system – are particularly interesting, since behind them, we find in all probability, some permanently asserted interests and institu-

tional structures. What is more, the suggestions and experiments in question are of such a nature that – as will be seen later – they all proved impracticable: other processes of the economy did not tolerate their permanent assertion, no matter how much their realization was promoted by state organs.

In what follows we shall first survey the theoretical suggestions and practical measures which were intended to assert *ex ante,* in actual control (in enterprises and in sectors) the interrelation between productivity and real wages inexorably asserting itself *ex post* on the macro-level. Then we shall go on to investigate the actual processes with the aid of available statistical data, and, finally, we shall make an attempt at outlining the social and economic forces whose complicated interplay changed the ideas of those advancing the proposals one after the other and which regulate the connexion between wages and productivity – as a peculiar, cyclical process.

Attempts at wage control

The Hungarian relative wage-bill control system of 1950–56 may be considered as the first practical realization of bringing real wages and productivity into a relationship, or more exactly, as the first attempt made at it. This attempt is worth examining also because it was the common root or starting point of several assertions and ideas formulated later. *The main objective of economic control agencies at that time was to maximize the growth of national income and in it that of the accumulation fund.* The tasks of the relative wage-bill control system were, according to the original ideas: to stimulate productivity increase, and guarantee the global balance between purchasing power and the commodity fund with a view to realizing the above-mentioned efforts.

Enterprise activity in this system was determined by a plan prescribed with a complicated system of indicators (gross output value, reduction of production cost, profit and profit payment, etc.). An important chapter in it was the labour plan which contained obligatory prescriptions for employment, productivity, and the wage fund. *Employment plans were determined globally and in breakdown by labour categories* (workers, administrative and technical staff) *as a function of the gross value of output and the expectable productivity increase.* The increment of spendable enterprise wage-bill was derived from the expectable increase in staff and the planned – relatively low – rise of wage level. The wage control mechanism stimulating to increase efficiency and, indirectly, also national income *honoured every 1 per cent overfulfilment of the envisaged gross output value by a 1 per cent increase of the wages fund thus prescribed,* and lagging behind was followed by a proportionate reduction of the wages fund. According to the concept the largest efforts within the enterprise collective would have been stimulated by the fact that workers' earnings changed according to their fulfilment or overfulfilment of the norm.

It was laid down in the national economic plan, what percentage of the productivity increase within the whole of the national economy should serve the rise in

living standards through the increase of wages. *In these plans the planned growth of the volume of production or of productivity was followed with a great lag by the rise in average wages.* With overfulfilment of production plans, however, wages were raised in direct ratio, *since the ulterior outflow of income* could be covered by material goods produced, and even transitory disequilibria could be comfortably covered by the deviation between the basic production volume and purchasing power. *Thus in this theoretical construction stimulation did not endanger the equilibrium of the economy,* i.e. the double function of wage control seemed to be easy to coordinate.

According to the original ideas, the average wages and productivity of enterprises and sectors should have to agree in their tendency: an increasing rate of productivity would have entailed an increasing rate of wage outflow, while a decreasing rate of productivity a decreasing rate of wage outflow. Hopes attached to the relative wage-bill control system did not materialize, yet failures were considered only as transitory disturbances, and thus the system was constantly under repair from the first few months of its introduction. While it was functioning, hundreds of new orders and measures were introduced, amended, and recalled.

Then in 1953 a lively dispute started in a wide sphere, in which two – today still existing – tendencies could be traced already. The one seeking to find the way of further development in the elimination of the plan-directive system, introduction of the profit incentive, and in wage proportions developing according to the demand for and supply of labour. Economists representing the opposite view took a stand for the existing wage system, and for stricter central directives.

Relying upon practical experiences a new type of average wage level control system – eliminating the automatism between the development of wages and productivity – was introduced in 1957.* At that time the growing inflationary pressure caused the gravest economic tension. Accordingly, those features of the wage control system were intensified which are effective toward holding back wage outflow, and mitigating the tendency of a rise in prices originating in a shortage of goods.

The National Planning Office, striving after achievement and maintenance of equilibrium, determined the payable wage-bill**. For that the wage increase deriving from experience and higher qualifications and those necessary for the implementation of central wage policy measures were taken into consideration. Ministries were given plans for employment and wages fund which they had to observe independently of the production result.

The wage control system applied with enterprises was not at all that uniform. Different practices were pursued by ministries and – till their reorganization in the early 1960s – by industrial directorates. In certain fields enterprises were given a larger scope of

*Mining and building materials industry were exempted from the general regulations; in them relative wage-bill control remained in force, but overfulfilment of the production plan was now followed by a less than 1 per cent automatic increase of the wages fund.

**The category of equilibrium is used here in the sense accepted by the majority of economic policy makers, i.e. we speak about equilibrium if supply satisfies solvent demand without any considerably rise in the price level.

mobility in employment and wage-bill matters, while in other fields even wage-bills were fixed.

Already at the time of elaborating this mechanism, and primarily in the 1960s, the justification for the existence and usefulness of this wage control system was more and more subject to debates because of the relatively slow increase of productivity and the constantly strengthening attempts at "diluting" the staff (meaning that the enterprises "fulfilled" the prescribed average wage level by employing more low-wage labour with low qualifications). Suggestions proliferated for the introduction of a better system, free from distortions, connecting wage and productivity increase. Since the failure of the relative wage-bill control was traced back to mistakes of the committee in measuring productivity, it was primarily in regard of applicable indicators that diversified suggestions were made:

1. The gross value of output of the enterprise can correctly reflect or measure the changes in productivity, if cumulations (changes in business line, in cooperation and value) are eliminated. [6]

2. Only measurement in physical terms can provide an undistorted productivity indicator. [7]

3. For each workshop and section of workshop differentiated productivity indicators have to be applied in accordance with local characteristics. [8]

The first suggestion holds the strict linking of wages and productivity for possible in the whole national economy, the second holds it possible by taking into consideration the sectoral characteristics, and the third only for a few large-scale enterprises and trusts. The most important common feature of the conception was that it was not an automatism that was to ensure connexion between the two indicators: those proposing it indicated it as a government task to determine in a differentiated manner for each sector, what percentage of wage increase should follow the productivity increase. (As opposed to the old practice, in case of a 1 per cent productivity increase a wage outflow of 0.4–0.6 per cent was held justified.) Also from these hypotheses – common in certain starting points, different in other ones – the coinciding tendencies of productivity increase and average wage increase on the enterprise as well as on the sectoral level would have followed.

The dispute was reflective of the fact that the actual economic processes were increasingly breaking through the system of conditions of the rigid average wage level control. It was on this necessity that a special regulation – available from the 1960s and usable in a limited sphere – acted. *Enterprises producing goods of outstanding importance for the national economy were allowed to raise the average wage level if the planned productivity increase was overfulfilled.* Yet the overstepping of the wages fund had to be authorized in advance by the National Planning Office and the Ministry of Labour. With a view to the improvement of efficiency and against the exaggerated staff-increasing tendency a new incentive system was introduced in 1965. In accordance with it, 75 per cent of the wages released through increased productivity could be spent by enterprises on wage rises – in addition to the prescribed average wage increase.

In the linkage of wages and productivity on the enterprise and sectoral level a new change was brought about with the introduction of the new economic mechanism in 1968. The basis for the judgement of enterprise performance and for wage increase of the collective became a comprehensive indicator synthetizing several factors: i.e. profit. This had to reflect, on the one hand changes in live labour efficiency without the distortions of previous methods, and on the other hand, it had to comprise also the other factors – related to embodied labour – of increased efficiency. The purpose of this regulation was originally that the importance for the economy of highly productive enterprise should be reflected also in the average wage increase of their workers, and also that the "sucking away" of labour should force enterprises lagging behind to react on the changed economic environment.

Contradiction between purposes and real processes was soon revealed: *differentiation as a function of profit did not reflect the work of the enterprise collective, but often the effect of other factors (price system, state subsidy, etc.); the stimulative function of wage control weakened, and the criticism of the system was justified:* "... improvement of enterprise productivity allowed only a very slight increase of personal income". [9]

In 1971 again a new regulation was introduced with the purpose "of linking the raising of the wage level more closely than before to the improvement of labour efficiency." [10] Complementing the average wage level control connected with profit, the relative wage-bill control taking into consideration also different production conditions was introduced first in 1970, and then from 1973 it was introduced, as an experiment, in an increasing number of fields. Relying upon experiences and various suggestions attempt was made at developing a "purified" mechanism. In order to avoid cumulations, it was not the indicator of the gross value of output but that of value added that was to register changes taking place in productivity. Every 1 per cent rise in the indicator of the per capita value added allowed up to a 10 per cent rise the raising of the wages fund with a low surtax rate of 0.4–0.6 per cent, determined differentiatedly by the central organs.

Summing up in short the most important features of wage control the statement can be made *that the system functioning since 1968 with repeated transformations also had the primary aim* of establishing a close connexion between average wages of the enterprise collective and changes in productivity. After all this it is justified to ask the question, whether a close connexion has developed – or could develop – between wages and productivity during the past, relatively long period.

Practical experience

Whether regulators promoting the connexion between productivity and wages have achieved their aims will be examined – in first approximation, in an aggregated form – through the corresponding indicators of the state and cooperative industry. (See Figure 1)

Nominal wages grew – with the exception of the period of average wage level control from 1957 to 1967 – at a rate exceeding productivity every year, while the rise in real wages was surpassed, except for 1957, by the increase in productivity. From the aspect of further analysis it is remarkable that a "more balanced" connexion between the indicators of wages and productivity was established between 1957 and 1967, i.e. in the period when the control aimed "least" at establishing a close positive connexion between the two indicators, and the connexion was "unbalanced" in those periods when the "strongest" instruments were used to establish it.

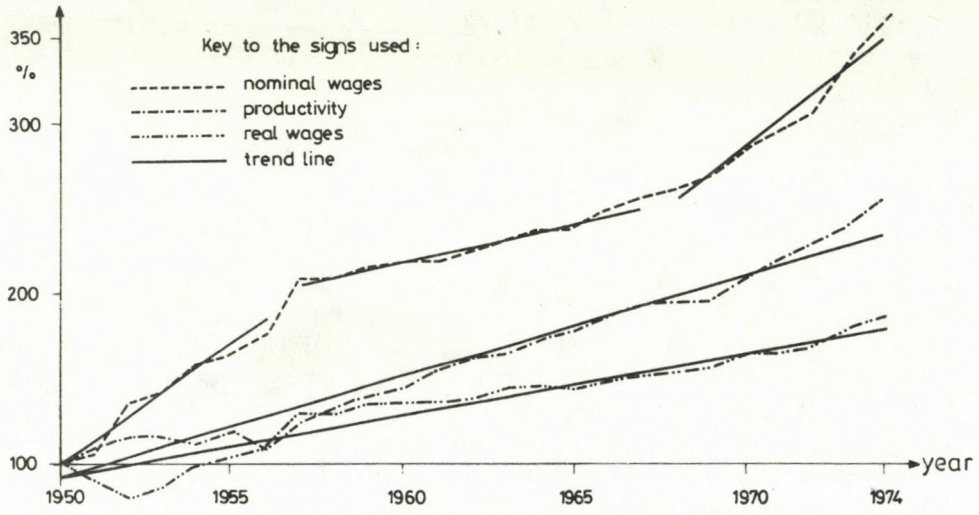

Fig. 1. Productivity, nominal and real wages in the state and cooperative industry between 1950–1974 (1950 = 100)

Source: Statistical Yearbooks, Central Statistical Office 1966–1974

It can be clearly seen in Figure 1 that the long-term development of productivity and real wages can be well approximated also by a linear trend equation from time-series. Except for stagnating productivity and decreasing real wages in the early 1950s a *balanced growth* is found in the basic trends of both time-series. *Fluctuation is highest in the outflow of nominal wages,* therefore, if we fitted only a single trend equation to its time-series comprising 25 years, we would underestimate the growth rate of nominal wages of the 1950s, while overestimating wage increases taking place in the mid-1960s. *Therefore, this is described not by one but by three trends.*

The position of the "breaking points" of the time-series describing nominal wages is *not accidental,* but adjusts to the changes in the wage control system. The time-series of

the fact wage outflow of the first period (1950–1956) can be approximated by an abruptly rising linear trend. Statistical data of the second period (1957–1967) give account of a strongly controlled slow wage increase, which can be described by a flattening linear equation. In the third period (1968–1974) the wage increase becomes faster once again: its development can be well approximated by both linear and exponential equations. The time-series and the "breaks" show that the nominal wage increase reacts almost immediately on the changes in economic mechanism: it mediates the decisions and measures brought in the control sphere with high reaction speed to the real sphere.

Trend equations of the long-term time-series of per capita productivity, nominal wages and real wages:

1. productivity	1950–1974:	$y = 163.1 + 6.14\ t$
2. real wages	1950–1974:	$y = 134.8 + 3.89\ t$
3. nominal wages	1950–1974:	$y = 223.7 + 8.83\ t$
	1950–1956:	$y = 140.2 + 13.90\ t$
	1957–1967:	$y = 227.5 + 4.67\ t$
	1968–1974:	$y = 300.0 + 1.053\ t$

For illustrating the interpretation of the trend parameters we analyse the time-series of productivity. According to the development tendency between 1950 and 1974, productivity grew by 63 per cent by 1962 as compared with 1950, and by an average yearly 6.14 per cent in respect of the whole period. If the wage level of 1950 is considered as 100 per cent, the estimated value of productivity is 156.96 per cent in 1961, and 169.24 per cent in 1963. The increasing "distance" between the trend equations of real wages and productivity can be quantified also in consideration of the equations. Between the two time-series an average yearly 1.5–1.6-fold deviation in growth is found to the advantage of productivity. After 1957 a more balanced phase of economic development followed, reflected also in the trend equations. The fact that the outflow of real wages was lagging behind productivity increase can be explained by several well-known reasons:

1. Collectivization of agriculture, industrialization, and the intended high rate of economic growth augmented accumulation and investment demands.

2. The fact that the real value of incomes was lagging behind productivity, was the consequence also of the effort that manufacturing of the means of production should be far ahead of the increase of the production of consumer goods. *Productivity rose higher in sectors manufacturing means of production,* since developments were centred there, and thus nominal wages increased faster: against increased demand there were less consumer goods. And, since the real value of incomes is determined by improved efficiency having taken place in the manufacturing of consumer goods, real wages rose less than the general productivity of the national economy.*

*Imports of consumer articles may allow transitorily a higher real wage increase than home productivity increase; we now disregard this possibility.

3. The fact that within the consumption fund the ratio of public consumption grew also contributed to the slower growth of real wages relative to that of productivity. Its importance was enhanced and its levelling effect intensified primarily in the periods when living standards of the population were only slowly rising.

A further analysis of the data allows us to draw the conclusion for the whole period that on an average the yearly growth of nominal wages was 1.4-fold of that of productivity. The reasons are the following:

a) In the period under examination – and particularly in its first decade – employment was fast increasing. This process was centred on two stages: the early 1950s and the socialist reorganization of agriculture. Labour flowing into industry usually received fixed wages during the training period, which were higher than real performance because of the high rate of wastage and poor quality. Nominal wage increase surpassing the increase of productivity presented a danger for the balance between purchasing power and commodity funds mainly in the years of high increase in employment.

b) The growth rate of wages per worker was, in principle, in close connexion with the volume of production (still in 1974 59 per cent of workers in the state- and cooperative industry were paid task-wages), the rise in productivity resulted in a fast wage increase. This was the case mainly in such fields where the various forms of task-wages were forced even if, at the same time, there was no system of indicators elaborated for the realistic measurement of productivity increase. This effect was intensified, up to 1956, by wages being linked to the development of the gross value of output, which latter indicator – as all gross indicators – contained considerable cumulation (duplication). As a consequence, wages increased also in such cases when there was no growth in output (i.e. no productivity increase).

c) The spreading of the form of time-wages is also a clear and natural tendency. On the one hand, the number of those producing material goods decreased. The importance of the unproductive sphere and the number of those employed in it for time-wages are increasing. On the other hand, the ratio of workers receiving task-wages is decreasing also at places where this form was general before.

Analysis of the basic index series already renders it likely that even if there is a positive connexion between the development of nominal wages and productivity – as it

Table 1

Linear correlation coefficients between growth rates of per capita nominal wages and productivity

State and cooperative industry	$r = 0.2208$
State industry	$r = 0.3256$
Light industry	$r = 0.1984$
Mining	$r = -0.3424$
Engineering	$r = 0.3519$

has been formulated as a necessity in the recurring conceptions – it cannot be particularly close. From the time-series of Figure 1 it appears that in the long run *wage outflow is much more a function of the type of the wage control system than of the development of productivity.*

Beside the aggregated indicator we have selected a few sectors and industrial branches for a more thorough analysis and calculated the value of correlation coefficients between productivity and nominal wages in these sectors. (See Table 1)

The value of the linear correlation coefficient between the two indicators is low both in the whole of the state and cooperative industry, and in other selected fields.*

The most interesting is perhaps the development of wages and productivity in mining. Prior to any calculation it might have been assumed that even if there was a connexion in industry between the two indicators, it must be the loosest in mining. The fact that the volume and quality of production depend on mining conditions works against such connexion. Possibilities of increasing productivity are largely deviating within the sector, and if wages and productivity were closely linked to each other this would cause a break also among the wages of the various fields, what is more, it would be difficult even to have enough labour at times. A direct and close link is contradicted also by the importance of this sector for the national economy, and by the heavy physical work, manifest also in the higher wage level in comparison to other sectors. Despite that, mining was one of the fields exempted from the general validity of average wage control after 1957. In this sphere the desired circumstances mentioned as conditions of linking nominal wages and productivity persist to this very day. Among them are physical measurability, and the high percentage of workers paid task-wages (72 per cent in 1974). That the parallel movement of wages and productivity cannot be achieved even in the presence of such circumstances is demonstrated, e. g. by the fact that in 1973, as a result of a central measure, the sector was withdrawn from the scope of the general regulations and, independently of its results, at least a yearly 4.5 per cent nominal wage increase was guaranteed.

The engineering sector is of the opposite type. The average increase of productivity highly exceeded the industrial indicator, yet the nominal wage rise was lagging increasingly behind the industrial average. (See Table 2) Thus, it is not only that our assumption, according to which there is no simultaneous and direct positive connexion between nominal wages and productivity has proved correct, but the idea is not justified, either, that wages grow most dynamically in those sectors where the growth rate of productivity is also high.

The development of relative earnings in various sectors and of wages in various trades, although connected only loosely to productivity data, indicates also interesting relationships. We have selected a few such trades which are not typical in either of the sectors under examination and are found comparatively even by distribution among the

*This selection of the fields of industry is justified by the fact that wage control in the light industry, mining, and engineering were different to a certain extent.

Table 2

Average wages in mining, the light industry and engineering in comparison with average wages in the state industry

total (= 100%)

Year	Mining	Light industry	Engineering
1950	104.5	82.8	101.2
1955	125.0	79.9	96.6
1960	138.2	86.6	99.4
1965	139.4	85.3	99.8
1970	142.0	87.6	98.1
1974	139.0	87.9	97.7

various sectors. It cannot be supposed, namely, that expectations in various sectors should be different towards identical trades and expertise, nor that the age distribution, years spent in work, and other wage-level determining factors of those affected should be systematically different with each sector. (Although that may be disputed.)

Wages of the individual trades show a much smaller dispersion in relation to their average, than do sectoral average wages in relation to the industrial average. E. g. in light industry wages were 14 per cent below the industrial average in 1962, while average wages of trades outside light industry were only 1–3 per cent below their own industrial average.

It may be observed that the order of wages by size in the non-typical trades is the same as that of the sectoral relative earnings. Mining is leading: *earnings are bigger there in every trade than in engineering, and the trade wages surpass the corresponding indicators of light industry in both sectors. From this we may draw the conclusion that the development of trade wages is the result of two forces: the order of average wages of sectors, and the functioning of levelling mechanism.* This is why the state of affairs has come about that in sectors with high average wages the level of trade wages is also higher than in sectors with lower wages.

Since wages and consumption must, after all, be related to production and productivity, the question arises: in what way, through what transmissions is the connexion between the two factors asserted. Their relation arises out of the fact that, independently of the type of the wage control system, directly or indirectly, through some mechanism beyond central control *the development of nominal wage (its rise) follows that of the volume of output.* Two types of earnings may be distinguished in respect of the way of their connexion with production. The first group comprises wages depending on performance. If a bigger volume of output is due to greater expertise and higher qualifications and to new techniques learnt, the increase of wages must also follow at a certain

rate. The second group comprises forms of wages independent of performance: time-wages. Development of the two types of wages cannot break away from one another. Though with a time lag, wages not depending on performance will also increase.

A rise in wage level is caused also by the exhaustion of labour reserves. In such cases increased tasks can be performed through increased efforts and with higher skills, which raise the wage level. Having surveyed the wage control experiments, the macro-movements have to be analysed whose complicated effect mechanism gave rise to processes contrary to wage control efforts.

Relation between accumulation cycles and nominal wages

The cyclical changes in the rate of accumulation are a well-known fact in Hungarian economy. In the rich literature on the subject several factors are mentioned as causes of fluctuations: mistakes in economic policy and planning, lack of coercion to efficiency, the spasmodic and concentrated emergence of replacement requirements. [11] [12] [13].

Within the period of 25 years under investigation two periods may be distinguished: the first lasting from 1950 to 1957, and the second from 1958 to 1974. And after 1958 the following, clearly discernible, and generally three-year cycles came about* 1958–1961, 1962–1965, 1966–1969, 1970–1972, 1973– .

The fluctuation perceptible in accumulation is spreading to other spheres of the economy as well. One conspicuous and well-known consequence is the fluctuation in the balance of foreign trade, but cyclicality is caused just as well perceptibly in per capita nominal wages in industry and the material sphere as a whole. (See Figure 2) A conspicuous difference between the two periods is that in the first one accumulation and nominal wages developed in opposite directions, while in the second in an identical direction in 12 cases during 17 years (70 per cent).

In the first period (1950–1957) the task of socialist industrialization was accomplished by holding back the standard of living, so that in 1951–1952 the real value of wages went down in absolute terms. The growth rate of accumulation strongly fluctuated from year to year, upswings in certain years (in 1953, 1955, 1961) were followed by decline not only in the growth rate but also in absolute terms. The maximum of deviations was + 71 per cent and their minimum −40 per cent. In 1953 a temporary change took place in the economic policy conception. But the theoretical bases and actual system of the wage control did not change, since the relative wage-bill control and its "accessories": wages fund control by the banks, and the central wage-tariff system remained. Owing to the full utilization of capacities production was unable to react on

*Periods of investment activity are determined in different ways, depending on whether two maximum- or two minimum-points are selected for starting or end point. In connexion with wages we found a separation according to the latter method more useful.

the quantitative and qualitative changes in demand. Stocks – often consisting of unsaleable goods – were inappropriate for playing a "buffer" role. Buyers' adjustment to the supply structure – i.e. *forced substitution* – was general. Therefore, it was also with a view to lessening the extent of shortage that the amount and purchasing value of wages paid were regularly reduced through administrative methods and by "economic" means.

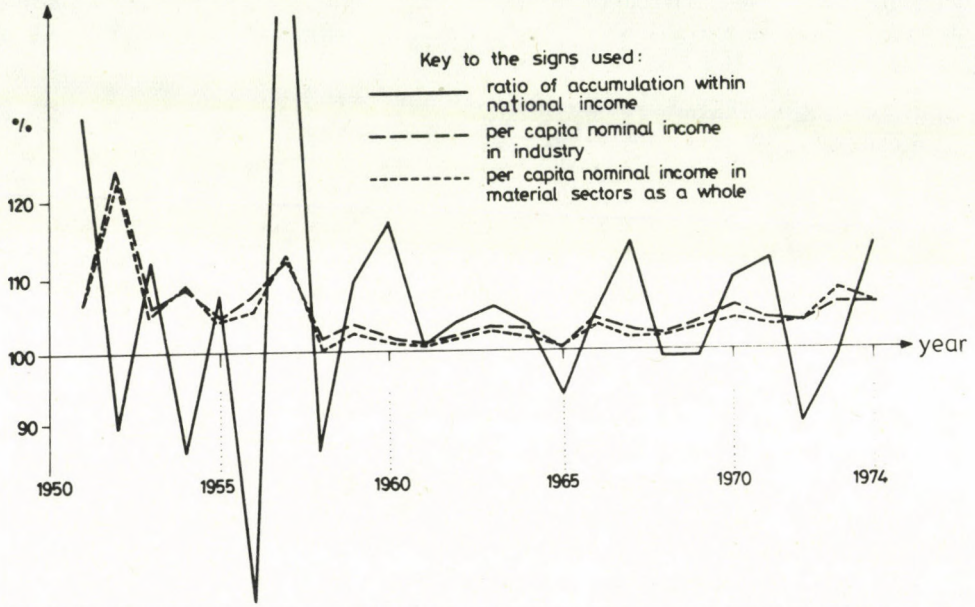

Fig. 2. Development of the accumulation fund and nominal wages between 1950 and 1974 (Preceding year = 100)

At every "stage" of the formation of purchasing power an instrument was used for tapping wages. Wage-increase concomitant with an upswing of production was held back at its source by the obligatory centrally ordered readjustment of the norms, prior to increasing the accumulation fund. This drastic instrument was sufficient in itself to reduce the growth rate of wage outflow in relation to the previous year. Another important instrument of reducing solvent demand was to raise consumer prices by central order while partly there were also spontaneous rises, too. Among these the price and wage adjustment of 1952 was an outstanding one, which was deliberately based on the phenomenon of the so-called money-illusion. The increase of earnings carried out with rates differentiated by sectors was followed by a much higher increase in prices, so that wage increases compensated only for the increased costs of living of the preceding year.*

*In the sectors of material production nominal wage per worker grew by 6.8 per cent in 1951, and by 27.1 per cent in 1952, while the consumer price level increased by 21 and by 39.2 per cent.

In the relation between wages and accumulation a fundamental change took place in 1957. The most important reason for it was an economic policy aspiring strongly to the achievement of an equilibrium position – not only theoretically formulated but entailing also practical consequences. As has been mentioned, the average wage level control became one servant of this aspiration. Phenomena of the first period and conclusions drawn therefrom made the control organs recognize that an automatically parallel movement of wages and productivity implied the danger of upsetting equilibrium. By fixing the upper limit to wage outflow and breaking it down to sectors a practice better controllable – from this aspect – developed.

The two types of wage control and the disputes about them represent the dilemma between equilibrium and incentive. The type of the first period, encouraging the increase of production and productivity worked against equilibrium, while that of the second period hardly encouraged greater efforts through wages, yet better guaranteed global equilibrium.

Success of the new wage control method depended on whether the initial assumption was true, that is, whether the development of wages and production can be separated. As can be seen in Figure 2, between 1957 and 1974 the cyclical movement of the economy persisted and a closely parallel movement developed between fluctuations in nominal wages and in accumulation. The relation between them is almost functional in the investment cycle of 1962–1965. In the two years following the nadir of 1961, investment activity revived, and it slowed down again in the two subsequent years. In the development of wages a similar increase of the growth rate and then a decrease took place. In the years under examination a 1 per cent increase in the growth rate of accumulation was concomitant with a 0.90–0.97 per cent nominal wage-increase. In 1966–1969 and then in 1970–1972 again sudden nominal wage increases took place along with an accelerated rate of investment. The connexion was somewhat loosened in both cases by the fact that in the second year of the cycle, i.e. when accumulation was still growing, the growth rate of wages was already slowing down in comparison with the preceding year, though it was still higher than in the year preceding the cycle.

Factors directly and indirectly affecting the growth of wages

We think that from the sectors of the labour market (state authorities, enterprise management, enterprise workers' collectives) state organs and workers' collectives represent the determinant factors. The enterprises' stand in regard of the size of wages reflects the demands "from above" of central organs. Thus at one end of the pair of contrasts are the workers' collectives pressing for dynamical wage-increase, unable and not wanting to reckon with growth cycles and economic tensions, and at the other end the central organs aiming at moderate and even wage-increases and a balanced rise in standards of living, and for whom this activity is only one of the aims – appearing first of all as a result of fast economic growth.

The labour market is not an autonomous factor of the economy – it is not an independent variable. In its development tensions and characteristic features of the production and market of consumer articles and investment goods are reflected. Thus the importance of labour and also its valuation are inseparable from the tautness of the markets and, in the last resort, from the importance of production tasks.

At the nadir of the accumulation-investment cycle it is central control that enjoys a more favourable position, while at its peak it is the workers. Examining it from the side of either party, the change in power relations is comparable to a squeeze. From the workers' point of view the nadir of the accumulation cycle is clearly a squeeze, since, with reduced tensions in the economy central organs are in a better position to "rearrange themselves", i.e. to keep more firmly in hand the economic processes and also the trend of wages. *In these regularly recurring periods demand for labour is comparatively lower.* The change is not manifest in an absolute reduction of demand for labour, since full employment, and in a certain sense even overemployment, is always characteristic of the period under examination. In the downward section of the cycle the tautness of production tasks is decreasing, bottlenecks are less conspicuous, the economy is getting more balanced. At such times enterprises are also given tasks that are easier to fulfil, material supply improves somewhat, cooperation relationships become more reliable.

With the upswing of investments a radical change takes place on commodity markets and, as a consequence, also on the labour market. *At such times the central organs want to increase national income at a higher rate, and therefore, the volume of investments is augmented considerably.* This increases also demand for labour, which may have two kinds of consequences. Either the demand for labour can be fully covered by increased labour supply without a rise in the wage level, or the increased demand may be balanced only by a rise in the wage level, without an increase of the labour force.

Obviously, processes taking place in reality are somewhere between these two pure types, *i.e. labour supply grows, while also the growth rate and level of wages paid is growing.* And these changes lead *ex post* to the increase of national income. This may develop according to conceptions and formulated plans, but it may be different, too, e. g. as a consequence of deficiencies in labour supply. If initial growth, i.e. renewed economic activity starts from the side of investments, demand for labour will also appear primarily in investment sectors, or in the fields closely connected to investments. Among them are "primary" sectors: the machine building industry, building- and building materials industry, and metallurgy.

The growth of staff in these "primary" sectors may take place in two ways: by absorbing labour previously unproductive from the aspect of the national economy, or by drawing away labour already employed in other sectors. These two ways have to be clearly distinguished from the aspect of their effect on wage level.

Employment in non-agricultural material production grew – as testified by statistics – mainly in the periods when the rate of accumulation was rising, but, since this sector absorbed mainly unskilled labour that could be trained simply and within a short time, the effect on the wage level remained moderate.

The effect on the wage level of rearrangement of labour among sectors is much different. It is more useful to satisfy the demand for additional labour not by absorbing unskilled labour, but by drawing away workers trained in other sectors (or having some skill originally).

This is advantageous because this group has some practice, knowledge and culture of industrial work. Labour will flow into fields connected to investments from other sectors if the change of jobs is reflected also in the level and proportions of wages. *This causes in itself a rise in the wage level, at the beginning only in the "primary" fields.* This is proved by the development of nominal wages in machine building: after 1957 *the growth rate of nominal wages coincided with that of accumulation* in 12 cases out of 17 (71 per cent).

Additional demand for labour, although starting out of sectors related to investments soon spreads over to indirectly and more loosely connected sectors, and finally to the manufacturing of consumer articles. The link between the two markets is brought about by the circumstance that higher wages paid to "new", i.e. "lured-away" workers in investments increase the demand for consumer articles, which soon stimulates larger production.

The almost simultaneous starting of several large projects narrows down gradually the free choice of central organs and drives their decision increasingly toward a forced path. Each important development necessitates several indispensable, vertically related renewals or new projects, so that *the investment aspiration level* [14] rises considerably in comparison with the start. This results in a forced path also in respect of wages and wage level. If central organs hold back or do not permit wage-increases, labour fluctuation will grow even more, and so will the time loss, and these factors will add much to the aggravation of production problems of the enterprises and to an overstepping of deadlines. On the other side, an occasional wage-increase can render the functioning of the economy much smoother.

There is one more factor that might considerably contribute to wage-increases and may intensify also existing wage disproportions. This factor of strong spontaneity is *overtime* work. The supervisory authorities are always faced with a critical decision in the judgement of overtime. If they restrict the use of overtime, it may further prolong investments. If they allow to increase overtime work, it leads to a comparatively little controllable wage outflow, i.e. purchasing power outflow. In the judgement of both the wage-increase and the use of overtime the choice is between a short-term imbalance emerging on the side of demand for consumer articles, and a comparatively longer-term imbalance on the side of supply with investment and consumer goods. Determinant factors considered in decision-making are usually the fastest possible easing of tension, and the completion of prolonged investments. *Thus, those in charge decide the question in favour of a rise in wage level. Their decision is further strengthened by the deteriorating balance on the market of consumer goods.* In such cases over-utilization of capacity and lack of reserves are general in this sector. As a consequence of tension, the ability of reacting on changed needs deteriorates in this field even more than in other ones. This

follows also from the fact that the sphere producing consumer articles had been for a long time a neglected, burden-bearing section of the economy. Therefore, on this market a "constant" development lag is effective, together with a "temporary" factor which originates in the existence of investment-accumulation cycles, i.e. of "primary" sectors. Since this field is driven to the background, i.e. it is "secondary" also from the wage-level aspect, labour flows from consumer article production into the "primary" sectors.*

From the combined development of accumulation and nominal wage outflow, as well as from the negligible consumer price-level increase up to recent years it follows that an increase of real wages also takes place in the periods when the growth rate of accumulation accelerates.

The system of indicators of the traditional statistical apparatus cannot easily reflect whether behind a real wage-increase the satisfaction of needs took place in fact according to the scale of preferences. The constant reproduction of bottlenecks, and overheating make this statement doubtful. A *real wage-increase would bring a "real" improvement in living standards, if there were reserves in capacity and stocks,* i.e. if the productivity increase of the foregoing period had not been consumed by the economy. It is more likely that behind the real wage-increase we find partly forced substitution and partly forced saving. The existence of forced saving – more easily quantifiable with the aid of the accustomed statistical apparatus – is proved by the interrelation that the growth rate of the quotient of saving to income moves parallel with the fluctuation of accumulation. In the course of 14 years a parallel movement of the two growth rates was found in 9 cases (64 per cent).

Therefore, there is not – and there cannot be – a simultaneous and direct interrelation between nominal wage and productivity. Between wage outflow and accumulation-investment cycles there exists a simultaneous and stochastic relationship. And an essential improvement of efficiency comes about with the putting into operation of investments. Thus accumulation, the independent variable, is placed between productivity and wage development as an intermediate link, which causes a lag between the two dependent variables, since it is in simultaneous relationship with wage, and in a lagged one with productivity.

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*This process is proved by the fact that a large number of female labour employed in engineering possess a "secondary" skill, which is usable mainly in the light industry.

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СВЯЗЬ МЕЖДУ ЗАРАБОТНОЙ ПЛАТОЙ И ПРОИЗВОДИТЕЛЬНОСТЬЮ ТРУДА В ВЕНГЕРСКОЙ ПРОМЫШЛЕННОСТИ В 1950–1974 ГГ.

К. СЕКФИ

Автор в первой части своей статьи анализирует принципиальные конструкции и практические меры, при помощи которых связь между ростом реальной заработной платы и производительности труда проявляющуюся *ex post* на макроуровне, в период между 1950–1974 годами пытались утвердить на уровне конкретного регулирования. Она на статистических данных доказывает несостоятельность этих соображений, пытаясь раскрыть те макродвижения, сложный механизм действия которых привел к развертыванию процессов, противных этим стремлениям.

Независимо от типа системы регулирования заработной платы рост номинальной заработной платы прямым или косвенным путем, посредством некоторых, централизованно не контролируемых механизмов следует за ростом производства, производительност труда. Таким образом, необходимо найти те звенья, связывающие элементы, которыми создается эта связь.

Рост заработной платы зависит от отношения спроса на рабочую силу и его предложения. Рынок рабочей силы не может считаться автономной областью хозяйства: положение его действующих лиц государственных ведомств, предприятий коллективов рабочих, их позиция при установлении условий зависит от интенсивности напряженных моментов в хозяйстве. Эту зависимость отражает то обстоятельство, что рост заработной платы в промышленности следует за изменениями в накоплении. Повышение же производительности наступает с вводом в действие новых мощностей, обьектов капитального строительства, намного оживления инвестиционной деятельности. Таким образом связывающим элементом можно считать инвестиционный цикл, который создает косвенную, замедленную связь между ростом номинальной заработной платы и производительности труда.

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F. FEKETE–K. SEBESTYÉN

ORGANIZATION AND RECENT DEVELOPMENT IN HUNGARIAN AGRICULTURE

The present paper surveys a number of new developments which have emerged within Hungarian agriculture during the last fifteen years. Specifically it is concerned with the following:

1. The socio-economic and enterprise structure of agriculture
2. Recent achievements in agricultural production
3. Development of human factors
4. New organizational forms of interfarm cooperations
5. Topical problems of socio-economic progress

Emphasis is put on the analysis of problems related to the above subjects as far as the largest sector of Hungarian agriculture, i.e. the cooperative farms (Farmers' Cooperatives) are concerned.

1. The socio-economic and enterprise structure of agriculture

The types and number of the producing farming units in Hungarian agriculture as well as the concentration which has taken place in the last fifteen or sixteen years are demonstrated by the data of Table 1.

Both the organizational structure and the socio-economic sectors of Hungarian agriculture are outlined in Table 1. The enterprise structure is characterized by a diversity of types of farming (economic) units. Some of these types of enterprises require further explanation.

The *state farms* cultivate 13 per cent of the total agricultural area and contribute about 18 per cent to the total commodity production. State farms dispose of an average area of 7500 hectares. The majority of them are exemplary socialist large-scale farms with considerably better technical equipment and expert staffs than the cooperatives.

The state farms played an important role in the socialist reorganization of agriculture and in the consolidation of the cooperative farms. It was in the state farms where the development of the most successful branches began, e. g. the best organized state farms initiated the introduction of closed production systems. By adopting foreign know-how and domestic scientific results, some of the state farms achieved high standards of production. The majority of them are managed successfully, though the utilization of assets is not efficient, and work and plant organization is not as good as it might be.

Table 1
Enterprise structure and number of farming units in Hungarian agriculture
(at the end of year)

	1960	1967	1975	1977
State farms[1]	333	210	150	141
Farmers' cooperatives	4507	3033	1598	1425
Household plots of the cooperative members (in thousands)	843	915	800	.
Cooperative associations	.	142	266	209
Specialized agricultural cooperatives[2]	196	399	144	98
Fishermen's cooperatives	21	22	19	17
Auxiliary farms with more than 0.6 ha acreage and other small agricultural producers (in thousands)	471	95	120	.

[1] Number of producing farms and other agricultural economic organizations
[2] According to the classification in 1960 and 1967: farmers' cooperative groups and simpler cooperatives
Source: Központi Statisztikai Hivatal. Mezőgazdasági statisztikai zsebkönyv. . . .(Central Statistical Office. Statistical pocket book of agriculture . . .) Budapest, 1972 to 1977. Statisztikai Kiadó. 1972, p. 4; 1945–1975, p. 8; 1976, p. 14; 1977, p. 16.

The *cooperative farms* – and the household plots of the members and the auxiliary farms of people whose main job is not in agriculture – comprise three-quarters of the total agricultural land and contribute over two-thirds to the total amount of goods produced. In the second half of the sixties they entered an intensive phase of development: most of them purchased up-to-date machinery, introduced more effective production processes, the standards of management improved, and the proportion of qualified experts increased in their personnel. The cooperative farms, which play a decisive role in agriculture, became the most rapidly progressing sector of the branch.

As a consequence of several mergers, the number of cooperatives decreased. Cooperative farms dispose on an average of 4200 hectares of land. Though increased size generally created the conditions for a modern and effective development of production, occasionally some insufficiently considered mergers slowed down the rate of development, lowered economic efficiency and even caused some temporary setbacks.

Progress is typical in all the cooperatives, but – except for personal incomes – the differences between them have increased. Most of them make good use of their resources, and there are a growing number of cooperatives where the standards of production attain, or at least approach, those of the best state farms. At the same time, one third of the

cooperatives face difficulties in their work because of poor natural resources or other reasons; the most important being inefficient management.

The scope of activity of the large-scale farming estates has broadened significantly since the late 1960s. The ratio of supplementary activity other than agricultural production is 34 per cent in state farms and 28 per cent in cooperative farms. The state farms and cooperatives dispose of considerable capacities in construction, manufacturing, trading and the services. On the other hand, they developed the processing of their own produce rather slowly. This supplementary activity plays an important role in meeting demands, provides for a more balanced employment, and results in extra income for the farms.

The simpler economic cooperations as well as the joint ventures, which are legal entities, and the intercooperative collective enterprises are equally classified as *cooperative associations*. A great number of farms taking part in the associatons were simultaneously members of several associations. At the beginning, the majority of the simpler associations were established for the performance of building and construction activities. At present, however, the activities of these associations are multifarious and manifold. About 55 per cent of the associations perform either agricultural production or processing and marketing directly linked with it.

The simpler forms of cooperative farming – specialized agricultural cooperatives and groups – are characterized by a high degree of specialization. These are engaged first of all in grape and fruit growing, in the production of vegetables, eggs and honey, or in rabbit and pigeon breeding. The number of such specialized cooperative groups is steadily decreasing through mergers. Currently, they cultivate about 3 per cent of the total agricultural area. For the time being, there are significant differences between their standards of management. By energetically increasing joint activity, some of them have achieved the standards of large-scale farms, but others make hardly any progress.

The small gardens and the hobby plots of workers and employees active in the socialist state sector as well as the relatively small number of individual peasant farms in private ownership and other small producers are ranked into the group of *auxiliary farms*. Together with the household plots of the cooperative members, this group includes some 1.7–1.9 million small units.

The group of auxiliary (and other small producer) farms covers 13 per cent of the total cultivated area and supplies at present still about one-third of total agricultural production, multifariously supported of course by the large-scale socialist farms and by the government. Half of these farms are smaller than 0.6 hectares and the number of private farms with an acreage larger than 3 hectares amounts only to 10–12 thousand.

The household plots and the auxiliary farms have assumed an important role in agricultural production. These farms produce half of their output for their own consumption and sell the other half. Half the country's pork output comes from them. Their role in the production of some vegetables, fruits, eggs, and poultry is decisive. Relying essentially on professional, material and technological assistance from the big farms and the consumer cooperatives, the household plots and the auxiliary farms

produce and sell in an organized way and thus are an organic part of Hungary's socialist economic system.

Occasionally in 1974–1975 localized setbacks occurred in the activity of the household plots and the auxiliary farms, due in the first place to policies underestimating their importance, wrong practices, sometimes to local distortions, to a decline in financial interestedness and to poor organization of state purchases. Having become aware of the dangers involved, the government took resolute measures against these phenomena which violate the interests of both the producers and the national economy.

Among the types of agricultural producer farming units the most recent formation, i.e. the *combines,* are to be mentioned also although they do not figure in Table 1. The oldest Hungarian large-scale farm, the State Farm at Bábolna was transformed in 1973 into an agricultural combine. Somewhat later, in the years 1976–1977 approximately half a dozen other state farms were transformed into combines.

Farm sizes and mainly the indicators of the average size of state farms as well as of the farmers' cooperatives constitute the starting point for the drawing of important economic conclusions. The most characteristic data of the average state farm and of the average farmers' cooperative are described in Table 2.

In the course of the period reviewed, the average acreage of the farmers' cooperatives increased to 4-fold: a typical cooperative farm cultivated 765 hectares in 1960, and 3120 hectares in 1976.

From the data of Table 3 we may draw certain conclusions for the structure of Hungarian agricultural relations and the shares of the social sectors. (Although we have to

Table 2

Average size of the state farms and cooperative farms

	State farms			Cooperative farms		
	1960	1967	1976	1960	1967	1976
Agricultural hectarage	2597	4287	5826	765	1463	3120
Value of fixed assets, in million Ft	48	119	286	2	15	73
Employment, heads	518	794	999	212	239	420
Gross value of production, in million Ft	27	46	115	6	11	41
Net value of production, in million Ft	10	6	22	3	4	12

Source: Központi Statisztikai Hivatal. Mezőgazdasági statisztikai zsebkönyv . . . (Central Statistical Office. Statistical pocket book of agriculture . . .) Budapest, 1969 to 1977. Statisztikai Kiadó. 1969, pp. 6, 220, 227; 1945–1975, pp. 16, 48, 174; 1977, pp. 25, 34, 50, 129.

Table 3
Structure of the hectarage according to type of ownership

	1968	1971	1976
State property	47.4	39.1	33.1
Cooperative property	0.1	19.0	29.6
Individual and other properties*	52.5	41.9	37.3
Total	100.0	100.0	100.0

*Individual property of the cooperative members handed over for collective utilization as well as the landed property of the auxiliary and individual farms.
Source: Data of the Central Statistical Office of Hungary.

admit that ownership relations in Hungarian agriculture are rather intricate. Land ownership and land use do not coincide. Acreage in state property is for instance 33 per cent while the area cultivated by state farms is only 13 per cent of the total. The difference is due mainly to the use of land in state ownership by the cooperative farms. Recently also hobby gardens have a share in the use of state-owned land on the basis of long-term tenancy. Cooperative farms use often on a large scale the individual property of their members and pay rent for it.)

The data of Table 3 correctly demonstrate the major development tendencies and the continuous transformation of the small-scale landed property of personal (individual) type of the cooperative members into collective (social) landed property of the cooperative farms.

The operational sphere of the agricultural productive forces with respect to the diverse social sectors is demonstrated in the following table.

Table 4
Sectoral percentage distribution of agricultural earners and of the fixed assets in 1976

	State sector	Cooperative sector	Auxiliary and other farming	Total
Earners	15.9	74.1	10.0	100.0
The stock of fixed assets	22.5	66.7	10.3	100.0

Source: Központi Statisztikai Hivatal. Mezőgazdasági statisztikai zsebkönyv 1976. (Central Statistical Office, Statistical pocket book of agriculture 1976). Budapest, 1976. Statisztikai Kiadó. pp. 16, 34.

Agricultural farmers' cooperatives make use of 63.8 per cent of the total acreage and the property relations of these lands are considerably sophisticated; 47.9 per cent were the property of the cooperative as a farming unit; 48.7 per cent were owned by the members and 3.4 per cent of the acreage of the cooperative farms represented state property in 1976.

2. Recent achievements in agricultural production

Initially the vigorous technical progress in Hungarian agriculture was linked to the establishment of the state farms and later on through the amalgamation of small peasant farms in large-scale cooperative enterprises with the gradual consolidation of these socialist agricultural enterprises.

In the years from 1948 to 1956 an up-to-date technical basis evolved only in certain production activities, and mainly in the state farms which occupied about 10 per cent of the cultivated area. Between 1957 and 1961, large-scale agriculture could already make use of considerably more modern machines, equipment and chemicals but large-scale substitution of the traditional technologies with machine systems began only after 1961, when the socialist production relations became general. In certain production lines, mainly in broiler, egg and wheat production of the best large-scale farms, technical progress evolved already very rapidly in the first half of the 1960s, but the technical transformation has really gained ground only in the 1970s through the introduction of industrial-type production techniques. The state farms marched in front of this development which equally extended to the technological, organizational and management spheres, but also the best cooperative farms closed up relatively soon.

Labour productivity considerably improved, and so did output per unit of land, and – with a few exceptions – that of the breeding stock as well. Relative returns on assets, however, decreased. This was in the first place a result of the replacement of low-capacity equipment and of manual labour with more expensive machinery and tools. Higher efficiency was occasionally hampered by unnecessarily expensive imports, low utilization of productive capacities and the lack of harmony among the different factors of production. The efficiency with which chemicals, fodders and primary energy are used is not satisfactory, either. In the majority of the farms the acceleration of technological development was not followed by modern labour and plant organization.

Since the socialist reorganization, gross agricultural output has grown more than 1.5 times – with less land and less manpower available –, and in the seventies the annual average rate of increase was over 4 per cent.

The most striking progress occurred in crop production. The average yield of wheat exceeded 4000 kg/hectare in 1977 (compared to 1700 kg in 1960) and for maize it went up from 2500 to 4700 kg. Domestic production has been able to meet the country's demand for bread grains and fodder grains for a longer period now, and while earlier we imported considerable quantities of the above crops, today we can export. Through several new plantations and with intensive production methods we laid the foundations of

large-scale grape and fruit growing. Since 1961 meat production has doubled. Within this, poultry output has increased three times.

The growth of food production has played a major role in the rise of living standards. Food supplies increased and became balanced, and the pattern of consumption improved. Between 1960 and 1977 per capita consumption of meat increased from 40 to 70 kg, of milk and dairy products from 114 to 146, of eggs from 9 to 16, of sugar from 27 to 36, and of vegetables and fruits from 139 to 173 kg. Agricultural and food exports increased about fivefold and this growth promotes the expansion of our international economic relations.

At present we may witness Hungary's large-scale agriculture passing over its so-called manufactural phase. In the course of a rapid technological development, just as in industry, agriculture universally employs the machine systems which prevailed in industry and was characterized by Marx already 110 years ago in Volume I of "Capital" from the viewpoint of economic theory. But not only mechanization is characteristic of the systematic development of industrial-type farm production. It is proceeding in close interrelation with the improvement of other elements of the material productive forces, of the enterprising spirit of labourers and production managers and of the organization techniques of production.

The traditional production techniques, mostly inherited from father by the child are replaced with modern techniques similar to those in industry. The changes of mechanical, chemical and biological character are mutually interrelated and form a system. The evolving scientific-technical revolution does not leave untouched even the working man as the most important element of the productive forces and bearer of the socio-economic relationships.

Development of human factors

An important condition for efficient agricultural production is to further increase the weight of large-scale industry in the present intensive phase of economic development. In this process, the proportion within all earners of people employed in agriculture decreases and even their number diminishes.

Following the socialist transformation, the number of agricultural workers decreased quite fast at first, and then only moderately. Their proportion in the total number of active earners dropped from 34 to 19 per cent. Manual labour was replaced by machines in an ever wider range. The occupational composition of agricultural manpower changed and the level of workers' qualification rose significantly.

Simultaneously with the above described progress – in a way similar to other branches of the national economy – also food production becomes more intensively linked with the processes of social division of labour; it becomes a link in the chain of horizontal as well as of vertical specialization and cooperation and also regionally. A recent characteristic trend is represented by the penetration of related industrial activities

into the framework of the agricultural enterprises. In the practice of the large-scale agricultural enterprises we can speak therefore less and less about agricultural activity in the traditional sense. Agricultural work becomes gradually similar to industrial activity.

Information concerning mainly the quantitative characteristics of labour as an element of the productive forces or, more exactly, the number and age structure of the cooperative members is presented in Table 5.

Table 5
Number and age structure of members in cooperative farms

	1960		1967		1976	
	heads	percentual share	heads	percentual share	heads	percentual share
Younger than 21 years	29.929	3.4	22.942	2.3	22.483	2.4
21–39	211.158	24.3	188.415	18.5	202.480	22.6
40–49	149.921	17.2	164.366	16.1	133.816	14.5
50–59	199.226	22.9	193.658	19.0	155.315	16.6
60–64	91.722	10.6	119.626	11.7	408.912	44.5
Older than 65 years	187.387	21.6	331.420	32.4		
Total	869.343	100.0	1020.427	100.0	921.006	100.0

Source: Központi Statisztikai Hivatal. Mezőgazdasági statisztikai zsebkönyv . . . (Central Statistical Office. Statistical pocket book of agriculture . . .) Budapest, 1975–1977. Statisztikai Kiadó. 1945–1975, pp. 175–176; 1977, p. 137.

The particular structure of agricultural cooperative farming renders necessary the separation of the cooperative labour capacity, i.e. the quantity of human labour used (utilizable) in the farmers' cooperative as an economic unit according to whether it is performed in the collective large-scale farm or in the small-scale household plots of the members. According to representative data collected, at present 25–30 per cent of the full worktime of the cooperative members is used for working in the household plots.

The number of qualified experts increased at a fast pace; but there are wide regional differences in how well farms are supplied with specialists, and there are also certain occupational shortages which affect all farms. The cooperative farms with poor resources have especially few specialists among their members. The standard and the composition of manpower according to trades and vocational training did not adapt to the demand statisfactorily; there is a shortage of agricultural mechanical engineers, accountants and economists.

For the time being, among the about 520 thousand people performing manual work in farmers' cooperatives, the number of skilled workers exceeds 140 thousand and the number of semi-skilled workers approaches 280 thousand. More than one third (35.4 per cent) of the skilled workers perform explicitly industrial labour. Me may add to these facts that 74 thousand non-manual labourers are working in technical and administrative jobs and in management and almost one-third of the people in working age employed are younger than 30 years. Thus the majority of the labour force in agriculture requires already industrial labour conditions and they are virtually not at all linked with the traditions of peasant farming.

The share of skilled workers within the entire labour force in Hungarian industry was 39.6 per cent in 1960; and 45.3 per cent in 1977; the same ratio in the farmers' cooperatives was 28.1 per cent in 1977.

The development and consolidation of large-scale socialist agriculture changed the living and working conditions of the peasantry radically, social respect for agricultural work increased, the level of political and professional education of workers rose and the collective spirit strengthened. Work and public spirit became the basis for social prestige. The incomes of the cooperative peasantry have considerably increased and are on the same level as those of the working class. All this derived from the strengthening of the collective farms. The extension of social insurance to cover them, the introduction of pensions and other social-welfare measures considerably improved the living conditions of the cooperative peasantry. Many people who did small-scale farming under backward conditions before, became responsible leaders of cooperatives.

New organizational forms of interfarm cooperations

The increasing use of industrial methods in agriculture, specialization and concentration of production have led to changes in productive and trade relations between farming enterprises. The need for the organization and coordination of more complex and sophisticated relations resulted in the emergence of new forms of cooperation. Like before, contractual relations continue to be widespread and perspectivic forms of cooperation, moreover, a growing importance is attached to economic associations of farming enterprises implying a closer and more durable cooperation.

The economic association of independent enterprises is an organizational form of planned and controlled cooperation. The cooperation is aiming at a special economic objective while taking into consideration the mutual economic interests of the participating farms.

Currently, there are over 500 economic associations operating in the country. Most of these have been established by cooperative farms, while fewer state farms and companies join than would be desirable. The associations – most of which are active in construction, manufacturing, services and trade – have been increasing their output fairly rapidly. The joint construction companies carry out most of the agricultural building, and

therefore their work is indispensable. At the same time, there are only a few shared undertakings in agricultural production and food processing. The deficiencies of economic and legal regulation obstructed a faster development of the mergers for a long time.

A special type of economic association is constituted by the production systems offering good results in the development of certain branches. They are aiming at large-scale, specialized commodity production by way of applying, spreading and adapting the latest achievements of science while assuring a maximum utilization of available resources.

The production systems evolved in the early seventies. In late 1977 already 67 production systems were operating in Hungarian agriculture. 1233 large-scale farms and 18 other organizations, (or 86 per cent of state farms and 78 per cent of cooperative farms) participated in them. Crop growing systems organized production activities on more than 30 per cent of the arable land (including vegetable growing), and grape and fruit growing systems organized production in 20 per cent of the plantations. In livestock production 36 per cent of cows, 51 per cent of sows and 87 per cent of poultry parents were included in production systems.

80 per cent of the area under crop growing systems is occupied by four production systems with results much over the national average of large-scale farms. The best results were achieved in corn, wheat and oilseed production. As for livestock production, the best results were recorded in broiler production. Results achieved in egg production and in large-scale production of pork are also good, though in these branches only some elements of the complex system were adopted. In branches of horticulture and livestock production the processes are more sophisticated and modern production methods require expensive investments. Thus the development of such branches proves to be a longer process.

In the production systems a special division of labour has developed. It is characterized by agricultural production being carried out by member farms while the centre of the system takes over activities which can be organized more efficiently in a centralized form (like research, development, investment, assuring proper conditions for production, extension service). Earlier, a part of such activities were carried out by the member farms themselves. The reason for such a development is that a rapid introduction of scientific achievements into practice, collecting and processing of international information as well as steady research and experimenting are beyond the expert capacity of one agricultural enterprise.

This kind of division of labour assures advantages both for the national economy and for participating farms because the activities taken over by the centre are carried out by its specialized organization more efficiently through the concentration of financial and intellectual resources.

Division of labour between the partners is determined by contracts laying down the commitments of each partner. Tasks taken over by the systems centre may differ by systems, however, they generally provide for:

a) the agro-technical conditions of production in member farms (production methods are elaborated and adapted as well as developed, the required seeds, fertilizers and pesticides are supplied);

b) technical conditions of production (supply of machines and spare parts as well as their storage, further a technical advisory activity for a competent servicing of machinery);

c) training of personnel as an important area within the activities of most production systems. This is a long-needed and very important activity because neither formal education nor traditional higher education are able to solve this task, as the most up-to-date technology is not available to them. A part of the production system possesses a special training base while others contract educational institutions for that purpose.

The most important task of the systems centres is to assure steady development: searching for new solutions, introducing into practice and spreading new achievements, in other words, maintaining a close relationship between science and practice. Extension service and demonstrations play also an important role in addition to education and training in spreading technical knowledge.

The production systems working with industrial methods carry out a systematic activity in collecting scientific information, in its processing as well as in experimenting and development and in seeking new possibilities. As a result of these activities the period required to introduce a scientific achievement into practice has become considerably shorter compared to earlier times in the main branches of crop growing.

Results obtained by production systems may be easily measured by the quantitative and qualitative development of productive forces and by a wide-spread use of up-to-date, high performance machinery, high-yielding varieties and new chemicals. In order to assure a maximum utilization of the biologic potential of high-yielding varieties, field operations are to be carried out at optimum times. Thus a need for full mechanization and for the use of machine systems emerged. Operating and utilizing expensive, high-performance machinery set higher requirements to personnel, work organization and maintenance. Moreover, an efficient product-mix had to be found. The educational and training activities of the system centres, as well as their extension service, regular information programs and demonstrations make an important contribution to a more efficient information flow and to the qualitative development of agricultural labour.

As a result of all this the volume of produce has considerably increased in the most important branches of production. Reference may be made to development attained in the production of wheat, corn, sugar beet and oilseeds. Thus a base was established for the development of the main branches of livestock production and through this for a more complete supply to consumers and for export. The latter is of a basic significance for the entire national economy.

In addition to direct results achieved by production systems, mention has to be made of indirect effects, too. Through the branches included in a production system the latter influences the whole of production activities of the farm through:

– attaining a homogeneity of the production structure,

– raising the technical level of production,
– a more efficient management and work organization.

Beside results achieved by production systems also insufficiencies have to be recorded. They are characterized by the fact that there still are considerable reserves to be opened up by a more complete utilization of available resources. Insufficiencies appear in wide differences between the results attained by member farms and they can be explained only in part by different natural conditions. The variance in results often originates in problems of cooperation, e. g. poor extension service, incompetent use of production methods and lack of harmony between the partners' interests, too.

All in all, production systems working with industrial methods constitute one of the future forms of cooperation between farming enterprises. They have been playing an important role in the intensive development of agricultural production, in furthering concentration and specialization within the branches, and their role will expectably gain in importance in the future.

Another special form of economic associations in Hungarian agriculture is constituted by agro-industrial associations. Applying experience from other socialist countries four agro-industrial associations were established – in an experimental mood – in 1976. Following the expiry of the experimental period of five years decision will be made on their development in view of their performance.

The agro-industrial associations are aiming at a comprehensive development of a given region by utilizing the possibilities offered by a favourable transfer of productive forces, specialization of agricultural production and vertical integration. Members of agro-industrial associations are enterprises engaged in agriculture, food industry and trade. Members joining the association retain their independence, but they coordinate their development objectives. In order to finance joint ventures they establish common funds and collective decisions are arrived at regarding the use of such funds.

5. Topical problems of socio-economic progress

Problems of the planned development of agrarian relations are manifest at present mainly in respect of the cooperative farms. A complex, systems-like conception of farmers' cooperatives is of exceptional importance for the theoretical economists.

Farmers' cooperatives have in Hungary a distinct twofold character: this cooperative is a social organization on the one hand and an economic organization, mainly an enterprise (undertaking), on the other. The farmers' cooperative as a social organization is the association of the members and, in a certain sense, of their families.* The political sciences consider the cooperatives as particular social organizations being at the same time also economic organizations.

*Household as a (micro-economic) unit of consumption, labour supply and income allocation is the economic reflection of the family.

The cooperative farms consist of two component parts: of the collective large-scale farm and of the small household plots of the members. Theoretically, the large-scale collective farm is an enterprise organization. In consequence of the collective cooperative type of property, the large-scale collective farm is a particular enterprise which acts in correspondence with the collective decisions (self-government) of the labourers who are also associated co-proprietors. The household plot of the cooperative members is also an economic organization partly and potentially of enterprise type.

When surveying the situation and the future development of the socio-economic relations in the farmers' cooperatives, Hungarian agricultural economists have to reckon with the fact that the productive forces, the technological and labour conditions have significantly changed in agricultural production in the course of the last decade. The socialist features of the cooperatives have strengthened. Their fixed and working assets are indivisible collective property. Establishment of the unity of socialist land ownership and leasehold has progressed; about half of the total area of land used by the cooperative membership is changing gradually, the proportion of young people and qualified experts is increasing in the membership. The number of cooperative employees is significant and more and more of them are becoming members. Work in cooperatives is becoming increasingly planned, their decisions are better prepared, their independence is increasing and the principles of socialist income distribution are ever more consistently observed in the cooperatives.

Self-government, which strengthened parallel with the consolidation of collective farming, plays an important role in the life of the cooperatives. Cooperative democracy promotes the development of collective life, helps people learn about shared problems and responsibilities, and encourages better harmony between individual and group interests. In spite of this, the organs of self-government have not adjusted their activities to the changing conditions of the economy adequately enough, and there are still a lot of formal features, especially in the work of the general assemblies. Underestimation and even violation of cooperative democracy can occasionally be found, and this has certainly been one of the reasons why in some cooperatives members are not active enough and internal supervision is not firm enough.

Agricultural economists are to deal with the changes of agricultural activities under the influence of the new phenomena which have arisen in the relation between town and village. They are to evaluate the human, organizational, managerial and planning as well as the controlling aspects, the motives and consequences of the industrialization of cooperative agriculture. Division of labour which embodies technical super- and subordination as well as human and social relations must be also surveyed by them with exceptional care. It is also very important that the large-scale agricultural enterprises should organically fit into the system of centrally planned economic control. But advantageous experience gained in large-scale agriculture, mainly with cooperatives, could also be utilized in the development of the system of central planning and control. This side of the coin is also very remarkable.

The tasks ahead demand a rise in the standards of state control. Adapting to social and economic changes, the system of management for agriculture and the food industry should be developed in such a way that central control and adherence to plans increase simultaneously with the independence and responsibility of the individual economic units.

The role of economic instruments should increase in the control of agriculture and the food industry. With a simultaneous reduction of state subsidies, prices should play a more important part in the control system of agriculture. With a further development of the price structure, the aim should be achieved that prices and price proportions should act as a better stimulus for the fulfilment of the production targets and the improvement of efficiency and quality. Obtaining central support should become a simpler and clearer procedure, and state subsidies should help first of all the development of the production structure, more economical investments and better exploitation of the existing capacities. Credit should play a greater role in investment and the specific features of the different branches of agriculture should be considered when credit terms and interest rates are set.

The tax system in agriculture should withdraw differential rents to a greater extent and should prevent the development of differences in incomes which are independent of the level of management. At the same time, it should give better encouragement to the farms for the achievement of outstanding results, for increasing net incomes and for rational manpower economy.

The incomes of the cooperative peasantry should rise in proportion to those of industrial workers in the future, too. The still existing differences in social benefits should be gradually eliminated. Wages should be in harmony with the quantity and quality of the work performed and earnings should depend to a greater extent on profitability.

СОЦИАЛЬНО-ЭКОНОМИЧЕСКОЕ РАЗВИТИЕ И ХОЗЯЙСТВЕННАЯ СТРУКТУРА ВЕНГЕРСКОГО СЕЛЬСКОГО ХОЗЯЙСТВА

Ф. ФЕКЕТЕ–К. ШЕБЕШТЬЕН

В статье анализируются новые явления и опыт социально-экономического развития венгерского сельского хозяйства на протяжении последних полутора десятилетий. Анализ в первую очередь касается следующих проблем: 1. социально-экономическая и хозяйственная структура сельского хозяйства. 2. Производственные достижения сельского хозяйства. 3. Развитие людского фактора производительных сил. 4. Новые типы организационных форм кооперирования и интеграции между предприятиями. 5. Актуальные вопросы планомерного развития аграрных отношений.

В статье подробно рассматриваются типы, размеры и социально-экономические характеристики производственно-хозяйственных единиц венгерского сельского хозяйства.

Государственные хозяйства обрабатывают 13% сельскохозяйственных угодий и производят около 18% товарной продукции сельского хозяйства. Их средний размер – 7,5 тысяч га. В анализируемый период они развивались динамично, их фондовооруженность и обеспеченность специалистами были более благоприятны, чем в сельскохозяйственных кооперативах.

Сельскохозяйственные производственные кооперативы (вместе с приусадебными хозяйствами членов кооперативов) на трех четвертях сельскохозяйственных угодий производят две трети сельскохозяйственной продукции. Средние размеры кооперативных хозяйств – 4200 га. Во второй половине 60-х годов производственные кооперативы встали на путь интенсивного развития: приобрели современные машины, стали применять более эффективные методы производства, возросло число специалистов, значительно повысился уровень руководства и управления.

Наряду с крупными хозяйствами в венгерском сельском хозяйстве значительную роль играют около 1,7–1,9 млн. *мелких хозяйств* (мелкое производство). Помимо приусадебных и подсобных хозяйств членов кооперативов, к этой группе хозяйств могут быть отнесены приусадебные участки рабочих и служащих, участки садоводов-любителей, а также около 50–60 тыс. частных (единаличных) хозяйств. Эти хозяйства – при поддержке крупных сельскохозяйственных предприятий и самым тесным образом кооперируя с ними – производят на 13% земельных угодий 1/3 сельскохозяйственной продукции. Еще большее значение они имеют в производстве животноводческой продукции, а также в производстве овощей и фруктов. Половина их продукции идет на собственное потребление, а половина – на рынок.

В анализируемый период в сельское хозяйство поступало все большее количество высокомощных мащин и оборудования, эффективных искусственных удобрений и средств химической защиты растений. Количество занятых в сельском хозяйстве в анализируемый период сократилость с 34% до 19%. Сегодня уже больщинство активной рабочей силы, занятой в сельском хозяйстве, требует таких же условий труда, как и в промышленности, и почти не связано с традициями крестьянского труда.

Доля квалифицированных рабочих в венгерской промышленности в 1977 г. составляла 45%, в сельскохозяйственных производственных кооперативах – 28,1%, в государственных хозяйствах – 34,5%.

Продукция венгерского сельского хозяйства за анализируемые полтора десятилетия возросла почти в полтора раза, при сокращении земельных угодий и численности рабочей силы, а темпы годового прироста продукции в 1970-х годах достигли 4%. Производительность труда и продукция, в расчета на 1 га. угодий тоже возросли.

Сложились новые формы кооперирования между предприятиями. Дальнейшее развитие получили договорные связи, однако наряду с этим возрастает значение межхозяйственных объединений, обеспечивающих более тесное и прочное сотрудничество. В 1977 г. в венгерском сельском хозяйстве насчитывалось 500 межхозяйственных объединений, больше половины из которых функционировало в области пищевой промышленности.

Вопросы и актуальные задачи планомерного развития аграрных отношений статья анализирует прежде всего в отношении сельскохозяйственных кооперативов. Социалистический сельскохозяйственный кооператив, – это, с одной стороны, общественная организация, а с другой стороны, коллективная хозяйственная организация (предприятие). Крупное кооперативное хозяйство функционирует на основе коллективных решений (самоуправления) его членов, но в то же время органически входит в плановую систему управления народным хозяйством.

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SMALL-SCALE AGRICULTURAL PRODUCTION IN HUNGARY AND EFFICIENCY OF THE AGRO-INDUSTRIAL COMPLEX

There is considerable small-scale agricultural production in Hungary, and these capacities are suited for such production which the large-scale farms do not undertake for either technical or economic reasons. But the economic weight of small-scale production depends on the closeness of their integration with large-scale farms and the enterprises. Numerous examples prove that their integration with large-scale farms, processing and preserving (canning) enterprises is advantageous for the national economy and useful for the small-scale producers themselves.

In talking about the agro-industrial complex we must emphasize such traits of the complex as distinguish if from other "complexes" composed from other groups of sectors of the national economy. The closeness of vertical relations between spheres supplying agriculture, agriculture itself, and spheres processing and selling agricultural products is an important criterion of the agro-industrial complex but such closeness may also serve as a criterion of any other vertically divided production. It is also beyond dispute that within the group of any vertically connected sectors the disproportions among sectors or the lack of their co-ordination impair their joint efficiency. Therefore, efficiency of the complex depends on the efficiency of each sector included, and their good proportions. This, too, is not specific solely to the agro-industrial complex.

Which then are, those of its characteristics that distinguish it from other complexes? Is there a relation between its characteristics and its efficiency?

Approaching it from the technico-economic side, these characteristics have their roots in the nature of agricultural production constituting the centre of the complex; i.e. in that agricultural production comprises also such natural processes as we are unable to influence to such an extent as in non-agricultural production:

– The yield of agriculture, and particularly that of plant cultivation depends also on the weather. Processing capacity of an optimum size must be adjusted to this situation.

– Part of the agricultural produce is perishable, the date of their output is linked to a number of unforeseeable circumstances which affect the processing and the preserving (canning) industries.

– The optimum output date of the produce generally affects transporting and storing tasks, as well as capacities.

The effect of these technico-economic features of agriculture makes itself felt further in the processing and canning industries, as well as in sales: it influences the efficiency of the whole complex. Looking at it from the side of product output, the flexibility of vertical stages following agriculture is an important requirement for efficient functioning. And, looking at it from the side of inputs necessary for agricultural production, the requirement of flexibility is raised towards the supply sphere.

This peculiar flexibility requirement will be valid as long as agricultural production does not become industrial as much as other sectors of the national economy, and a direct interrelation usual in industrial branches does not come about between inputs and outputs.

The technico-economic basis of the main particularities of the agro-industrial complex may be found, in my opinion, in the interactions of the various spheres (vertical phases) of the complex.

Approaching the subject from the socio-economic side, an important characteristic of the complex is in its consisting of *several sectors,* particularly in agriculture. In Hungary agricultural cooperatives make up most of the large-scale agricultural farms, while small-scale production also plays an important role. It must be mentioned that in the supply sphere an important role is played, beside enterprises of the state sector, by cooperatives and, particularly in the sales of perishable goods, also by retailers.

The various sectors are able to utilize available production capacities – not at all homogeneous – with different conditions and efficiency:

– Not every type of land is suitable for large-scale cultivation, or, part of the arable land could be used by large-scale state- or cooperative farms only at very high costs.

– State farms can employ such comparatively "homogeneous" labour as comes up, by virtue of its physical and intellectual abilities, to the requirements raised by the most up-to-date large-scale technologies. Cooperative farms have, on the other side, members with different working abilities who must be employed even if their physical abilities, family position, obligations and qualification do not answer to the requirements of up-to-date technologies. This difference is expressed, among other things, also in work organization and wages. Finally, there are such groups of agricultural labour as are not at all suitable for work, in large-scale organizations, and can be used only in small-scale production.

On account of the technico-economic particularities of the complex, a flexible connexion of its spheres is thus an important requirement of efficiency. And its socio-economic features are characterized, also upon the basis of social ownership, by its consisting of several sectors. The state and cooperative sectors are joined by small-scale production forms depending economically upon the former, and integrated to different extents. Under such circumstances it is necessary that we should attribute great importance to commodity (market) relations within the complex.

In what follows I wish to deal with the efficiency of small-scale agricultural production, and of the whole of agriculture, and in this context also with a few problems of the processing and trading sphere, using the example of Hungarian agriculture.

The role and situation of small-scale agricultural production

By small-scale agricultural production we mean the production of household-plots and complementary farms,* the production handled individually by members of specialized cooperatives, and that of the small number of still existing private farms. Among these small-scale production forms in Hungary it is only the farming of specialized cooperative members that is considerable beside the number, production, and sales of the household-plots and the complementary farms. The weight of the private farms is negligible.

Fifteen years have passed since the socialist reorganization of Hungarian agriculture had been completed. Following the revolutionary transformation of agriculture socialist large-scale farms have consolidated: agricultural production went through a fast technological transformation, production and commodity production grew at a fast rate.

This fast growth was realized mainly by state and cooperative large-scale farms. This is due not only to the fact that they were and are holding the overwhelming majority of agricultural means of production, among them arable land and technical equipment, but first of all to the fact that the determining sectors of agriculture (production of bread-grain and coarse grain) are concentrated in them, together with leading technologies. Relying on the fast growth of their production capacities and of production, it is not only their livestock raising "of processing character" that developed, but they contributed also to the development of stock-raising of small-scale producers. They had an important role in that small-scale production also participated in the growth of agricultural production and commodity production.

By 1970 and 1975 small-scale production also grew beside a more extensive and faster growth of large-scale farm production as compared with 1965, but the extent and rate of its growth stayed behind those of the large-scale farms. Thus the ratio of small-scale production went down, although in 1975 it still produced over one-third of agricultural gross output. Among the groups of small-scale farms it is only the share of the household-plots – producing the largest volume – that fell.

According to statistics, in 1975 small-scale production was pursued on 14 per cent of the agricultural area. Small-scale production independent also in the technological sense took up a much smaller area than that, because the larger part of these lands was cultivated with large-scale technologies. Small-scale producers held about one-fourth of the fixed assets of agriculture. Their share in the non-cumulated value of agricultural production was somewhat lower than that in the gross value of production. In the material costs of agriculture they had a 26–27 per cent share, and in the value of net production per Ft 100 material costs amounted to Ft 145 in large-scale farms with a tendency of about 1 per cent increase in five years, and to Ft 221 in small-scale production (with a tendency of about 15 per cent decrease in five years). Finally, one more datum for the appreciation of small-scale agricultural production: it contributed 11

*Of people whose main job is other than agriculture (Ed. note)

Table 1

Gross value of production and turnover of Hungarian agriculture

(At 1968 prices)

Year	Agriculture, total	State farms	Cooperative farm collectives	Household-plots of cooperative farms	Complementary farms	Other
Gross value of production (million Ft)						
1965	84.748	11.118	37.130	. . . .	36.500*	. . .
1970	97.529	13.892	42.761	23.076	12.521	5.279
1975	123.398	17.081	60.287	22.974	16.991	6.065
Division of the gross value of production by social sectors (%)						
1965	100	13.1	43.8	. . .	43.1*	. . .
1970	100	14.2	43.8	23.7	12.8	5.4
1975	100	13.8	48.9	18.6	13.8	4.9
Turnover (million Ft)						
1965	47.801	7.856	24.840	9.158	2.570	3.377
1970	62.510	11.427	35.094	9.326	3.191	3.472
1975	93.105	14.598	53.775	12.639	7.319	4.774
Division of turnover by social sectors (%)						
1965	100	16.4	52.0	19.2	5.4	7.1
1970	100	18.3	56.1	14.9	5.1	5.6
1975	100	15.7	57.8	13.6	7.9	5.1

Source: Statisztikai Időszaki Közlemények. Mezőgazdasági adatok. (Statistical Periodical Bulletins. Agricultural Data.) Központi Statisztikai Hivatal 1966, II.; *Negyedéves Statisztikai Közlemények. Mezőgazdasági adatok.* (Quarterly Statistical Bulletins. Agricultural Data.) KSH 1971, II.; *Negyedéves Statisztikai Közlemények. Mezőgazdasági adatok.* (Quarterly Statistical Bulletins, Agricultural Data.) KSH 1976, I.

*Household-plots of cooperatives + complementary farms + others together.

per cent of the total income of small-scale producers, and within it 7 per cent of the income of workers pursuing also small-scale production, and 32 per cent of the income of peasants working in cooperatives.

In commodity production the weight and share of small-scale production is considerably less than in gross output, although its rate grew remarkably between 1970 and 1975. The share of small-scale production in commodity output is yet low, since the personal (and productive) consumption from own production has continued to be high.

Data indicating the proportions of small-scale production call attention to several important circumstances:

– After the foundation and consolidation of socialist large-scale farms, when these suddenly increased their production upon a new technological basis and large investments (1970–1975), small-scale production also grew, although at a much slower rate.

– The increase of such production needed practically hardly any investment. Because of the relative scarcity of means to be spent on development of the economy this was of outstanding importance for the efficient development of the whole national economy. Substitution of small-scale production by large-scale production would cost approximately as much as was spent in all on agricultural investments in Hungary between 1965 and 1975.

– In certain branches of these large-scale farms an extremely capital intensive technology was developed. Development was therefore temporarily, at least, highly expensive. At the same time, exactly these branches (dairy-farming, part of pigbreeding, several branches of horticulture) continued to be prevalent in small-scale production.

– In small-scale production there is also a possibility for technological development of the characteristic branches, and with a much smaller capital-intensity than in large-scale farms.

– Among the various groups of small-scale production a shift in proportions is found. Small-scale production used to be identified in Hungary almost exclusively with household farming (complementary farming was almost totally ignored). True, even in 1970 it was the household-plots that gave the bulk of production and sales in this sphere. Since 1975, however, new proportions have emerged: the total production of household-plots has remained approximately the same, while their commodity production has been growing; production of the complementary farms – and particularly their commodity production – has been definitely growing. The ratio of commodity production has grown in both groups.

Thus small-scale agricultural production has to be taken into account also in the longer perspective. This is reflected in the current five-year plan as well as in long-range projects, in which – beside a primary development of large-scale production – not only the maintenance of small-scale production is considered, but also its growth at a moderate rate.

Characteristic branches of small-scale production are livestock raising and horticulture.

Among field plants it is first of all coarse grain that small-scale producers grow on household-plots of cooperatives and on plots allotted to state farm workers. The majority of the small producers' lands are cultivated in one piece, by using the machines of large-scale farms. Other complementary farms do not have their own field machines, either, and are dependent on large-scale farms. Small-scale land cultivation is characterized by cooperation between the large-scale farms and small-scale producers, in which the large-scale farm takes care of the mechanized phases of production, and the small-scale producer does manual work.

Table 2

Value of gross production of the main branches of household-plots and complementary farms
(At 1968 prices)

Branches	Million Ft	Small-scale producers' share in the production of the main branches (%)	Division by branches within small-scale production (%)	Million Ft	Small-scale producers' share in the production of the main branches (%)	Division by branches within small-scale production (%)
Field growing of plants	7.763	21.9	21.3	8.253	16.6	20.7
Growing vegetables	1.532	43.3	4.2	1.606	40.5	4.0
Grape-growing (for wine)	2.139	38.8	5.9	2.284	37.1	5.7
Fruit-growing	2.474	44.0	6.8	2.855	47.0	7.1
Other plant cultivation	142	7.6	0.4	113	3.9	0.3
Plant cultivation, total	14.050	27.0	38.6	15.111	21.9	37.8
Cattle-raising	5.303	37.5	14.6	4.945	33.2	12.4
Pig-breeding	9.727	58.9	26.7	11.241	52.4	28.1
Sheep-breeding	307	17.2	0.8	248	16.7	0.6
Poultry-raising	6.485	54.1	17.1	7.104	48.1	17.8
Other livestock-raising	477	49.9	1.3	1.295	72.5	3.2
Livestock raising, total	22.382	49.1	61.4	24.854	45.6	62.2
Sum total	36.432	37.4	100	39.965	32.4	100

Source: 1. *Mezőgazdasági statisztikai zsebkönyv* (Agricultural statistical pocketbook.) 1974, Központi Statisztikai Hivatal, pp. 31–32.
2. *Negyedéves statisztikai közlemények* (Quarterly statistical bulletins.) Agricultural Data, 1976, KSH 2. p. 19.

In horticultural branches and livestock-raising the possibility of such technological cooperation is smaller in production itself, but it is indispensable in transport, as well as in purchasing and selling activities.

Relations between the socialist large-scale farm and small-scale agricultural production

The real forms, organization, economic possibilities and limits of small-scale production develop in its given system of external relationships. Torn out of its socio-economic relationships and deprived of its connexions it would be diminishing at an accelerating rate, and its reserves would be wasted. With a view to its development the joint activities of the spheres of supply, large-scale production and sales have to be expanded according to plan. Thus the organization of its production imposes tasks not only on the small-scale producer, but also on the related economic organs. This can be formulated also by saying that the organization of small-scale production is only partly the task of the small-scale producer, for it is in a large part also that of the related enterprises which are bound to take over from it certain functions of supply, production services, and sales, as well as their organization. Such treating of the problem is also to assume that small-scale production is taken into account also in the long run.

As regards capital equipment needed for agricultural production, and the processing and sales of agricultural products in socialist countries a high degree of enterprise concentration and centralization is found. The dwarf enterprises of small-scale producers are functioning in the environment of state and cooperative large-scale agricultural farms (enterprises), and of large-scale trading and processing enterprises, and, as commodity producers, they join in social reproduction first of all together with them. Commodity (market) relations have, however, to be organized. Without that small-scale producers come up against difficulties not only in their production activities but also in purchasing and selling, which will automatically drive back their commodity production.

These activities of large-scale farms and enterprises directed at small-scale production are interpreted as *integrating* functions. Integration is interpreted here as economic relationships providing for organized and lasting production and sales interests and security. These relationships regulate the relations between socialist enterprises and small-scale producers in the first place, and those among small-scale producers in the second place, maintaining at the same time personal property and the small producer's interests based thereupon.

The small-scale producer's commodity production is composed mainly of such agricultural branches (Table 2), in which the elements of organization and integration were found in Hungary also under capitalist conditions (e. g. contractual production for the canning industry, operation of dairy cooperatives, etc.). In the socialist system the integrator – the socialist enterprise or the cooperative of the small-scale producers organized for the purpose – establishes lasting contractural relationships with small-scale producers, binding for both parties, on the basis of cooperation and mutual advantages.

Because of the economic and, some time back, also of legal limits to their possibilities of having complete equipment (and because of small sizes, and partial and one-sided equipment) small-scale farms require integration first of all for the satisfaction

of their direct production needs. Their defective or out-dated equipment has to be complemented or replaced, if possible, by up-to-date services, the introduction of new technological elements, and the extension of expert knowledge.

Integration in numerous branches of food production is justified also by the different development levels of technology. The activity centred in the agricultural, processing and trading enterprises is of large-scale industrial character. In certain phases of other verticals, however, mostly in those in agricultural small-scale production, manual work is dominating.

The animals of small-scale producers destined for slaughter are fattened on fodder coming in most part from large-scale farms. Most of the animals go to the concentrated meat industry, vegetable and fruit go to the canning industry. Up-to-date technology necessitates the coordination and adjustment of production and processing.

Let us take a few examples to illustrate the problems of co-ordinating production, processing and consumption.

The cyclical fluctuation of the pig population (a mass of books treats the question under the capitalist system) is not held as inevitable in the socialist system, yet it exists in Hungary, too. Its extent is largest in small-scale production, though it is mitigated by own consumption. In large-scale farms the cyclical fluctuation of the pig population is smaller than in household-plots and, particularly, in complementary farms. (The fluctuation of the household pig population was smaller than that in complementary farms.)

If it is considered that the cyclical changes in the pig population render also the supply of slaughter pigs cyclical, and that the specialized large-scale meat industry has a given capacity, it will be clear that the cycle does not only annoy the consumer, but hinders also a smooth functioning of the meat industry. When the supply of slaughter pigs is large, the meat industry is obliged to keep back purchase, in want of free slaughter capacity or enough room for the animals. All this involves grave losses. The cycle causes differences in the selling of pigs for slaughter not only between years, but also between quarters and even months.

Because of advanced and delayed sales the statistical data on sales are necessarily more even than those on stock. The stock and sales of large-scale farms are more even also in this regard: it is again within the group of complementary and other farms where fluctuation is most conspicuous. They use the capacity of the meat industry to different extent in each month and each quarter, causing now overtime work, now lack of work. In one month procurement is forced, in the next one it is kept back. All this is partly due to the unorganized state of relations between small-scale production and the market, i.e. to certain anarchical features which are, however, not inevitable.

It is not our purpose to look for the causes of cyclicality in the whole of the sphere of production and sales, but a solution has to be found. What can be the solution in the phase of production and processing? The settlement of price relations is very important, though not sufficient in itself. A better producer price stimulates production, yet it cannot be a substitute for purposeful planning and organization activity. The ups and

downs of uneven production can be smoothed from the aspect of supply by cold-storage, if there is enough capacity, or by enlarging the storing capacity, but this is no solution for the problems of bad vertical relations between agricultural production and the meat industry. Should the meat industry have reserve capacity? This would impair its efficiency and lead to under-utilization of the already scarce labour. Should we shift the consequences of production fluctuation onto the producer by delaying purchase? This would help the meat industry only if it could thus transfer the peak of the upswing to the "bottom"; this, however, cannot be done to the now existing fattened pig. No other solution is conceivable than a better co-ordination of production, processing, and consumption in the whole of the vertical chain.

There are similar problems in the sales of slaughter cattle, with the difference that the smoothing effect of the large-scale farm is more intensive there. In Hungary the prohibition of slaughtering and distribution by the producer renders the situation graver, while livestock exports somewhat improve it. The lack of levelled sales over time causes the greater difficulty, the larger the stock, the smaller the storing capacity and the fewer channels there are for the sales of the product.

There is no biological obstacle to the smoothness of sales of pigs and cattle for slaughter. Scheduling of storing and utilization of fodder is practically a matter for purely economic decision, which affects, however, each phase of the "meat vertical". It may happen that what is good for fodder economy hurts the interests of other phases. Beside the desirable slaughtering weight and technology it is primarily the choice of the data for pregnancy that may guarantee harmony between production and processing. Further, a certain deviation from the originally required slaughter weight (and time), as well as some reserve capacity may also help. All that requires an adequate system of incentives, good organizational relationships and flexible management.

Fluctuation within the year is high also in egg sales, first of all because of small-scale animal keeping conditions. (Sales of large-scale farms are practically even.) The better storability of eggs, and the higher share of large-scale farms practically solve the problem.

A great part of the seasonal goods – such as fresh vegetables and berries – cannot be stored at all, or only at a high cost. Seasonal co-ordination of production, sales and consumption of these goods is also one of the basic problems of small-scale production, as well as of the related enterprises.

Since spontaneous market relations do not provide a solution in themselves, and market regulation is not sufficient either, an integrating co-ordination of the phases of production, sales and consumption is necessary. This is particularly important in small-scale producers' sales, since in most cases non-storable seasonal goods are involved that run a higher-than-average risk.

Supply with breeding and propagating material, with modernized technology suiting small-scale production, with fodder, expert advice and professional supervision, as well as the taking over of deliveries of finished goods according to planned schedule, etc. depend in most part on large-scale enterprises and cooperatives. Yet, the planned

scheduling of the taking over of goods must begin with the scheduling of production. And a precondition to this is modernization of small-scale technology, and a correctly scheduled supply of breeding and propagating material to small-scale producers. In small-scale producers' stock-raising and in several branches of horticulture there is, of course, less possibility, to create technical conditions appropriate for reducing the seasonal character than in large-scale farms. It follows that also large-scale and small-scale production have to be co-ordinated with a view to planned economy on the national level.

According to the experience of purchasers of commodities produced by small-scale producers (mostly the General Consumption and Sales Cooperatives) small-scale production can be successfully advanced in branches which the collective farm does not engage in (such as the breeding of certain small animals, vegetable growing, etc.). In such fields it is especially worth using the possibilities latent in the development of contractual relations, sales security and technology.

The small-scale producer knows but the local market: the finding of a market, market research, assessment of absorptive capacity and quality requirements of the market and, after all this, collection of the commodities, their sorting and taking to the market are by all means integrating tasks. Important results are justly expected from socialist enterprises in the development of the technological standards of small-scale production, and of its production security, in harmony with socialist objectives.

Future of small-scale production in Hungary

Since the firm establishment of the system of socialist large-scale farms in Hungarian agriculture tremendous advance has been made in large-scale technologies. 10–15 years ago it was believed that after such development the production of household-plots and complementary farms, and particularly their sales, would be diminishing. Instead, what actually happened was that after an initial setback their total production got stabilized and then started slowly to grow. Though their sales show, on the whole, a diminishing tendency, yet recently a certain advance has been observed in several important branches.

Their production and sales pattern complement harmoniously that of large-scale farms. In the branches where large-scale farms have achieved outstanding success, the sales of small-scale producers went down. In the branches, however, in which large-scale production could be developed but with serious difficulties, or even declined small-scale production generally kept its positions or even strengthened them. A special division of labour has come about, in which small-scale production even has mobilizable reserves.

For small-scale production to complement large-scale production in a certain branch it is necessary that this branch should correspond to the real interests and operational potentialities of small-scale production. In such a case small-scale production is justified even if the branch in question has a tested large-scale technology. Such are e. g.

poultry raising, partly the fattening of pigs, and certain branches of fruit, vine and vegetable growing. On the other side, even if a branch has not a tested large-scale technology, this alone does not mean that it corresponds to the conditions of small-scale production. Such is e. g. cattle-raising. Therefore, the state of development of technology does not provide sufficient grounds to decide which branch fits into large-scale production and which into small-scale production.

When speaking about technology we mean the whole chain of supply, production, sales and processing, since phases with different technological standards cannot be efficiently linked together. The effect of the trade and consumption sphere is not to be underestimated, either.

Hungarian small-scale production, as a "truncated" production, utilizes and complements a number of up-to-date large-scale technological phases, but it always remains dependent on large-scale farms and enterprises. Independent production – on own land, using own fixed and circulating assets and labour, in the natural way of farming or as independent small-holding, producing for the market – is growing scarcer. It is also certain that its sales can be repressed, e. g. through unfavourable prices, but it can keep its self-supplying function if the branch is suitable for it. Such a branch is, e. g. poultry-raising.

Sales and self-supply are driven back also if the branch in question is one which, on account of its size, infers sales as a matter of course (e. g. cattle- and pig-raising, certain fruits), because the size of the production unit exceeds family needs (e. g. the production of daily 10 litres of milk as opposed to 2 litres needed). Small-scale production for the market and sales expressly require also "external" organization. In the absence of this they will be fast declining, since the small-scale producers are not forced to carry on independent farming activities, and they are also unable to solve alone all the problems of purchase, in many cases of technology, and generally of sales. Their future is, therefore, in the hands of central economic control. This control has to take into account also the objective and subjective factors that put a limit on the development possibilities of small-scale production.

The doubtless advantages of industrial technology in the production and trade of certain branches and in the satisfaction of a large part of consumers' needs is clearly demonstrated by the whole vertical chain of the large-scale industrial production and sales of the deep-frozen oven-ready chicken. Although this technology harmonizes in a great part with consumers' needs, it still does not satisfy the need of every consumer today, and thus it cannot drive "warm" chicken entirely out of the market. This is complemented further by local trade associated with poultry-raising for self-supply.

The sales of the deep-frozen oven-ready chicken cannot yet be made general for the whole country also for other reasons (e. g. because of the investment demand of the spheres of trade, processing and storing). Thus a special proportionality develops between the trade of the deep-frozen chicken and that of "warm" chicken, owing to reasons partly of production, and partly of processing, sales, and consumption. Part of the causes can be eliminated by investments, but another part only by changes in the way of life.

Let us add to all this that we have been speaking of a branch in which industrial technology has been clearly tested: it is advantageous and could replace small-scale production. This accounts for its fast increasing proportions, yet it does not explain the fact that small-scale poultry-raising is going on and is even advancing, and not only is regions not covered by the trading network of deep-frozen chicken, but also, e.g. in the suburban districts of Budapest.

In other branches, however, e. g. in cattle-raising large-scale production has no similar technological advantages, yet small-scale production is diminishing at a fast rate. In the suburban districts of Budapest the keeping of cows has practically ceased. The determinant reasons are, therefore, beyond technology and techniques, i.e. their efficiency.

Thus the perspective of each branch has to be weighed not only from the aspect of its technological level and profitability, and whether the advantage of industrial large-scale production in labour productivity asserts itself in them. The specific position of these branches has to be explored, as well as the conditions of production and sales, the specialities of trade, and finally also the aspects of small-scale producers' interests.

Small-scale production is first of all a labour-utilizing activity. Available labour can obviously not be reduced or increased at will, but it also depends on the labour situation and management of the whole national economy. Incentives will mobilize labour, while their lack will render it idle, leaving its volume unchanged. The same labour could be, however, more productively utilized. Small-scale production is a complementary activity, inferring a family work organization. It is influenced by changes in family structure and households. If the composition by age and sex of the labour available for small-scale production is given, it will be suitable only for a corresponding technology (and branch). If small-scale production is associated with the household or the utilization of leisure-time, only branches suitable for that may be reckoned with.

Settlement conditions, as well as real property and durable fixed assets used in small-scale production are also little changeable factors of the operational conditions of such production.

Last but not least, it is also an important factor to what extent the "external" activities of small-scale production can be fitted into the "internal" organization and interest system of the connected large-scale farm.

It follows from the preceding that the future of agricultural small-scale production is an extremely complicated set of problems. Its functions to be fulfilled within the agro-industrial complex are not replaceable today – and will not be for a long time to come – by activities of agricultural large-scale farms. It is, however, a fully realistic aim, beside primarily developing large-scale farms, to raise the technological standards also of small-scale production in horticultural and animal-breeding branches in conformity with the conditions of small-scale production, thereby mobilizing further large reserves of the development of Hungarian agriculture and improving the efficiency of the entire agro-industrial complex.

In horticultural and animal-breeding branches requiring small area near the dwelling-place (and partly to be based on the fodder market), the Hungarian settlement pattern: villages and farm-steads all but invite – with their existing and further developing infrastructure (transport and trade network, electricity, water supply, etc.) – that their large-scale production should be complemented with modernized small-scale production also in the future.

МЕЛКОЕ ПРОИЗВОДСТВО В СЕЛЬСКОМ ХОЗЯЙСТВЕ И ЭФФЕКТИВНОСТЬ АГРАРНО-ПРОМЫШЛЕННЫХ КОМПЛЕКСОВ В ВЕНГРИИ

Э. А. ТОТ

Технико-экономическая специфика аграрно-промышленных комплексов связана с характером сельскохозяйственного производства, его взаимосвязи с естественными процессами.

С социально-экономической точки зрения основной своеобразной чертой комплексов является многосекторность, главным образом, для сельского хозяйства. Различные секторы могут приспосабливаться к изменяющимся условиям производства и обращения с различной гибкостью. Гибкость же повышает эффективность комплексов.

Сельскохозяйственное мелкое производство в Венгрии весьма значительно и способно рационально использовать ряд ресурсов, которые крупные хозяйства оставляют без внимания по техническим или связанным с экономической эффективностью причинам. Однако экономический вес мелкого производства зависит от того, насколько тесно интегрируется оно с крупными хозяйствами и предприятиями. Практический опыт показал, что интеграция с сельскохозяйственными крупными хозяйствами, с обрабатывающей и консервной промышленностями выгодна на народно-хозяйственном уровне и полезна непосредственно мелким производителям.

Большая часть товарной продукции мелких производителей – живой скот и птица, продукты животноводства, овощи и фрукты – являются быстропроятщимися, и невозможно предвидеть их количество. Разрешение противоречий в интересах продуцентов, обрабатывающих отраслей и торговых организаций зависит от интеграционных связей между ними, строящихся на общих интересах.

Венгерский опыт показывает, что укрепляя интеграционные связи можно развивать в особенности свиноводство и птицеводство, а также отрасли овощеводства и садоводства без крупных капиталовложений, так как эти отрасли отвечают в наибольшей мере условиям приусадебных и вспомогательных хозяйств.

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HUNGARIAN HIGHER EDUCATION IN ECONOMICS: ITS PAST, PRESENT AND FUTURE

The study, presented on the occasion of the 30th anniversary of the foundation of the University of Economics, surveys the main development tendencies of higher education in economics in Hungary. It analyses in detail the changes in education and the causes releasing them. The authors outline the possibilities of progress, the main alternatives and indispensable conditions of development, such as a clear division of labour between the various levels of education, clarification of the related labour law problems, a reform of the system of on-the-job training.

Historical antecedents

Apart from earlier great achievements in certain pioneer countries, the modern system of education began to take shape in 18th century Europe. The widespread development of general education and modernization of the traditional medieval higher education system began simultaneously. All this was closely related to the demands of economic change and the development of capitalism. But this connection must not be assumed to have been a direct causal relationship, that the development of modern capitalist economy was the cause and the establishement of the educational system, the effect. The modern school system, including the development of higher education, by no means stems from economic *praxis,* nor can it be directly deduced from it. Frequently it was the mere will or ambition to change the traditional practice and to ensure the preconditions necessary for that change that led to the realization of the demand for 'educated heads'.

The teaching of the science of economics in Hungarian higher education shares these same roots. At the beginning it scarcely existed in an independent form. This may be considered natural if we remember that the modern conception of economics is not more than two hundred years old.* So it was no small achievement that the Ratio Educationis** in 1777 appended to the curriculum for the Faculty of Law the teaching of subjects such as Trade and Finance Statistics and the Political Sciences. This framework was in fact to remain unchanged for decades, and, first of all in Ágost *Karvasy*'s lectures, the first theoretical courses on political economy and economic history were incorporated into the curriculum of the Faculty of Law. Within this

*It is only two hundred years ago that an esoteric group of French thinkers coined the term and called themselves *economistes.* [1]

**The Law issued by Maria Theresia (Empress of Austria and Queen of Hungary) regulating education. (Ed. note.)

framework began the specialization which, with Julius (Gyula) *Kautz*, led to the separate subjects of 'The System of Political Economy' and 'Money, Credit and Banking', and through Karvasy's new subjects to the first courses in 'Social Politics', 'Trading and Customs' and, to use the old terminology, 'The History of Literature on Political Economy since the 18th Century' (which today we would call the history of economic theory) not only appeared in the system of education but made further specialization possible: by the academic year 1860–61 Kautz was offering as one of his supplementary courses 'The Systematic History and Refutation of Socialism and Communism with Special Regard to Political and National Economic Interests.' [2]

While the teaching of economics struck roots in the Hungarian system of higher education despite the lack of a separate framework, the struggle for an *independent framework* has started. The first plan, inspired by István *Széchényi,** was for a Polytechnic, which was to be a university to cover all the economic sciences. [3]

However, a long time was to pass before the birth of independent higher education for economics. We should not be surprised at this, since the process shows great similarity everywhere in the world. Independent institutions came into being after much seeking for ways and means, and many uncertainties and, even in the most developed countries in Europe, quite late. In this context, let us quote from an interesting statement made in an international comparative study undertaken by the Hungarian Economic Association: "Ever since we have been able to follow with attention the teaching of economics in higher education, we have been able to discern a polarity in its principles: on the one hand to train useful clerks, good specialists, and on the other to strive towards a universal education." [4]

A "universal" kind of higher education was established mainly in Britain and in France, where economics was taught as a closed entity. The London School of Economics and Political Sciences, founded in the framework of the University of London at the turn of the century, was the realization of this concept. It aimed at such a scientific training of students that centred around the economic *system*, the analysis of general reasons and conditions of economic prosperity, the study of British and foreign economic processes. Accordingly, besides the theoretical subjects of economics, disciplines of administration, commerce, industry, finances and transport as well as history, law, geography, and sociology combined in a particular way.

The other direction, called by the above cited author the education of "useful clerks and good specialists", became mostly characteristic of higher education in Germany and Austria. In these countries the so-called scientific and the practical economic education were separated from the very beginning. Theoretical education remained for a long time within the framework of the arts and law faculties of universities. (At the turn of the century economic subjects were taught in Germany at the art faculties of 12 universities and at the law faculties of 7 universities out of 21

*Prominent figure in the Age of Reform (1825–1848), minister in the first Hungarian Cabinet, and author of several economic studies. (Ed. note)

universities.) For practical economic careers education was provided in separate specialized colleges.* These institutions did not aim at a "universal" knowledge but supplied the most important branches of economy with practical experts; they specialized in agriculture, industry, trade and transport. The academies of trade in Cologne, Berlin and Mannheim provided theoretical foundation in economics, geography, economic history, emphasizing, however, the technology of commerce, business management, insurance, knowledge of commercial commodities, the teaching of legal procedures in connection with these, and the teaching of languages.

It may, however, be added that early this century there were already colleges aiming at the combination of the two concepts, teaching the closed system of economics on university level alongside with their practical application. The approach came from both sides. E. g. the economic faculty founded in 1901 within the University of Birmingham was narrower in scope than the London School of Economics; it paid a greater attention to the practical side, to book-keeping, accountancy, business correspondence, alongside with a 3-year study of a foreign language; in optional courses even a second language could be taken up by those who were specializing for commercial careers and applied sciences, and technology by those preparing for industrial careers, while the University was trying to safeguard its higher educational character. It stated in its program drafted in 1907 that its aim was to train not economic expert-administrators, "privates", but "officers of the industrial life", i.e. highly qualified experts "who are able to manage their country's business activities." The aim of education was defined as strengthening the decision-making capacities, widening the minds and enhancing the opening of new spheres in every-day business life.

In Germany independent faculties of economics were founded almost simultaneously with the expressed aim that the university education in economics separated from the arts and law faculties should partially take over the tasks of the specialized colleges. (This type was represented by the faculties of State Economics and Political Sciences of the Munich and the Tübingen Universities and especially by the Faculty of Economics and Social Sciences founded in Frankfort in 1914.) [5]

Modernization of the Hungarian higher education was hampered for a long time by the rigid structure of society, the lack of flexibility, the persistence of the structural elements, values, behaviour and ideology of the former aristocratic society, or, at least, of some of their decisive factors. The medieval structure of higher education was maintained by a public life distorted by legal controversies, and by a declassed gentry "middleclass" getting fat on civil service. Before the first World War 15 percent of all students studied theology and 45 percent law. Otto *Herman,* an outstanding natural scientist rightly emphasized in his parlamentary address in November 1893: ". . . I imagine the future of Hungary mainly in such a way that this old educational system aiming only at making careers in law and in the hierarchy of civil service should be eliminated at last."*

*In this context by colleges a lower stage of higher education is meant throughout the study – generally two or three-year courses after secondary school leaving (Ed. note).

*Cited by Andor *Ladányi* [6]

Development of the Hungarian higher education in economics was strongly affected by the above-mentioned European trends. It is not by chance that the plans to establish an independent University of Economics was first conceived by the 1900 Congress of Land Proprietors in Kassa convoked by Sándor *Károlyi,* a universal-minded landlord, who had studied even Marx's Capital thoroughly.

This university was to have "three main faculties: agricultural, industrial and commercial" – as it was conceived in 1906. The curriculum of studies on each faculty "was to be based on the general economic studies." [7] A scholar interested in the main questions of contemporary life can hardly help quoting the argument put down so brightly more than sixty years ago: ". . . only a very short-sighted financial policy would take the financial means from economics, from the very sciences which could contribute most thoroughly to its own strengthening. . . the Hungarian state has never had the opportunity for such a fruitful investment as in the University of Economics." [8]

In the meantime new partial results were born. As a renewal of the original concept of the Polytechnic, the technical education was complemented with economics and an optional one-year-long economic class was formed.

But this step was considered to be only a mid-station by all those who looked upon economic education as a question of great importance. [9]

Julius (Gyula) *Mandelló,* director of the Hungarian Economic Association, summing up the matter of economic education put it in a very categorical way: "The establishment of the University of economic sciences is the most important cultural interest of our nation." According to him the lag was about a lifetime in comparison to the "states of culture", and for this reason he did not consider "the establishment of a Faculty of Economics at this or that university" to be a solution. "The country needs a separate University of Economics". The task of this institution would be to cultivate all economic sciences on a university level. . . the institution, according to its university character, would not be limited to teaching only the special sciences of the three branches of production, but a separate faculty would study all branches of the social sciences (sociology) obviously with special emphasis on the economic phenomena. . . With regard to the international aspects of a more intensive economic life the eastern and western living languages would be taught on this faculty in practice." [10]

In such a way the conception of a separate University of Economics took shape with three faculties, with the capacity of fulfilling university demands and those of complexity, based on social sciences but which would be able to give education for the practical economic areas as well. This University was to fall into the line with the needs of complexity even in its structure, and was to follow the separation of the main branches of economy (according to practical orientations). At the same time, it was to provide the theoretical foundations and was to be a theoretical-social-scientific complex, which would be manifested in one of the faculties.

But fulfilment still had to be waited for and when finally the result was born a few years later, it was weakened by compromises from the outset. The evolvement started – quite unexpectedly – in the hard years of World War I. Though the Ministry of Religion

and Public Education decided not to organize a separate University, at the same time, it established a fifth faculty, a Faculty of Economics, within the framework of the Budapest University of Sciences. On 29 October 1918 the Council of Ministers passed a corresponding resolution, but before the royal assent would have arrived, the Monarchy had collapsed. [11]

However, the Faculty of Economics survived. The Act 21 of 1920 prescribed the foundation of the Faculty of Economics joined to the University of Sciences, with a four-year-long education. The faculty had four so-called specialized groups: universal economic and administrative, agricultural, commercial and, finally, a foreign representation and consular specialized group. In the following quarter of the century a *slow* modernization and some structural changes took shape in Hungarian higher education. There were no radical changes. The structure of public education could fulfil the needs of the 19th century better, but secondary education remained a narrow élite education, only for 10 per cent of the corresponding age-group, preserving its traditional Latin orientation. On this basis it is quite natural that the dimension of higher education was especially restricted, lagging behind modern needs. The number of university students remained about 14–15 thousand all the time, and although it was double of the prewar number it meant still only 1–2 per cent of the age-group in question. All this considerably lagged behind the large-scale secondary and the rapidly increasing higher education in developed countries. (In Western Europe two thirds and three fourths of the respective age group received secondary school training and 3–5 per cent obtained higher education.)

However, this backwardness was by no means confined to quantitative factors only. The increase of structural-qualitative backwardness was at least of the same importance. It is true, though, that in the Faculty of Economics 1000–1200 students pursued studies in economics a year (2000 in certain years) and this number was about 7–10 per cent of the total number of university students. Considering, however, that not even theological training covered less than 5–10 per cent of the number of students and what is more, the predominance of law-students continued unbroken, concentrating about one-third of students, it becomes clear that the structure of Hungarian higher education remained excessively obsolete.

As regards the nature of training in economics, in spite of the temporary abandonment of the idea of an independent University, the contents of training was built on the compromising principle reviewed above which tried to amalgamate university complexity with practical orientation. At the congress on higher education in 1936 Dezső *Laky**, describing the training in economics emphasized: the "educational systems put into their program both the study of economics and that of economic policy on quite a large scale." "The systematic arrangement of those studies is self-evident. According to the intentions the plan of the class should be based on the theory of economics,

*A leading statistician of the interwar period, professor at Faculty of Law and Political Science of the University of Budapest which was giving a well-founded education in economic theory and statistics (Ed. note).

furthermore on statistics which is also regarded as a theoretical subject, as well as on the history of economics and finally on economic geography." At the same time: "we attach great importance to the philosophical grounding in the curriculum." Similarly he stressed the teaching of mathematics as part of grounding: "which is getting more and more important day after day."

The mostly sectorial, so-called partial economic-policy studies were based on this kind of university foundation which were, however, said to fragmentate the studies very much but "the fact that these studies must be lectured in classes cannot be doubted. The officials in agriculture, industry, credit, trade and transport must have clear ideas about the system of domestic and foreign trade, industry, money and credit, transport, agriculture and social politics – which can be mastered in our faculty only."

Laky's formulation makes it clear that with the training of "officers" which was marked as a former duty, the practical trend of training "officials" also played an equivalent role.

The complexity of studies was provided by a relatively comprehensive training in law and in political sciences, by including natural sciences, agricultural and technical basic knowledge in the curriculum and by teaching foreign languages "which are of vital importance." [12]

The organizational changes between the two world wars did not make any alterations in these main essential features. Nor did even those steps of great significance which connected the Faculty of Economics, – taking it out of the framework of the University of Sciences – to the Polytechnical University, thus evoking and carrying out a nearly 100-year-old idea.

The Law enacted in 1934 established the University of Technical Sciences and Economics named after Palatine József and among the five faculties there was the Faculty of Economics as well, divided into two so-called classes, the class of economics and trade and that of public administration.

A single and independent institution for economic education: The University of Economics

After World War II, in the framework of immense socio-political changes and as an important element of these, the Law 57 enacted in 1948, which decreed the establishment of the independent Hungarian University of Economics, is obviously a turning point in the history of higher education in economics in Hungary.

Emphasizing this it is at least of the same importance, but probably far more surprising to stress, that the establishment of an independent University of Economics meant not only the negation of the antecedents, a turning point, but it was at least as much the carrier of basic continuities.

It was a turning point because, after all, it was the time in the history of higher education that a higher educational institution was founded, teaching economics in a

closed system in its totality and in an independent framework. If we look back on the antecedents and expecially on the plans worked out at the turn of the century, and also on the proposals preceding the establishment of the faculty, then it is more exact to say that it was the realization of half-a-century-old plans in the midst of new circumstances.

The establishment of an independent University can only be evaluated if it is taken into consideration that the structural reorganization of the Hungarian system of higher education as well as its rapid progress was started by this fact. The number of students at the University of Economics, (about 3–5 thousand in the fifties) still did not exceed ten per cent of the increasing number of all students, but in absolute terms it was more than the number of law students (2–3 thousand). This transformation thus fitted in the developing process of a modern higher educational structure, where also more than half of the students studied engineering, agronomy and economics.

But let us get back to the University of Economics. Teaching in the new institution, of course, underwent immense changes. However, let us begin with the features indicating continuity. The basic conception, which combines the two directions of teaching in one single institute: the training of economists, "officers" for commanding posts in the national economy, at university level and in a complex manner and that of "useful clerks and good experts" with a university-like practical orientation, remained unchanged. This was invariably achieved in a way that the profession-oriented and sub-specialized training of the higher courses was built on numerous theoretical and methodological subjects of the first years.

Within this, however, immense changes took place.

After 1948 the education adapted to the needs of a socialist planned economy gradually developed and was accompanied by a radical transformation of university departments and curricula. Beside Marxist philosophy and political economy, the science of economic planning and the specialized branches of economics were given extremely detailed socio-theoretical amplification.

Changes in the organization of the University had comparatively less significance. At the beginning the new University was not divided into faculties. In the first two years, later in the first year alone stress was laid on general grounding. Then in the next two (and later three) years there was a specialized training in four major sections: (political economy, industrial economics, agricultural economics and commerce) and in the additional teacher training courses as well.* In 1955 the university structure was developed into a three-faculty system (Faculty of General Economics, Industry and Trade). Though it was new in its kind, we cannot overlook the fact that it was much the same as the projects drafted half a century earlier.

We consider it even more important that in the midst of seeking structural ways and means and in the course of essential transformation there was a growing demand for further specialization. Further specialization was just about to find its way out of the

*Specialization meant a mix of compulsory definite courses providing at the end a specialized qualification. (Ed. note)

four original fields at the beginning of the fifties. (E. g. transport, building industry and food industry; budgetary system, banking and credit; foreign trade and domestic trade; statistics and economic geography became independent sections issuing separate diplomas, etc.) There were frequent changes, new subjects were introduced and other ones suspended, though reflecting a clear-cut tendency.

This tendency was partly a natural result of the principle implemented systematically after the University of Economics assumed the name of Karl Marx in 1953, and became the only higher educational institution of economics in the country. (In 1954 the School of Accountancy was also abolished.) Consequently, demands for efficient experts in practical economic fields had to be met. Specialists understanding analytical, long-term processes of the national economy had to be supplied with an ability of planning, further the training of a great number of economists, book-keepers, statisticians and plan executives had also to be ensured. This was all the more so, since the planning, control and managing system required mostly economic officials who could handle detailed plans and their execution according to the plan-directive system, while also the central control organs, the National Planning Office and the ministries expected their staff of economists to come from the new University.

This tendency and the essential contentual orientation in conformity with it, as well as the specific "heterogeneous" character of the training and the suppression of scientific demands were largely due to the fact that economic research could hardly be performed during these years. Independent analysis and research were substituted by doctrinarian quotations. The philosophers' stone was believed to be in hand, only its veracity needed popularization, defense and putting into practice.

This attitude automatically determined the scientific possibilities of the University. In accordance with decisions made at the beginning of the fifties right after the establishment of the new University of Economics, the Hungarian higher education system was separated from scientific activities and their preliminaries. Establishment of the research institute network of the Academy of Sciences and the fact that the system of scientific qualification (the awarding of degrees) was divorced from the Universities had the same effect. All these contributed to turning university education – as György Lukács put it – into a large-scale secondary school.

However, all these detract nothing from the achievements of the "heroic age" of the independent University, from the immense value of introducing Marxism to our Universities, from the importance of text-books made practically from one school year to the other, from the significance of an unprecedented modern type of mass-education in Hungary, from the important role of the University in the cultural revolution of this country.

Nevertheless, it explains why large-scale transformation became soon essential.

If looking back today, we want to determine the milestones of seeking our ways and means, then the first giant steps were made during the scientific boom in economics in the mid-fifties, as well as the very start of independent critical analysis and its application in which the training staff of the University also had their share. In the storm

of rapid social and political events, – which we cannot even indicate here and now – on basis of the December decision (Point V/4) of the HSWP's Central Committee in 1956 [14] both the drafting of the new economic policy and the transformation of planning and of the control and management system become included in a government programme.

All these created a radically new situation both in economics and in higher economic education. The development objectives of the national economy required increasingly some constructive relationship between economic science and economic life. Party and government leaders called for it just as well. Demands for more and more rapid development arose and greatly affected the teaching staff of the University. An earlier unimaginable activity began in scientific life. Renewal of the compulsory subjects started. More demanding new lecture notes, books, essays were published. Description of the actual course of processes and analysis based on empirical approach were adopted instead of providing "solutions" for theoretical and practical problems by simplifications and citations.

Act III: 1961, reforming the Hungarian educational system, became the starting point of a very important development process. This reform of the educational system, full of contradictions and failures in itself, started the analysis of the vertical organization of subject matters, regulations concerning seminars and examinations, as well as the analysis of the structure of vocational education.

On the basis of an extremely broad activity from 1961 to 1965 (i.e. two reform waves that followed and influenced each other) with the purpose of recognizing the necessary modifications, the specialized fields of studies in organization, efficiency and quantification methods were enlarged. Studies in mathematics were extended to their double at about this time, and the foundations of a new system of teaching mathematics was laid. Important changes took place at the University in the structure of specialization, too. Some too thin and/or too practical specializations like general accountancy or general statistics were cancelled. At the same time, a new branch, planning mathematics was brought into life with a high theoretical demand.

For the sake of a well developed, as well as differentiated education, this reform tendency called into existence practical training* and the system of special seminars including ithe introduction of related dissertations. The adoption of pro-seminars served as a replacement by university-like educational forms, for a former "school-like" system sticking to subject matters. Naturally, the path to the full implementation of these splendid forms was quite long and rough but a significant progress, though not completely free from contradictions, has already been registered thanks to more professional experts with great experience joining the seminar activity.

While at the independent and only Hungarian University of Economics the strategy of a further progress had already been in motion, the statement that we could withness a

*In summer in corresponding enterprises and institutions. – (Ed. note)

perhaps not completely conscious change of conception in the overall policy of higher education in Hungary might perhaps be risked here. By setting up new institutions the network of higher education was, namely, getting wider extremely quickly. From 1960 or 1962 on so-called higher vocational colleges were formed one after the other, among them there were new institutions of higher economic education partly growing out of secondary schools. Thus the monopolistic position of the only University of Economics came to an end. These colleges began their activities with specialized and practical aims to give qualifications in book-keeping, finances, business correspondance, business economics, etc. In these years the policy of higher education still did not reckon with the possibility of a conscious and planned division of labour. Chance, interests and possibilities of various ministries all had an impact on the development of the institutional system in higher education in economics. The University itself was not conscious of the new situation that was taking shape. We did not seek a comparative review of the manysided educational objectives.

However, the work for a better University started instinctively in the right direction and prepared a firm basis for the later conscious division of labour.

All this was, of course, closely bound up with the emphasis on the importance of the demand for and appreciation of scientific research, which materialized in the reestablishment of the research activities at some departments as well as in many university lecturers' research work of a nation-wide significance, and in a more systematic linking of the appointment of lecturers with their scientific achievements.

Economic education after the economic reform

Although the plan of the new curriculum accepted in 1965 proved to be good and progressive, after a year of preparations a new university reform was initiated in 1968. This time the reason was the reform of the system of economic planning, control and management. The economic reform decided upon in 1965 and introduced in 1968 brought about significant changes in economic research as well as in the field of economic practice.

Instead of the masses of economic clerks society had required before, now real economists were in demand. At the same time, economic problems became of public interest, and attracted a larger number of better prepared students to our University.

All this directly affected the demand for change in the orientation and content of the education and laid stress upon the reinforcement of functional elements as well as on a more efficient development of practical abilities. Thus the University of Economics was to release graduates with wider intellectual horizons, who could flexibly adapt themselves to operative work, think creatively and respond to new phenomena.

The emphasis on functional approach entailed the introduction of a system for further, secondary specialization. A larger proportion of teaching time was assigned to methods, to developing skills and to disciplines oriented towards practice.

The role of mathematical education increased and, as a part of the nation-wide computerization program it was bound up with the introduction of computer technical and information science studies at our University. New elements also appeared among the former subjects, such as management science, marketing and ergonomy.

Along with the efforts made to satisfy the demand of the economic reform for an increased number of economists, research on reform activities became also prominent. Economic policy and the companies demanded and urged an intensive participation in the solution of the tasks set by economic practice. As a part of the new and more systematic research program the Karl Marx University of Economics undertook the task of coordinating the government-sponsored national research project "The socialist enterprise" and also certain related research tasks. The research projects based on contracts between the University and particular companies and concentrating on the practical problems of the latter, were also rapidly developing, and about one third of the lecturers took part in them.

While the University of Economics was engaged in the work of its own development and in efforts at expanding the University and while the concept of "a single institution of economics for higher education" persisted, as a matter of fact drastic changes took place in the teaching of economics at higher level.

As early as in 1967 45 per cent and in 1972 54 per cent of a trebled number of students of economics studied in institutions other than the University, which suggests a totally changed situation. By the early seventies this was the majority of those doing economics full-time or part-time.

This case was not merely quantitative growth. In fact, the specialized schools for higher learning established in the early sixties and the economic colleges that replaced them at the turn of the sixties and seventies differ considerably from the University in terms of basic concept and the aims of the teaching. The basic task of the School of Finance and Accountancy is to train economic experts capable of organizing and controlling business administration. The aim of the School of Foreign Trade is to train business transactors, export-import agents, and clerks with good practical skills and a sufficient command of languages. The School of Commerce and Catering trains efficient experts to manage major units of the catering trade network and to organize turnover in the home trade sector. We must add: the above mentioned change in the structure of Hungarian higher education occurred in general, too.

At first, however, development went along special, rather spontaneous and different lines. It was the exploration of new possibilities in technical education that finally led to a conscious demand for possible forms and means of the division of labour and the first solutions to coordination. As an important phase of this process, in the summer of 1972, the Hungarian Socialist Workers' Party declared its views concerning educational policy as follows: "To meet the requirements towards the training of high-level experts – especially in the case of borderline specializations – joint efforts must be made by both universities and colleges. The aims and content of education, the number of trainees in the two-level training of engineers, agricultural engineers and economists must be coordinated." [15]

But all these issues had not been formulated in the course of the reform endeavours made until then. This was one of the sources of the tasks that were placed on the agenda in the first half of the seventies to bring education up to date. They may also be considered as the third wave of the reform endeavours. At any rate this was the first conscious effort to achieve division of labour, and the first time that representatives of institutions had sat down to try to find some solution to unanswered problems concerning different levels and ways of teaching economics. Going back to this nearest period that is closely bound up with our present, we should refer to some further important motives of the reform activities between 1973 and 1976.

Among these – besides some necessary corrections made in the course of earlier reform measures – we had to realize the fact that the educational system of the University of Economics itself had not at all been exempt from the errors made in the educational policy during the previous decades. That is to say, hopeless efforts were made to keep pace with the rapid growth of the material into the subjects and the curriculum. Since this material became less and less receptible, there was a tendency to teach this increased material by resorting to specialization and extending the period of training. In the case of the University of Economics itself there was a steady increase in the number of subjects (250 per cent) and examinations (about 50 per cent) as a consequence of which the University granted 28 different diplomas.

Universities and Colleges. Achievements and Unaccomplished Tasks

Recently the fundamental question of further progress was that the different levels of training had to be clearly defined and their scope had to be consciously worked out. Within this not only the question of the relation of the University to colleges arose, but first of all, as regards the University, the question of settling the traditionally "mixed" training. Several proposals and ways for solution were discussed. One suggestion was that the University should be divided into two: at one of the faculties functional (so-called expert) economic analysts would be trained, while from the other faculty practice-oriented business administrators would graduate. This project set out from the practical demands for two different types of economists, formulated in the debates already at the beginning of the century and, in accordance with the demands, the project aimed at a two-level training system within the framework of the University. [16]

On the other hand, the conception of a unified functional training was drafted which declined specialization by sectors and in essentials eliminated sub-specialization.

The resolution of the third wave of reforms set out finally from the fact that the two-level training system should be based on the University and on colleges in such a way that the scope of activities should be divided between the two types of institutions. The fundamental conception of University training was specified in the attempt to train economists who, "after acquiring essential practice, will be capable of surveying and analysing the complex system of economic processes, of exploring the economic inter-

relations, of determining socio-economic objectives and tasks, who can choose and develop the essential instruments, methods and can carry out the tasks." [17]

This conception found its expression in a curriculum which made fundamental training at the University as comprehensive and complex as possible and which contributed to an increased "convertibility" of the scope of knowledge of the various specialities. To this end, the structure of subjects taught in various specializations were drawn closer to one another. Fundamental training in micro- and macroeconomics is ensured in each specialization.

Enterprise management, organization and marketing are taught in all special courses. In every specialization attempts were made to increase the students' knowledge of economic theory, sociology, economic planning. The students' knowledge of external relations was broadened by introducting new subjects and extending the framework of the subject called world economy. Teaching foreign languages increased threefold in most specializations.

In this conception a very important role was given to broadening the possibilities of students for optional choice and to the system of the so-called optional "blocks" of learning material.

Last but not least, these are important changes that have provided nothing less than a possibility for the University to become one of the national bases for sociological training besides economic training. Perhaps we can say without exaggeration that after the somewhat one-sided expansion of studies in mathematical methods and computer techniques we were able to make efforts at restoring better proportions between methodological and theoretical-sociological training.

The raising of requirements towards university education was inevitably accompanied by essential efforts at improving the methodology of education, by reducing the number of examinations and cutting down on unnecessary details and overlaps in subjects. Consequently, we made efforts in terms of contents and methods of training for an integrated training of both theoretically and methodologically well-founded economic analysts, even if this transformation could obviously be planned only for a longer term.

All these were accompanied by newer efforts to develop the University as a scientific basis. This is testified not only by the institution of regular study leave introduced here for the first time in Hungarian higher education and providing more favourable conditions for research work, but also by the sudden increase of the number of publications. It is also proved by the increase in the number of scientific degrees awarded, showing an increasing scientific performance of our teachers.

In spite of the unambiguous tendency of the university development, the sub-specialization – which in the eyes of many people amounts to making a mixed-type of training institutional – has not been rejected for the time being, although the demand for it has been expressed as well. It has been the result not only of a realistic reckoning with the present possibilities and forces of the University but the vindication of a basic principle according to which, after graduating, a part of economists are supposed to have, for some longer time still, a deeper knowledge about a major economic branch. We have

tried to limit the one-sided practical sectoral orientation not only in the way mentioned above, but by reshaping the training character of certain "branch" subjects. Our present state of training necessarily bears both the structural and the contentual marks of the previous outdated and unclassified mixture. The road to the standard university scheme of training "universal" economic analysts is evidently long and it is inseparable from operating the appropriate personal and financial conditions.

The tasks are no smaller in other fields of higher education in economics, i.e. in a more consistent coordination of the different levels, either. In this context we would emphasize merely three questions – perhaps of vital importance – without aiming at completeness.

At first: the consistent segregation of different levels of economic training, within this the segregation of the training of graduate economists armed with a broader sociological and methodological-analytical knowledge can only be regarded as really solved if their use in the economy conforming to their qualification is secured. In the seemingly great number of vacancies the demand for graduate economic analysts or for experts from training colleges is completely mixed and in some instances it was even mixed with the demand for employees with a thorough vocational secondary education in economic subjects. And the compulsory employment through competition can hardly do more than red-tape the compulsory acceptance of this confusion. And this situation may not essentially change without implementation of the demand that has been urged from time to time for 50 years that – similarly to many professions – the law should regulate for what appointments an economic university diploma is required and the relation between the economic posts and the diplomas granted at the different levels of training. Without achieving that we can but talk about the purposefulness of labour economy.

The number of those educated at the University of Economics was defined when the education at the University covered every economic aspect. These numbers have remained unchanged. This we also considered when working out a plan, that seems the most reasonable, for narrowing the scope of the University's syllabus.

Under these reforms we would cease to give basic tuition in evening and correspondence courses, the area in which we can least enforce university-level requirements. At the same time, through a reorganization of the evening and correspondence courses we would assure the separation of the two levels of training for economists, while maintaining the institutional connection of these, which is at least as important.

To achieve this, we feel the most agreeable solution would be a division of labour whereby the essential form of adult education would be a two-stage training. The first stage would comprise the colleges where practical knowledge would be imparted; only after that would students receive university-level education offering a more general and theoretical supplementary course.

The *second* question concerns the present college system. If we are seeking matching solutions within higher education in economics for the required division of labour, i.e. for separation and connection, then we have to examine the educational content and tasks not only of the University, but of the colleges as well. Another

question that needs considering here is whether all contained in the economic colleges' curricula is really necessary, although posing that question does not imply that we undertake a critical analysis of the curricula and methods of certain colleges.

In this context, we can hardly avoid mentioning the existence of the transferred course at the University of Pécs, which has already become an independent Faculty of Economics. This new university institute came into being during the years of the penultimate reform and has become independent during the years of the latest reform; it works within a certain sector of the parent University's curriculum, and its aims and attributes are similar. Though it might be termed a merely regional division of labour, it is nevertheless a workable one. However, during the preparations for its merger with the Pécs Law Faculty much more was in question, among other things the relationship between legal and economic training, in other words, developing new ways and means of training administrative economists (and administrative jurists at the same time), and a more advanced stage in the division of labour.

Finally, as the *third* question might be formulated: is our higher education *sufficently structured?* Separation of the university level from the college levels is certainly a remarkable progress towards this end. If the University makes gradual but consistent progress in training a homogenous creative and analytical type of graduate economist, then the separation of levels, and, with the two-stage system in adult education the connection between the levels may be regarded as solved.

However, even this does not amount to an appropriate structuring in the training of economists. In this case, as in the whole of the system of higher education and also in the light of international experience, the symptoms of over-education – not in a quantitative sense, – are quite observable.

We still train people at Universities for too many professions for which college training would suffice, and we train people at colleges for jobs for which some sort of one-year special course or even a properly functioning secondary school would be quite appropriate.

It should be underlined, however, that this is characteristic not only of the economic or the Hungarian way of training. In 1974 the British Minister of Education expressed self-critically very similar complaints at the UNESCO conference of ministers of higher education. Furthermore, considering the above mentioned example (while allowing for the fact that it might not be the best choice for an example since selection was made at random), the question arises whether the training of correspondence students in foreign languages and the vocational training of various officials requiring training in economics just beyond secondary school level and somewhat more specialized than that, could not and should not be solved by an intensive, one or two-year course at schools specialized in economics, based on a sound secondary school training.

Demand for a better structure of higher education in economics is very real indeed. Being of vital importance, the problem is really worth more thorough consideration.

While emphasizing some major questions concerning a better division and co-ordination of different fields and levels of higher education in economics, and while

offering proposals for a better solution to existing problems, we are aware of the fact that ways to better solution are numerous.

When reviewing historical antecedents, the colourful varieties of international higher education in economics that characterized the beginning of the century have already been referred to. Three major types of higher education in economics were distinguished: the London School of Economics with its universal nature is a good example for the first one, the second type can be demonstrated by the German *Hochschule,* its scope is rather narrow, training here is practice-oriented, and to the third type belong institutions trying to combine these two characteristic features. The international picture of today's training includes far more varieties and achievements worth studying and following. Examining these achievements an idea about the diversity of possible solutions to our present problems can be formed.

An international review of higher education in economics is of course beyond the bounds of our knowledge and possibilities. Any kind of classification seems to be extremely difficult. (To support this remark it should perhaps be mentioned that the eight most important Business Schools in the United States we have thoroughly examined represent at least three or four types. The number of American Business Schools is great, with major differences among them. The fact, that the London School of Economics, the Oxford and Cambridge Colleges still preserving their traditional character exist side by side with approximately 50 other British Universities – half of them founded during the decades of university boom that followed World War II – indicates that no generalized picture of British higher education in economics can be given.

However, certain definite new tendencies can be traced. The institutions of higher education in economics established in the Soviet Union (and in certain socialist countries) should be mentioned first. Despite the divergence of names – they are called universities, university faculties, colleges, institutes or academies – all of them are mixed-type institutions, their training generally last five years, it is of a specialized college character, and under-graduates may specialize in various subjects. Specialized training pressuposes thorough general training. The only difference in this respect between, e. g. the Bruno Leuschner School of Economics, Berlin, and the Faculty of Economics at the Humboldt University merely consists in the way they realize division of labour in sub-specialization. In the Soviet Union, e. g. it is the dimensions of the country that allow for this great range of specialization. In this kind of higher educational system there is practically no two-level training. (However, it should be mentioned that even in West Germany more and more colleges are granted the rank of University or are seeking integration with existing Universities and thus the two traditional types of higher education: university and college training are merging. The general tendency in West Germany is the synthesis of general professional culture and more specialized knowledge in their university system. Besides the merging of colleges and universities, in certain countries like the GDR, a whole network of specialized schools with six-term training has been established. These types of schools correspond to our training colleges and train practice-oriented specialists in finance, cybernetics, public catering, etc.)

The American higher education in economics represents a system very different from the fairly homogeneous, mixed-type training mentioned above and exerts great influence on the higher education system of several countries. Training there takes place at two different levels and the second level includes at least three further types of training in clean-cut institutional frameworks. (This system on the other hand can be considered a three-grade one as well.) The first, 8-term level, the so-called college training, follows secondary school education. In a more general and European sense, the training these schools provide is really secondary school training, but besides other professions, they give qualifications to economic officials, reproductive business administrators working in management. Training at the second level – consisting of four or six terms – is a graduate one and is highly specialized. It has three faculties in economics. There is one for the training of theoretical specialists to analyse general processes and international tendencies. Business Schools train highly qualified experts for top-level management jobs. Training is centred on decision-making, mathematics, computer techniques and methodology, while future high-level economic officials, economists for the administration and municipal institutions graduate from still another faculty.

These latter two types can by no means be identified with our college training nor can they be considered as a form of training giving general foundations and based on the independent teaching of the whole system of economics. (The above-mentioned levels are completed in the university system, as a fourth level if you like, with 3–4-year doctorate courses. However, it can be left out of our system examined, for basically it may be considered as a different type of Soviet and Hungarian aspirant training.)

Even a quick glance at international tendencies makes it obvious that international experience yields several conclusions to the solution of present Hungarian problems. We might arrive at the notion of a single University of Economics comprising colleges as well and co-ordinating two separated but intertwined training levels in the same institution. We might also draft the concept of an independent college level and a level divided into two separate directions at the University – the first might be called a theoretical-analysing economic type and the second a business school-type. Many convincing arguments could be advanced for and against these – and further possible – ideas.

Considering the historical path of Hungarian higher education in economics, and with the requirements of the economy and international development trends in view, however, we have come to the conclusion that – summing up the final consequence of the above explained facts –, the already existing training levels must be separated. Parallel with the further development of the University towards the strengthening of a unified, functional and universal training, the college network must be settled and developed so that it should train practical experts for every necessary field on an adequate level. These two levels are to be linked with up-to-date and flexible forms of adult training. Simultaneously, in addition to developing the contents and function of secondary school training, we are going to ensure a better structure of higher economic training and of the necessary training without college or university studies, in shorter but organized courses.

This will be realized in a system where the qualifications necessary for certain jobs will be legally regulated.

Following the long way of the Hungarian higher education in economics we have reached the future. We could, however, see the interrelation of processes and their strong continuity. The past is part of the present and the present is already part of the future. We are responsible for both.

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ВЫСШЕЕ ЭКОНОМИЧЕСКОЕ ОБРАЗОВАНИЕ В ВЕНГРИИ

И. Т. БЕРЕНД–А. ШТАРК–И. ТОРДАИ

Высшее экономическое образование в Венгрии за истекшие десятилетия претерпело значительные изменения. Созданный в 1948 году самостоятельный Венгерский университет экономических наук, – как единственное в стране после 1945 года высшее экономическое учебное заведение – пытался удовлетворить разнообразные потребности народного хозяйства. Он гото-

вил своих студентов как к выполнению практических задач в различных областях экономики, так и к пониманию, анализу и планированию длительных процессов, протекающих в народном хозяйстве. С начала 60-х годов началось быстрое расширение сети экономических институтов. По сути дела, закончилась эпоха концепции единственного экономического вуза. Но развитие двух типов учебных заведений проходило первоначально раздельно и довольно-таки стихийно, они почти не соприкасались друг с другом. Лишь в начале 70-х годов начались сознательные поиски новых форм и методов разделения и согласования работы. В конце концов, университет пришел к выводу, что двухступенчатое обучение, служащее подготовке двух типов экономистов, должно осуществляться не внутри университета, а в двух имеющихся типах учебных заведений. Подготовку экономистов для нужд текущего производства следует осуществлять в институтах, а подготовку экономистов, способных охватить, анализировать систему сложных экономических процессов, способны ставить, намечать общественно-экономические цели, – в университете. В соответствии с этим и была разработана основная концепция учебного процесса в университете.

Ждут еще своего решения вопросы о количественном соотношении экономических вузов двух типов, о структуре всего высшего экономического образования, о необходимости всех аспектов нынешнего обучения в экономических институтах и наоборот, об удовлетворении существующей сетью институтов всех областей, в которых имеется спрос на специалистов с институтской экономической подготовкой, и наконец, выяснение того, обеспечивается ли в народном хозяйстве надлежащее использование образования, полученного на различных уровнях высшей экономической школы.

Авторы приходят к выводу, что необходимо разделить уже имеющиеся уровни высшего образования и при этом поощрять дальнейшее развитие университета в направлении усиления единой функциональной универсальной подготовки, необходимо упорядочить и развить сеть институтов с тем, чтобы они выпускали специалистов-практиков для всех нуждающихся в них областей. Эти два уровня необходимо увязать с гибкими и современными формами образования, без отрыва от работы, т. е. с формами вечернего и заочного обучения. Необходимо также требовать соответствующее образование при замещении определенных должностей.

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I. FOGARAS

THE POPULATION'S SAVINGS DEPOSITS IN THE EUROPEAN CMEA COUNTRIES

Relying on the experience of the European socialist countries, the study investigates the financial organization of the saving process, the results achieved, and the motives of the process.

As a consequence of the constantly rising living standards (and, in this context, of the regular increase of the population's money income) personal savings and within them the population's savings deposits are becoming increasingly significant in transacting monetary processes, as important reserves for the development of socialist national economics.

Socialist banking institutions serving the population

For the collection of the population's money savings and for granting credits to the population the following models of banking institutions exist in the European CMEA countries:

– savings banks (this is the main type),
– savings- and credit cooperatives,
– savings- and loan societies (mutual aid funds).

Savings banks are the basic institutions for collecting personal savings in every European CMEA country. In the Soviet Union, Czechoslovakia, and Bulgaria savings banks functioning as state enterprises have an exclusive right to collect personal savings. In the German Democratic Republic savings may be deposited with other state banking institutions as well.

Savings- and credit cooperatives, as well as savings- and loan societies are functioning in Hungary, Poland, and Romania.

The sphere of activity of *savings- and credit cooperatives* covers mainly collection of personal money savings- and other financial services to the population in the countryside. They usually grant their members short- and medium-term credits.

The *savings- and loan societies* collect (usually on basis of monthly instalment agreed upon by contracts) the deposited savings of workers and other employees. They are functioning in large factories, enterprises and institutions; they grant their members short-term credits.

Post offices play an important role in collecting personal savings deposits in all the socialist countries. The post offices operate as agencies of the savings banks.

In the CMEA countries savings banks are state enterprises. A considerable part of their profit is paid into the budget. The savings banks also have development (investment) funds and bonus funds for their employees.

Since in rendering financial services to the population the savings banks have practically a monopolistic right in CMEA countries, competition among banking institutions is unknown. Exactly for this reason a very important place is taken by public relations among the management methods of socialist savings banks.

In CMEA countries savings banks are either under the direct authority of the Ministry of Finances (Czechoslovakia, Romania, Hungary), or they work under the direct control of the Central State Bank. In the Soviet Union the State Savings Bank and its network carry on independent savings bank activities as a banking organization belonging to the State Bank. In Bulgaria and Poland the savings bank organization also belongs directly to the Central Bank. In the German Democratic Republic each district savings bank is an independent legal entity, and its superior authority is the district council. Their central functional control is exercised by the Ministry of Finances.

In the socialist countries in which there are savings- and credit cooperatives, these are functioning under the direction and control of an elected cooperative body. Savings- and loan societies are working under the direction and control of savings banks. The deposit collecting activity of post offices is under the functional control of savings banks.

The liquidity and financial policy objectives of savings banks (guidelines for accounts, the fundamental aspects of savings deposits and credit policy) are determined by the central bank (bank of issue), in many cases with the aid of a credit policy council. The latter is a consulting body: its members are the representatives of banking institutions, of public administration, and of the Ministry of Finances.

Types of deposit terms and condition

In European CMEA countries the following types of deposit are known:

a) deposits repayable on demand;

b) deposits repayable at fixed notice (time deposits) comprising;

– deposits on which interest only is paid;

– premium savings deposits, on which savings banks pay a premium in addition to interests after expiration of the concentrated period, usually a long one; such are the building saving deposits, 'youth' savings deposits, contractual savings deposits, savings certificates;

– lottery savings deposits which are drawn at lotteries to win an amount of money or a car instead of interests, depending on the amount of the money deposited (car-prize savings books are made out to fixed amounts);

– deposits on current accounts (cheque accounts, giro accounts);

– deposits on foreign currency (foreign exchange accounts);

– in some CMEA countries citizens may keep and deposit a part of their revenues from abroad (artists', authors', translators' fees, etc.) in foreign exchange.

In some of the CMEA countries savings banks take deposits also from councils and certain local (council) enterprises, or keep their accounts. In a few countries (Soviet Union, Bulgaria) the savings deposits *on demand* – i.e. not for a determined period – are the most popular forms, making up about two-thirds of the total stock of savings deposits. In the German Democratic Republic there is no such differentiation, the rate of interest being uniform. In Czechoslovakia and Poland one-third of the savings deposits are on demand. Deposits on demand are less important in Hungary and Romania. The rate of interest on deposits on demand is 1 to 3.5 per cent.

In the German Democratic Republic the uniform rate of interest amounts to 3.25 per cent.

Time-deposits play an important role in the organization of the saving process in all the CMEA countries. The ratio of such deposits is high in Hungary and Romania, where about three-quarters of the total stock are deposited in that form. Time-deposits make about a quarter of the total savings deposits in the Soviet Union, Czechoslovakia, and Poland. This form is less important in Bulgaria. The rate of interest on the interest-bearing time-deposits is 2 to 5 per cent.

In socialist countries savings books can be made out for the depositor's name, or, if so desired, for any password. The owner of the savings book is protected by the banking secret. Deposits are not liable to duty on inheritance,and deposit interests are free from income tax.

In case the holder of the savings book wishes to use his deposit deposited for a fixed term or some of it before expiration of the term, he can do so without limitation, but as regards interest, savings banks employ various methods. E.g. in the Soviet and the Bulgarian practice the deposit is transformed into a deposit on demand, and the rate of interest will be in accordance with it. In Czechoslovakia the holder of the savings book has to pay a so-called penal interest, which is deducted from the amount of the interest to be paid to the client. In Hungary no interest is paid on the amount cashed before term in case of a deposit contracted for one year.

In some CMEA countries the various premium savings books are highly popular.

In each country the savings bank encourages young people's saving efforts. In Czechoslovakia, Poland and Hungary young people can place a fixed amount each month in their "youth deposit"-account. The payment obligation – which can be terminated without sanction at any time – lasts for five years. After expiration of this period the young depositors are granted higher interests than the average rate (interest+premium); besides, they are granted credits (building credit, loans for buying their first furniture, and consumer durables) at favourable terms.

Contractual saving is the main line of the savings- and loans societies. The saving contract covers 1 to 3 years, during which the client deposits a certain amount each month and, after expiration of the term, he will receive an interest somewhat higher than the current average rate. Members may be granted also short-term credit by the society.

Savings certificates represent a medium-term form of saving. They are deposits of fixed denomination, i.e. of a determined amount (therefore their handling and administration is simple). On expiration of the term (in Hungary three years) the holder receives a premium in addition to the interest on the deposit.

Current accounts (bank accounts, transfer accounts, wage and salary accounts) play an increasingly important role among the financial services offered by socialist savings banks. Permanent commissions of clients are effected to the debit of these accounts (e.g. commissions for regular monthly payment of public utility charges). The making out of cheques – cash-saving means of payment – is growing ever more important in mediating the population's money circulation.

In some of the CMEA countries (Poland, Hungary) *car-lottery savings books* are highly popular. About 10 per cent of the total stock of savings deposits are made up of such deposits. Deposit-holders are looking forward to the drawing every three months.

Development of the stock of personal savings deposits

In order to be able to correctly evaluate the development tendency of the stock of savings deposits, we examined the data of the period between 1970 and 1976. (In our analysis we used the data published in the national statistical year-books of each country.) It is generally characteristic of the European CMEA countries that the stock of savings deposits was dynamically growing during the period examined.

Table 1
Stock of savings deposits in some CMEA countries

Country	Currency	Stock in thousand millions at the end of the year		Per cent of increment	Yearly average growth (per cent)
		1970	1976		
Bulgaria	Leva	4.0	8.6	115	19
Czechoslovakia	Koruna	63.5	126.1	99	17
Poland	Zloty	114.8	334.1	191	34
GDR	Mark	52.1	80.2	54	9
Soviet Union	Rouble	46.6	103.0	121	20
Hungary	Forint	42.1	92.9	121	20

We shall find an interesting correlation between the tendencies of individual phenomena, if we examine, for the same period, the development of:

– national income,
– average monthly earnings,
– average per capita savings deposits.

Table 2
Development of national income, average monthly earnings and per capita stock of savings deposits in some CMEA countries between 1970/1976

Country	Currency	Increment of national incomex (per cent)	Average monthly		earnings increment (per cent)	Per capita savings deposit		increment (per cent)
			in 70	in 76		in 70	in 76	
Bulgaria	Leva	50	124.0	150.0	21	471.0	989.0	110
Czechoslo-vakia	Koruna	32	1937.0	2366.0	22	4441.0	8463.0	91
Poland*	Zloty	70	2235.0	3971.0	78	3532.0	9712.0	175
GDR	Mark	35	676.0	870.0	29	3047.0	4774.0	57
Soviet Union	Rouble	39	122.0	151.0	24	192.0	401.0	109
Hungary	Forint	40	2288.0	3197.0	40	4087.0	8764.0	114

*Increment of volume at comparable prices

Important micro-economic interdependencies are revealed by the relation between the average monthly earnings of workers and other employees, and the changes in the per capita stock of savings deposits, and by the changes in proportions, though, of course, not only workers and other employees but also the agricultural population and the self-employed have savings deposits.

In the European CMEA countries between 1970 and 1976

– average monthly earnings generally grew by a yearly 3.5 – 4.5 per cent (growth was much higher in Poland),

– the per capita stock of savings deposits grew by a yearly 9.5 – 19 per cent (in Poland by yearly 29 per cent).

It is also interesting to observe the indicator that shows what multiple average monthly earnings are of the per capita stock of savings deposits. This ratio has considerably increased in every socialist country since 1970 (See Table 3).

The data indicate a high degree of income elasticity of the savings deposits. As it appears from the foregoing, this phenomenon is fully supported by the experience of socialist savings banks.

The data of the period in question (1970–1976) show that in the CMEA countries

– national income grew by 5.5 – 6.5 per cent on annual average and, at the same time,

– the per capita stock of savings deposits grew by 3.5 – 19 per cent (in Poland by 29 per cent) p.a.

Table 3
Per capita stock of savings deposits in percentage of the average monthly earnings of workers and other employees

Country	In the year	
	1970	1976
Bulgaria	380	659
Czechoslovakia	229	358
Poland	158	245
GDR	451	549
Soviet Union	157	265
Hungary	179	274

An interesting interrelation is revealed if we examine how many per cent of the yearly national income is the stock of savings deposits. Although the national income is the new value produced during a year, and the stock of savings deposits is an amount of value already produced and accumulated, it is all the same conspicuous that during the 1970s both national income and the stock of savings deposits were growing in all the CMEA countries, and the ratio of the latter to the former was also growing each year.

Table 4
Stock of savings deposits in percentage of national income

Country	In the year	
	1970	1976
Bulgaria	40	57
Czechoslovakia	23	34
Poland	15	25
GDR	47	54
Soviet Union	17	27
Hungary	15	21

These ratios show the increasing importance of the saving process and the growing stability of the stock of savings deposits.

To sum up: the 1970s reflect a positive development of the stock of savings deposits in the socialist countries and prove that rising national income and average monthly earnings entail a rise of the stock of savings deposits – at a rate higher than that of the former – and, at the same time, they increase the stability of the personal savings deposits.

What exactly encourages people to save?

The main targets of money-saving people include, according to the general experience of savings banks in the CMEA countries, the buying of a car, housing – buying or building a flat – (in certain cases a second home in the green belt or in the countryside), consumer durables (first of all furniture and appliances). These subjective targets of saving also indicate, by practical experience, that the housing problem and the supply with cars are unsolved as yet in the CMEA countries.

Objective conditions are external factors affecting the saving process. Such are, among other things, the personal income of the population, the rate of interest, the direct and indirect instruments of encouragement for saving.

It is doubtless true that saving is encouraged indirectly also if there is a short supply of consumer durables or housing in certain periods.

The fundamental factor of the saving process is personal income. In socialist countries also the volume of social benefits complementing the direct personal income of the population is very important. Otherwise the saving process reacts quite flexibly to changes in incomes. This means that deposits grow generally at a much faster rate than personal incomes.

Is it forced saving, if the satisfaction of some need is temporarily postponed, with a view to a future more perfect satisfaction? Let us compare the growth of the stock of savings deposits in some socialist countries with the development of retail trade turnover between 1970 and 1976.

Table 5

Stock of savings deposits and retail trade turnover in some CMEA countries (at current prices)

Country	Currency	Stock of savings deposits			Retail trade turnover		
		thousand millions		increment (per cent)	thousand millions		increment (per cent)
		1970	1976		1970	1976	
Bulgaria	Leva	4.0	8.7	115	5.5	8.1	47
Czechoslovakia	Koruna	63.5	126.1	99	163.2	220.2	30
Poland	Zloty	114.8	334.1	191	450.1	939.4	84
GDR	Mark	52.1	80.2	54	64.6	86.3	29
Soviet Union	Rouble	46.6	103.0	121	155.2	220.1	36
Hungary	Forint	42.1	92.9	121	140.6	233.1	57

A comparison of these data shows clearly that not only the stock of savings deposits was rising dynamically in every socialist country during this period, but also retail trade turnover, and that at a yearly average rate of between 4.9 and 9.5 per cent.

(In Poland the yearly average rise amounted to 14 per cent.) In this relation the stock of savings deposits as a percentage of retail trade turnover is also an interesting indicator.

The conclusion may be thus drawn that the economies of the CMEA countries developed between 1970 and 1976 soundly, in good proportions, and generally without phenomena of forced saving, since the expansion of the money-saving processes took place together with a considerable increase in the supply of consumer goods.

Table 6

Stock of savings deposits in percentage of retail trade turnover

Country	In the year	
	1970	1976
Bulgaria	73	107
Czechoslovakia	39	57
Poland	25	36
GDR	81	93
Soviet Union	30	47
Hungary	30	40

In the development of the saving process a very important objective condition is the rate of interest, and the absolute amount of the interest written yearly to the credit of the depositors. This seems to be an additional income, i.e. the issuing of additional purchasing power, though in practice usually also the interest remains in the account added to the stock of deposits. The interest total in each socialist country represents yearly an amount in the order of magnitude of many thousand millions of units of national currency.

Yet, the role and importance of the rate of interest can be taken into consideration only to a certain extent. There is no doubt that the rising stock of savings deposits increases the weight of the interest on deposits among the population's incomes, even with an unchanged rate of interest. The rate of interest on deposits is usually not high in socialist countries, in judging it, however, the fact should be taken into consideration that the interest is tax-free and that the consumer price level is relatively stable.

The subjective motives and the external objective conditions for saving form a chain of multiple interrelationships. Numerous factors operate at the same time and with different intensity, and it is not possible to determine in precise figures the effect of one or the other. The presence or absence of particular factors may even reduce or intensify the effect of other factors.

A few conclusions; the way of further development

Along with the rising standards of living in socialist countries the population's demand for new banking services is growing. These services expand the range of deposit forms on the one side and, on the other side, they render easier the transaction of commissions for regular monthly payments of charges for public utilities and other permanent commissions through bank transfers to the debit of bank accounts; they expand the sphere of purchases and services without cash in trade, at servicing enterprises and in catering (transfer cheques, issue of cheques, purchase by letter of credit, etc), and they augment the sphere of the national and international payments (national clearing turnover, issuing of traveller's cheques of fixed amount in international tourism).

At the same time, changes in the pattern of consumption, increasing demand for consumer articles of higher value, an increased utilization of leisure time, car expenses, the growing travelling expenses (and the growing weight of the latter among expenses) encourage further saving from the additional incomes. Additional savings appear as a preliminary resource for some subsequent expense, or as repayment – from subsequent savings – of a present expense covered by credit.

The circle of income savings – credit granting – additional income – repayment – saving is one of the important motive powers of further progress in an advancing economy – and socialist economies are such.

Finally – beyond the existence of the above-mentioned phenomena –, the stability of the stock of saving deposits and its permanent growth in the socialist countries cannot be separated from the important influencing – sometimes determinant – factor as is expressed or suggested by such conceptual categories as, among other things, government policy and economic policy approved by the population, and a favourable political atmosphere. Where the political atmosphere is good, the population has a feeling of security, and people do not only trust the government but they are ready to deposit their savings – accumulated from their incomes and additional incomes – with banking institutions, because they "trust" them, too.

The interests of the national economy (macro-economic aspects) and those of the individual (micro-economic aspects) necessitate equally that a part of the population's savings deposited with banking institutions and constantly growing should serve – while keeping a reasonable amount of liquidity reserves – as a resource for credits to the enterprises and public bodies, and as financial reserve for the state budget, and thus be regrouped. This regroupment contributes directly and indirectly to a better satisfaction of the population's needs and to a further raising of the living standards.

The processes presented in this study demonstrate, in my opinion, that the stock of personal savings deposits is an important reserve for national economic development in each socialist country. It is an indispensable element in further raising the population's living standards, and an important instrument in the shaping and maintaining of financial equilibrium.

ВКЛАДЫ НАСЕЛЕНИЯ В СБЕРЕГАТЕЛЬНЫЕ КАССЫ В ЕВРОПЕЙСКИХ СТРАНАХ-ЧЛЕНАХ СЭВ

И. ФОГАРАШ

Автор рассматривает финансовую организацию процесса образования сбережений, результаты и движущие силы этого процесса на основании опыта отдельных европейских социалистических стран.

Описав организационную структуру сберегательных касс, виды сберегательных вкладов и условия помещения денег, автор анализирует движение фонда сбережений населения. Он производит сравнение между национальным доходом, суммой вкладов в расчете на душу населения и месячным заработком рабочих и служащих и устанавливает, что рост национального дохода и среднемесячных заработков повлекли за собой более быстрый и устойчивый рост фонда сбережений.

В дальнейшем автор останавливается на объективных и субъективных факторах, воздействующих на формирование сбережений.

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REVIEWS

J. VÁNCSA

MATERIAL CONSUMPTION AND ITS EFFICIENCY IN HUNGARIAN AGRICULTURE

Along with the technological development and the growing intensity of agricultural production, the use of materials of industrial origin has been fast increasing during the last 15 years. Between 1960 and 1975 agriculture increased the use of materials of industrial origin to six and half-fold; in the material costs of production the ratio of such materials reached 60 per cent. In 15 years for a 154 per cent increase of the gross value of output in agriculture a 450 per cent increase in the use of materials of industrial origin was necessary.

It is a world-wide phenomenon that an industrial background is more and more closely connected to food production. The trend in the material consumption of Hungarian agriculture is similar to that of countries with advanced agriculture; differences are the result of particular conditions in this country.

The increased use of materials of industrial origin entails also increasing production costs. In 1960 agriculture spent Ft 6.5 thousand million on such materials, and in 1975 already Ft 42 thousand million. Therefore, improvement of efficiency in the use of materials is an important national economic interest, and that of enterprises as well.

The use of industrial materials will be growing further in agriculture in the coming years. This is justified by the following factors affecting the development of production:

– agricultural labour per unit of area is further decreasing;

– the size of arable land per inhabitant is constantly shrinking: an increasing volume of product must be obtained from a unit of area;

– along with rising living standards the demand of agricultural workers on working conditions is growing;

– per capita food consumption is rising not only in terms of quantity but also as regards quality and the range of choice;

– the export-orientation of food production raises the demands on production.

With today's production standards industrialized production co-exists with the so-called traditional one: beside large-scale production there exist also household-plot and small-scale production. All that differentiates demands further within each production sector, and these demands have to be satisfied. The fact presents further tasks and requires analysis that the industrial background of Hungarian agriculture is by far not only the Hungarian industry. We rely also on the socialist international integration and cooperation and, in the case of more than one product, on imports from Western

countries. The improvement of efficiency presents a complicated task, the more so because, if we project today's trends of material consumption while assuming an identical structure of production and material consumption, for doubling the value of output at the present efficiency level the use of industrial materials ought to be increased to 6–7-fold! This warns us that improvement of efficiency in the use of materials and energy is a timely and very important condition of the development of Hungarian agriculture.

Energy consumption

Agriculture – and in it plant cultivation – is the only sector which produces, by making use of the radiating energy of the sun, with the aid of energy inputs, a new and larger amount of energy: food.

This efficiency in the production of agricultural products is represented by the ratio of the energy generated by production, and the energy put into the technological process. Comparable data are available from 1975. According to these, the caloric efficiency of plant cultivation in Hungary was 2.47, and in the U.S., 2.8. That is, Hungarian plant cultivation answered in 1975 to the input of every industrial calorie with 2.47 biological calories produced. (In energy every input is included, i.e. the energy contents of fertilizers, plant protectives, machine labour, human labour, irrigation and land-amelioration. In the energy produced the energy contents of the main- and by-product yields of arable lands, orchards, vine-yards and grass plots were taken into account.) The caloric efficiency of Hungarian plant cultivation is 20 per cent lower than the same of the U.S. Causes of the difference should be looked for in production standards, and in deficiencies of the industrial background and of services.

All that proves also that our largest energy reserves lie in agricultural lands. All the more so as, e. g., a hectare of high yielding maize (70–80 quintals per hectare) incorporates into its yield not quite 1.5 per cent of the solar energy gushing down onto the area. A better utilization of the radiating energy of the sun infers technological discipline, a simultaneous and well co-ordinated improvement and rational use of biological conditions and a better material supply by the industrial background. This is an extremely important task also because the energy wanted for agricultural production is growing both per unit of product, and in absolute terms as well. The trend of energy returns is decreasing. These unfavourable trends have to be improved.

We should set out from the natural law that the only energy-building sector of the whole food production is plant cultivation. Several phases of producing food, and particularly the transformation of vegetal products into animal ones involves a great loss of energy. Therefore, the efficiency of material consumption in agriculture depends first of all on how much we can exploit the biological capacity of plants. Second, it depends on how much use we make of the transformation ability characteristic of each livestock-breeding sector, and how much we can co-ordinate the structure and technology of Hungarian plant cultivation and livestock-breeding from the energy-saving aspect.

Agriculture is usually not counted among the energy-intensive sectors of the national economy, yet its energy consumption and the changes therein deserve attention. In Hungary agriculture is among the major users of gas oil: its share amounts to 40 per cent. Its petrol consumption reaches 10 per cent of the total. With the spreading of energy-intensive technologies, since 1970 the use of fuel oil has also suddenly grown. Total consumption of these three mineral oil products surpasses today 1.2 million tons yearly. During the last 15 years the energy consumption of the sector has grown to fourfold.

In agricultural production and its technological development practically three special phases may be distinguished from this aspect.

1. Spreading of power machines (tractors, automotive machines, lorries, etc.); as a consequence, mainly fuel consumption grew.

2. Wide use of machines and equipments requiring electric energy, the spreading of electric motors; as a consequence, electric energy consumption grew faster than the use of any other primary energy.

3. As a result of intensive development the number and unit output of thermal-energy equipments was growing fast; this brought a turning-point in the development of agricultural use of energy and increased demand for fuel oil.

As a consequence of all this, in the pattern of energy consumption the rate of solid fuels diminished, while that of liquid and gaseous primary energies, as well as of electric energy increased, and the tendency has been maintained. The growth rate of energy consumption surpasses that of agricultural production also in our days, and up to 1980 a yearly 7–8 per cent increase is to be expected.

The growing demand for energy is not always concomitant with the same increase in production. E. g. the drying of crops introduced in a wide sphere does not directly produce new value, but it helps much to reduce losses.

The share of plant cultivation in total energy consumption is 45 per cent, that of livestock-breeding is 25 per cent, that of horticulture 17 per cent and of other complementary activities 13 per cent (in 1975).

Primary energies play an increasingly important role also among production costs. In certain technologies and natural processes they achieve 45–50 per cent (e.g. in drying), and in a few cases even 70 per cent (e. g. in greenhouse cultivation). In the energy consumption of agriculture the 80 per cent share of hydrocarbons has remained determinant. As a result, the rise in the prices of the various mineral oil products considerably affected production costs. Characteristically, in 1970 the total energy costs of agriculture amounted to about Ft 2.5 thousand million, and in 1976 they surpassed already Ft 7 thousand million. Energy-intensity and increasing costs call attention to a rational energy-saving, and to the improvement of efficiency in utilization.

Agriculture has played a determinant role already in the utilization of the favourable geothermal potentials of Hungary. The most greenhouses (over 900 thousand square metres) and foil tents (about 900 thousand square metres) with geothermal heating are to be found in Hungary – even on an international scale. The important

reserves might be exploited even better by adequate development and through material incentives. In agriculture 78 thermal wells are used at present for greenhouse heating.

Much has to be done for the improvement of energy utilization in agriculture, and the main possibilities may be found in the following:

– operation of heavy-duty tractors with suitable machines; in such cases fuel consumption can be reduced by 15–20 per cent;

– introduction and general spreading of rational soil cultivation methods;

– modernization of transport work, large-scale use of lorries and special transport vehicles;

– in mechanization preference for energy-saving machines and their spreading, and rational use of heavy-duty mechines (e. g. by using heavy-duty – above 150 HP – tractors 12–15 per cent of fuel can be saved in case of maize, 16–20 in case of wheat, and 30–35 per cent in case of sugar beet);

– development of fuel transport, storing and distribution, and thereby reduction to a minimum of losses in volume and quality (the total value of which may reach 4–5 per cent; the closed-system fuel storing capacity of agricultural farms is at present about 150 thousand cubic metre, which would be useful to increase to at least 300 thousand cubic metres by 1980.

For a rational use of energy the activity and cooperation of other sectors of the national economy are also necessary: such as development of supply with parts, service, maintenance and other industrial services. By developing a modern industrial background the economy of operating machines and the efficiency of energy utilization could be much improved. Hungarian industry must gradually prepare itself for the manufacturing of energy-saving machines and equipments necessary for the harvesting and preserving of rough fodder. Further, it is important to improve the technical conditions of drying, to further develop the ventilating and heating systems in livestock-breeding buildings and greenhouses, and to develop automated, and more energy-saving technical variations.

Both in Hungarian research and development and in the selection of import machines the aspects of energy consumption must also be taken into account. In today's practice of supply with machines this is hardly done, which is a fault of both distributors and users.

Consumption of fertilizers and plant protectives

In the last 15 years the group of agrochemicals has become a determinant factor in plant cultivation. In 1960 fertilizers corresponding to a total of 167 thousand tons of effective substance were used in Hungary, in 1975 to 1.5 million tons, i.e. their use grew to ninefold during fifteen years. 276 kilograms of fertilizers (in effective substance) fall to one hectare of cultivated land. With this Hungary has the third place among CMEA countries after the GDR and Czechoslovakia and approaches the average of Common Market countries.

In 1960 plant protectives were used only in the value of Ft 780 million, and in 1975 already in the value of Ft 7 thousand million. Meanwhile weed control by chemicals became general. By 1980 we wish to increase fertilizer consumption to 2 million tons, and the use of plant protectives shall grow by 30 per cent.

The use of chemicals in plant cultivation is the most important cost factor: it amounts to more than half of the total input.

The efficiency of fertilizers used in Hungary is lagging behind countries having more rainfall and a more advanced agriculture. In Hungary about 55–60 per cent of effective substance of the fertilizers is efficiently used, while in leading countries 65–70 per cent. Plant protectives approach with their efficiency of 83–85 per cent the level of more advanced countries (85–88 per cent). The main causes of the differences are as follows:

– Hungarian theory and practice of plant nutrition did not follow the qualitative change taking place in soil conservation;

– deficiencies in storing and handling fertilizers may entail a 15–20 per cent loss of effective substance;

– efficiency is further impaired by the fact that plant parts counting as by-products are not gathered in;

– machines and instruments necessary for rational utilization are not available in adequate quality and quantity;

– a modern and unified system of measurement and high-standard expert advice are not organized and developed;

– the often unsatisfactory quality of fertilizers and special demands left unsatisfied further impair efficiency.

In order to improve the situation the Ministry of Agriculture and Food completed the organization for plant protection and made it responsible also for soil conservation. The guiding principles of chemization societies were elaborated, and modern bases for analysis were initiated. The purpose of establishing agro-chemical centres is primarily to achieve an expert storing of fertilizers and, by creating modern nutriment management, also to realize a more efficient utilization.

At present six such societies are functioning in the country, which were set up through initiatives of farms. They supply each an area of 20–25 thousand hectares: they store 6–7000 tons of fertilizers for 4–6 months. It is planned that by 1980 24 such centres will be functioning. Their services are the following: expert advice, ordering, storing, preparation, transport, and at some places getting the fertilizer to the soil.

Further measures are necessary in order to increase efficiency. The building up of a laboratory network for soil analysis has to be continued. Adequate theoretical development work is to be accomplished with a view to determining the conditions and optima of efficiency for the use of fertilizers. Special attention has to be paid to the development and adaptation of solid and fluid fertilizers. Together with the development of soil conservation also the possibilities latent in complex amelioration have to be exploited. Prognostication of plant protection providing grounds for the proper use of chemicals has to be further developed, and the performance of the plant protecting service by

aeroplanes has to be increased. Such soil and plant examination network has to be organized as is suited to examine the whole cultivated area, according to the rules. At present laboratories for soil-analysis are functioning in six counties. By 1979 a network covering the whole country will be developed. Parallel with this, soil analysis every three years will be made obligatory.

Industrial fodders

During the last 15–20 years Hungarian livestock-breeding has changed radically. The breeding of animal species kept under intensive conditions has become prevailing. Particularly good results have been achieved in the production of poultry meat and eggs, and in these days prospects are good also in pig-breeding. With the spreading of species requiring intensive conditions, feeding has also undergone a fundamental change. The ratio of sectors requiring fodder with high nutrient and protein concentration rose from 57 to 70 per cent, and forage consumption within the total fodder used grew from 40 to 64 per cent. The fast increasing ratio of forage cannot be considered as an unambiguously favourable tendency, since this involved a neglect of production of bulk seed and the feeding of less of this fodder than would be biologically necessary.

Industrial fodder production was growing along with the rising demands of livestock-breeding. In 1975 5.4 million tons of mixed fodder were produced, which is the 54-fold of the quantity of 1960. Production of mixed fodder requires complementary imports of protein and fodder of high biological value. 20–30 per cent of high-concentration protein of vegetal origin can be covered by home production. Imports of protein fodders bought mainly for hard currency grew to 8.6-fold in 15 years. With increasing livestock-breeding these imports are further increasing even though at a reduced rate.

Efficiency of feeding has improved by about 10 per cent in the last 10 years. According to the unanimous opinion of experts, the yearly 1 per cent improvement is unsatisfactory in genetic and keeping conditions. Reserves are considerable here. The level of efficiency of feeding is different in each branch. In poultry raising Hungary is behind leading countries by 10–15 per cent, in pork production by 15–20 per cent. In slaughter-cattle production efficiency of the fodder used reaches the world level, while our lag in milk production has been growing up to recent years.

Results achieved so far in livestock-breeding are considerable, though a few factors are still impeding a faster growth of efficiency. In feeding more forage is used than would be necessary. Farms do not take enough care to use bulk seed and by-products. The latter could be particularly useful in cattle and sheep-breeding. There are large differences between farms in regard of using industrial fodder. In one-third of Hungarian farms efficiency is at an entirely unjustified low level.

A key question of feeding is the use of fodder rations composed upon basis of contents. Conditions for examining the nutrient content could not yet be created. One

important precondition of a further increase of efficiency is the organization of a network for examination of the content.

With a view to a general improvement of efficiency, conditions have to be created which promote the use of bulk seed in farms. Therefore supply with machines and tools for gathering and storing must be improved. Mechanization of the use of bulk seed may considerably increase the efficiency of feeding.

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Central and enterprise measures create the possibility and framework for the efficient use of materials. Efficiency of utilization is decided finally in the actual production process. Thus the efficient use of materials – which is a basic social interest – can be realized best if producers and users try to use production and cooperation possibilities to maximum extent in every field of the division of labour.

THE SECOND INTERNATIONAL CONFERENCE ON INDUSTRIAL ECONOMICS

Changes in the external and internal conditions of the Hungarian economy, and the urgent tasks of structural modernization, and of raising efficiency and competitiveness present a serious test of strength for the Hungarian economy. A faster adjustment to new demands requires co-ordinated and purposeful activities on the part of enterprises and industrial control authorities, and this may be encompassed organically by a comprehensive industrial policy conception. For its elaboration it may be an important help to get acquainted with the experience of other countries, partners and competitors, and to analyse present and prospective changes in world economy.

The Hungarian Economic Association and the Research Institute for Industrial Economics of the Hungarian Academy of Sciences were led by these thoughts when they chose the questions of "Industrial development and industrial policy" for the subject of their Second International Conference on Industrial Economics. The five-day Conference was held in Székesfehérvár between 5–9th September 1978 with 140 Hungarian participants and 70 delegates from twenty foreign countries.

The Conference was opened by Rezső *Nyers,* Chairman of the Coordination Council for the Economic Policy Research Programme of the National Long-term Scientific Research Plan, and addresses were given by Károly *Garamvölgyi* on the part of the Presidium of the Hungarian Economic Association, and by Tibor *Fogarasi,* Deputy President of the Fejér County Council, on the part of the local organizations. Rezső Nyers outlined the main objectives of the conference, and Zoltán *Román* gave a survey

under the title "Industrial development and industrial policy in the 1970s"* of the papers and main questions to be discussed.

The Conference then discussed twenty lectures at five meetings and at the closing session lessons were drawn from the discussions, introduced by the Chairmen of the preceding sessions. Chairmen of the sessions were Rezső *Nyers*, Professor B. *Glinski* (Institute of Planning, Warsaw), Dr. K. H. *Oppenländer* (President of the IFO, Institute for Economic Research, Munich), J. V. *Kurenkov* (Head of Department of the Institute of World Economy and International Relations, (USSR Academy of Sciences, Moscow), Dr. Sylvia *Ostry* (Chairman of the Economic Council of Canada), and Zoltán *Román*.

Out of the twenty lectures discussed three were given by the representatives of international organs (Economic Commission for Europe, UNIDO, European Association of National Productivity Centres), three by Hungarian authors, seven were held by representatives of other socialist countries, and seven by those of capitalist countries.

The first group of the lectures dealt with the effects of scientific-technical progress and world economic changes, as well as with the expectable development of world industry. This subject was treated among others by the Deputy Director of the Economic Commission for Europe,* the Head of Department of the United Nations Industrial Development Organization (UNIDO), the Head of Department of the Soviet Institute of World Economic and International Relations, and by a senior fellow of the National Institute for Economic and Social Research, London.

The second group of the lectures examined the question what industrial policy is chosen by particular countries as a reaction on these changes, and how they put it into effect. Lectures were read about industrial development efforts and experiences in Czechoslovakia, Poland, Hungary, Great Britain,* France, Ireland, West Germany and Sweden.

The Secretary General of the European Association of National Productivity Centres treated the industrial policy aspects of productivity, and another lecture those of enterprise organization in the Common Market. Several lectures discussed questions of planning and prognostication.

An open and frank atmosphere, mutual interest shown, and readiness to understand and cooperate were characteristic of the Conference. Common problems arose in a greater number than had been expected, while in other questions (such as competition and market, protectionism) views differed.

Foreign experience has confirmed that important changes are to be expected in world economy, so that an industrial development strategy has to take into account two factors: home potentialities, and foreign economic impacts. Further development of the international division of labour is based more on specialization in products than on that according to sectors, and in this competitiveness is of decisive importance. Among the

*See in this issue

components of competitiveness it is the outstanding technical-economic parametres of products that play the primary role on the part of advanced countries, while on the part of developing countries it is lower wages, costs and prices.

It became clear in the course of discussions that industrial policy builds everywhere equally upon the intensification of enterprise initiative as well as on central intervention relying on prognostication and planning. Yet, the method of connecting these two groups of instruments shows large differences by countries. In Western countries single (selective) interventions are growing in number. It was emphasized, however, by several contributors that this must be kept between limits with a view to a sound functioning of the economy. Participants referred repeatedly to examples of successful adaptation to foreign economic changes (German Federal Republic, Japan, Switzerland, a few developing countries), and pointed out the risks and disadvantages of delaying foreign effects.

From the Hungarian point of view it was remarkable that the raising of productivity, efficiency, and competitiveness is promoted in a number of capitalist countries by centrally organized actions, advice, and various forms of cooperation; for this purpose independent organizations are also maintained.

As regards technological development, participants considered important – beside large programmes – also small forward steps and a faster and massive spreading of new technologies. Representatives of the socialist countries underlined the role of the development of control and the more consistent consideration of economic interrelations.

From the aspect of developing the industrial organizational structure experts deem specialization a more important factor in promoting competitiveness and productivity than factory and enterprise size. The ratio of specialized small- and medium-scale enterprises has remained high in capitalist countries: they play an important and positive role in structural adaptation. This question – particularly because of unsolved cooperation problems – is of greater interest for socialist countries, more than ever before.

Discussion was pursued on almost every question. Opinions differed mostly on the following questions:

– judgement of the future rate of economic growth (the majority reckon with a reduction);

– the further relative growth and the role of the service sector (in the GFR, e.g. its ratio is not growing: industry is still dominating);

– the future changes in developing countries and instruments promoting their faster development (socialist countries underlined the role of internal resources);

– the present extent of protectionism, and its judgement (standpoints of the socialist and of the capitalist countries were polarized);

– the deeper interrelations of unemployment in capitalist countries, and the lower productivity in socialist countries.

Participants in the discussion showed readiness for further exchange of experiences and for scientific cooperation an the issues of industrial development and industrial policy. The papers and discussions allowed to make the statement that research into the objectives, instruments, organization and functioning of industrial policy, as well as a

more definite formulation of its tasks – fitted into the whole of economic policy – may be a considerable help in a batter co-ordinated industrial development. Relying upon the experience collected at the Conference and on a better knowledge of the new tendencies showing in the industrial development of the world, and of the foreign practice of industrial policy, we can indicate on firmer grounds the possibilities and tasks of Hungarian industrial development, and the ways and means of their realization. (Lectures of the Conference will be published in a book and become soon available.)

T. PALÁNKAI

SCIENTIFIC SESSION ON THE OCCASION OF THE 30th ANNIVERSARY OF THE KARL MARX UNIVERSITY OF ECONOMICS, BUDAPEST

The jubilee session from April 11 to 14, 1978, covered the most important domains of Hungarian economic research in five sections. The backbone of the program consisted of reports by university lecturers on the actual state of research in their fields, its major achievements, and the author's statements claiming interest. The session was organized in cooperation with the Hungarian Economic Association, whereby the contribution of other institutions and practical experts was secured. About 40 foreign guests, coming from ten countries, participated actively in the discussions. Eminent undergraduates were also given the chance to present their ideas. The main lecture* of the jubilee session dealt with the topical problems of higher education in economics.

Section for agricultural economics

The main report in this section was the lecture by professor and head of department F. *Vági* entitled "National economic interest and the foundation of enterprise developments." 18 written contributions were submitted mostly with the cooperation of lecturers of the Chair of Agricultural Economics. Professor Vági analysed as the central problem of his thesis the ways in which the scientific foundation of planned control and enterprise business management manifests itself in enterprise growth, and how that reflects the harmony between enterprise interests and those of the national economy. He grouped his subject around four problems: 1. unity of national economic and enterprise interest, the basis for their conflicts, and the forms in which they assert themselves in the Hungarian

*A study based on the lecture by I. T. *Berend*, A. *Stark* and I. *Tordai* is published in this issue.

agriculture. 2. Profit motive in the state and cooperative sectors in Hungary between 1968 and 1975. 3. Change of interest in development on the soil of enterprise interests. 4. Impact of capital intensity on the interest in development and on the differentiation of interest positions.

The lecturer started from the point that the strive towards maximization of per capita gross income expresses the unity of enterprise and national economic interests in both sectors. On the one hand, this means that the production of a given commodity above a certain cost ceiling meets neither enterprise nor national economic interests, and, on the other hand, for the realization of the interest of the national economy a certain "minimum" growth of per capita enterprise gross income is required. Enterprise interest is primarily interest in profit, while the interest of the national economy is aimed in the first place at satisfying needs and this is, at the same time, the basis of the conflict between the two.

The lecturer demonstrated the weakening of the incentive for development in both sectors. The effect of a unit increment of development towards increasing the per capita gross income became less powerful. This counterbalances that, for the sake of increasing their incomes, the enterprises extended the developments despite their relative shortage of funds. With this increase of investments about half of the enterprises in the two sectors were capable of increasing their per capita gross income, even with the increasing capital intensity of production, and with a strong decrease of labour. The lecturer derived the conclusion that the profit incentive is poor in 50 per cent, weak in 15–20 per cent, and satisfactory or excellent in only 30–35 per cent of the agricultural enterprises.

Nineteen participants contributed to the discussion of the leading lecture and the connected reports. Several of the speakers touched upon the growing capital intensity characteristic of the development of Hungarian agricultural production. They also studied the factors of growing capital intensity in the different periods, and the ways in which the regularities of other more advanced countries could be adapted in Hungary. There was a polemy about the curve characteristic of the capital intensity of production in the course of development. The problem of the impacts of different combinations of factors of production on capital intensity with given enterprise size was also raised. Emphasis was laid on the importance of the structural aspects of the efficiency of assets in researches. Several participants pointed out that the rising prices of assets originating from industry which represent a growing share of the inputs in agriculture, now amounting to more than 60 per cent, are an important external factor in the growth of capital intensity. This price increase might affect the capital intensity adversely in spite of the decrease in per unit physical inputs. The efficiency of assets and capital intensity should be therefore reasonably measured with more than one indicator. Elimination of the inflationary effects and the confrontation of additional inputs with additional receipts gives a more realistic idea. These problems deserve special attention all the more as Hungarian agriculture has entered into a critical stage from the point of view of labour supply.

Section for enterprise (business) economics

In four sessions of the section 28 lectures were read and subsequently animated discussions were held.

The leading report concerning enterprise wage policy and wage control was delivered by professor and head of department E. *Megyeri,* chairman of this section, under the title "Some theoretical and methodological problems of enterprise wage control." Setting out from the category of enterprise wage cost necessary from the social point of view he derived equations showing, from the aspects of measuring national economic efficiency and the valuation of economic resources an undistorted relationship between enterprise wages disbursed and enterprise performance, and emphasized that an adequate system of wage control can be based but on these relationships prevailing as tendencies. The related reports and lectures gave many-sided analyses of the main achievements and shortcomings of the development and situation of wage control in Hungary, and made proposals for further progress. The approaches made from various aspects and based methodologically on empirical studies, foreign results, statistical analyses and case studies, almost uniformly reached the cardinal statement that incentives depending on performances and enhanced differentiation on that basis should be given broader scope.

In the subject *Enterprise management and organization,* in the first lecture delivered under the title: "Enterprise pattern of the national economy" professor and head of department A. *Máriás* summarized the major stages in the evolution of the current situation in Hungary. He pointed out that while the system of economic control went through considerable changes since 1968, the rigid sectoral approach and the national economic enterprise structure based thereon are almost the same as those under the direct system of control.

The other reports, relying widely also on international experience, dealt with enterprise organization, the motives of enterprise conduct and behaviour, with the ways of channelling them in the proper direction, and with the feasibility of models suitable for the study of the structure.

The section continued its work with the study of problems of *enterprise planning and strategy.* In his exposée "Problems of longer-range enterprise planning", L. *Horváth,* titular university professor, deputy president of the National Planning Office, showed the need for developing a new attitude. He underscored that planning on every level has to be adapted more effectively to the changing environment, and one of the basic preconditions was to introduce the so far tentative methods of long-range strategic planning in practice. The lectures delivered at this session scrutinized the conditions of this new approach to planning and its methodological feasibilities.

The subject of the section's last session was the *valuation of resources and the management of funds.* In the first paper A. *Chikán,* assistant lecturer, gave an analysis of the motives and rules of stockpiling by enterprises on the basis of interviews with executives. The related lectures dealt with the role of companies trading in capital

equipment, with the applicability of novel methods and with the role of stock norms in control. In the context of resource valuation a report was made on the possibility of stating the differential mine rent related to natural resources, and on the dynamic model of resource valuation.

Section for economic policy

8 reports were read in the section, dealing with problems as important as the rate of economic growth, production pattern, national economic equilibrium, economic control, national economic and enterprise planning, and some priority problems of investments, industrial, infrastructural development, and foreign trading policies, in Hungary.

A. *Stark,* university professor, analysed the sources of economic growth in seven European CMEA member countries. He established that the increasing number of earners and the changes in the sectoral pattern of the national economy were important factors in the 1950's, but later on these lost much of their weight. The dominant source is productivity and within it productivity originating from the expansion of assets. In most of the countries studied the development of infrastructural sectors must be regarded as more or less overdue. A detailed analysis of the factors of growth forecasts a slackening rate of growth, a tendency that must be reckoned with in the formulation of the economic policy.

M. *Mandel* dealt with the characteristics of the beginning of a new era in economic development, the period of transition from extensive development to an intensive one. He studied how much the declared objectives of economic policy and the reform of economic control contributed to enhancing the intensive way of economic development. The development policy formulated in physical terms and based on sectoral considerations was only limitedly selective because it maintained the priority given in investment policy to new productive investments and the overemphasis on the high rate of economic growth in structural policy.

M. *Hőgye* stressed in his paper that the uneven dynamics of economic growth was the most apparent in the fluctuating rate of accumulation. One reason for the fluctuations was the material and technical composition of investments which is in close relationship with the pattern of foreign trade, with machine exports and imports. The export-increasing effect of investments showed mostly in indirect ways in the last 15 years in the wake of holding back investments. The highly significant change in the sectoral pattern of investments affected the pattern of foreign trade only moderately and after some longer time.

The lecture of I. *Gergely* analysed the objective trends characteristic of the proportions and interactions of industry, agriculture and the infrastructure from a historical perspective. Hungary is in the medium zone among countries at various stages of industrialization. Industrial development determines new ways of specialization and cooperation and of international cooperation in trade and production. New trends are the differentiation of products, technologies and production systems and the industrialization

of research, and these call for new methods of planned management, organization and control.

J. *László* analysed the relationship between the production pattern and the economic regulators. He revealed that the lag of the Hungarian economy is shown mainly in the share of up-to-date products, in the quality of products, and in the field of inputs. The valid means of control, however, still stimulate quantitative growth. The lack of harmony between plan targets and regulators often did not allow for the coordination of the national economic and enterprise interests in the past years. The dispersion of profits did not correspond to national economic interests, the control instruments – mainly price and income control – did not provide for the necessary differentiation, and more than once countered our objectives regarding selective development.

Gy. *Mohai* stated in his report that the medium-range plan does not count much in the management of enterprises. The drawing up of these plans is compulsory, but outside compulsion did not turn into an urge from inside although the system of economic control in principle postulates the need for long-range "foresight" by enterprises. Viable enterprise plans are not easy to prepare also because of our economic practice. Enterprises strive after consistency not with the cooperating economic organizations but only with the plans of superior levels.

J. *Véghelyi* stated in his review of the infrastructural development in Hungary that the overall backwardness of this field during the period extending up to the mid-sixties was caused, beside infrastructural allocations beneath the justified level, also by an unfavourable sectoral and regional structure of developments. From the end of the 1960's on the share of infrastructural investments increased and the demand for eliminating bottlenecks entered into the development concepts. In the course of implementing the plans the priority areas obtained allocations above the planned measure which only added to the strains in certain areas (e. g. health, education) and the problems of regional distribution were not lessened either.

Analysis of the social implications of infrastructural development and relying on them formulation of a scientifically based development policy are required for a more effective utilization of the rather scarce funds.

Section for consumption and way of life

This section dealt with such question as needs, standard of living, consumption, urbanization, and income distribution, which are in the focus of attention of society and which require interdisciplinary research.

L. *Molnár,* professor and head of department claimed in his lecture entitled "Connections between urbanization and consumption" that the demand for long-range planning requires reliable prognostication of the quantitative and qualitative features of consumption ranging from the commodity pattern to the expectable behaviour of consumers.

In his lecture: "Some ideas about the situation and the future of consumption in Hungary" V. *Kappanyos* dealt with theoretical categories of consumption, the way of life, and the standard of living, as well as with the outlines of consumption characteristics typical of socialism. He pointed out that similar trends in the world-wide development of the production forces manifest themselves in identical features in the development of consumption, but these are realized in different ways depending on the given social system. He holds that the following characteristics of consumption are typical of socialism: 1. the relative consumption proportions develops on the basis of social equality, 2. guaranteed welfare for each member of the society, 3. satisfaction of diversified needs, 4. the spirit of social ownership pervades consumption, 5. social consciousness, 6. safety of consumption, 7. elimination of waste. This wording contains several hypothetical elements but these may be the main lines from which the main rules of consumption typical of socialism may be derived.

B. *Hámori* sought in his lecture entitled "Consumption from the social funds in a commodity-producing society" a reply to the question how consumption from social funds – that is, non-market consumption – fits into the system of commodity production.

The lecture on "Economic and social factors, constraints on and effects of differences in personal incomes" by E. *Poszmik* and Zs. *Simonits* studies how incomes are earned and spent. The co-authors analysed the adjustment of these processes to the desired differences in personal incomes and to the financial circumstances of families. For this purpose those factors should be considered which work towards the reduction or increase of income differences in socialism.

In her lecture "Attempts at characterizing the standard of living with a complex indicator" Mrs. T. *Melega* studied the problems of measuring the standard of living.

Mrs I. *Hoffmann* reported on the latest achievements in research on family-economy carried out since 1973.

In her lecture entitled "The level and pattern of satisfying material needs as a basic dimension of the way of life" I. *Hrubos* availed herself of two approaches. In the first one she accentuated a single sphere of material needs and analysed its level of satisfaction from the aspect of strata-specific variables. In the other approach, which was the guiding idea of the lecture, needs were scrutinized as a system, and the relationships between their various spheres, i.e., the structure of needs, were analysed.

É. *Hideg*'s lecture dealt with the trends of changes in social mobility.

From among the foreign guest lecturers G. *Lippold* (Berlin) laid special stress on the study of leisure and working time as elements of the standard of living, while G. *Wilde* (Berlin) examined how the law of perpetual development of needs worked.

L. *Soeterbroek* (Holland) analysed the identical and especially the different features of marketing research in socialist and capitalist countries as a mutually edyfing subject. He found particularly remarkable that research in Hungary was not profit- and advertising-oriented.

H. *Meffert* (Münster) examined the social behaviour and consciousness of West-German consumers. The results of his study were released for the first time at this session, and his interviewing system was novel, too. The project was expected to show consumer responsiveness to such social problems as, e.g. pollution, recycling, consumer behaviour.

Section for world economy

Five chairs of the university participated in the work of this section with 16 lecturers. Also several foreign guests took active part in the discussion.

J. *Nyilas,* professor and head of department scrutinized in his leading lecture the changes of world economy in the 1970s. He referred to the acceleration of world political processes and to the profound readjustment of power relations. He noted the increase in the role of the so-called supply security factors. The world economic changes quickened the process of differentiation between the developing countries. He pointed to the negative effects of the price explosion and of the changes in the terms of trade from the point of view of CMEA cooperation, with regard to the past and the future alike.

J. *Benedeczki* dealt with some problems of Hungarian-Soviet economic cooperation. He emphasized the outstanding importance of these relations and drew attention to the recent fundamental changes in the terms of the Soviet market. He analysed the Hungarian machine exports and imports, the imports of raw materials and the price problem in detail.

S. *Surányi* discussed the world food crisis and noted the situation of the developing countries in particular. For countries possessing significant reserves – especially for the USA – there are increased opportunities for political influence. Solution to the world problems of nutrition needs radical land reforms, more efficient development efforts, and stronger international cooperation.

In connection with the role of transnational companies in the world economy A. *Blahó* criticized views assuming that capital exports are a mere flow of financial assets. He studied the internationalization of money, commodity and productive capital and observed that the circulation was not complete as only some of its parts were internationalized.

In his lecture: "Reflection of the present-day crisis of capitalist economy in modern bourgeois economics", contesting the demand-raising recipe of Keynes, A. *Mátyás* gave a criticism of the positive and negative Phillips curves. He dwelt on the quantity theory of money attached to M. *Friedman's* name, intended to give a theoretical explanation for inflation and stagflation. He demonstrated that the most unstable periods of capitalist production were precisely those of monetary stability, *quasi* expressing that the growth of the quantity of money at a steady rate cannot be a remedy to such economic troubles as are produced basically by the grave contradictions in the real sphere.

In a lecture on international economic integration T. *Palánkai* analysed primarily the bearing of the world economic crisis on the process of integration. The crisis caused

perturbances but it is not justified to speak about disintegration. Integration was not basically responsible for the crisis of the capitalist world, in fact, in certain places it was even helpful in mitigating the effects of crisis, while in other areas it bore imbalances. The strive for sovereignty-based international integration has gained momentum in recent years.

Z. *Gyenge* analysed the crisis of the economic policy based on Keynesian principles. T. *Tóth*'s report outlined some important characteristics and major instruments of the foreign trade policy of enterprises. E. *Huszár* dealt with some symptoms of the post-war trade policies pursued in the advanced capitalist countries. He stressed the impact of the world economic changes of the 1970's upon factors enhancing or hindering free trade and protectionism. L. *Radó* studied the effects of the Hungarian economy's dependence on the world market and its sensitivity to foreign trade in the 1970's. He pointed out that for a country as small as Hungary the chances for increasing exports are given even in times of recession because of our marginal (less than 1 per cent) share in world economy. Therefore the obstacles to increased exports are due to the lack of high quality convertible commodity funds rather than to decreasing sales opportunities.

In the framework of this section lectures were given by B. *Galló* (The first three reports of the Club of Rome from the point of view of political prognostication), I. *Magas* (Business trends and economic policy in OECD countries in the 1970s) and P. *Szalay* (Some actual problems of West-European strategic integration).

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BOOK REVIEWS

BÁLINT, J.: *Társadalmi rétegződés és jövedelmek* (Social strata and incomes.) Budapest, 1978. Kossuth Könyvkiadó. 213 p.

The author analyzes by statistical methods the changes in the structure of the Hungarian society, by classes and strata studies the demographic characteristics, and presents the income conditions and consumption habits. It deserves special acknowledgement that, sometimes using approximative calculations and estimations, he rewrote the data of earlier censuses and of the 1973 microcensus in present-day terms, so that the structure of the Hungarian society by classes and strata might be studied in a uniform system of categories back to 1941.

After presenting the statistical notions used in the exploration of social differentiation, the author reviews the current statistical method for the analysis of the class and strata structure. The *labour class* comprises manual workers employed in the state and cooperative industry, in state agriculture and forestry, doing agricultural or nonagricultural work, workers in other sectors of the economy, as well as people with direct on-the-job managing functions: foremen, technicians and similar professions (58 per cent of the active earners in 1973). To the cooperative peasantry belong manual workers doing farming and non-farming manual work in cooperatives, and direct production managers, whether members of the cooperative or not (14.5 per cent). The category of intellectuals and other white-collar employees is increasing (24 per cent). The fourth category of the society is made up by small-scale commodity producers, individually farming peasants, artisans, and retailers. Differences justify separate presentation of the manual workers in state agriculture within the labour class, and of the members and employees as well as the farming and non-farming labour within the cooperative peasantry.

Conditions for a radical change in the Hungarian social structure were the product of changed ownership relations, namely, the distribution of land which was tantamount to a democratic agrarian revolution, and nationalizations which, along with the gradual establishment of the dictatorship of the proletariat, have acquired socialistic characteristics, as well as the socialist reorganization of agriculture. Beside and related to the above, also the structural shifts in the branches of the national economy, socialist industrialization, and the rapid development of the forces of production have had their impacts on the shaping of social structure.

The book makes readers acquainted with the major classes and important strata of the Hungarian society. The labour class doubled in number between 1945 and 1973, and within the class the ratio of workers in industry and construction increased from 30 to 58 per cent. As a result of the cultural revolution, in 1973 nearly two-thirds of the nonagricultural manual workers had primary education (8 years), and from them some 250 000 (as against only 30 000 in 1949) had at least secondary schooling. It is also remarkable that the primary school was completed by nearly half (45 per cent) of the agricultural workers, too. The workers have been catching up with the requirements warranted by industrial, scientific and technical progress also as regards professional qualification. Thus between 1947 and 1973 the share of skilled workers

increased from 30 to 40 per cent, and that of semi-skilled workers from 14 to 31 per cent.

Differentiation of the social structure of peasants commenced with the distribution of land in 1945, but the qualitative transformation took place only following the socialist reorganization of agriculture. The new ownership relations and those in the division of labour created the conditions for the emergence of a new class, *the cooperative peasantry*. Thereby the homogenization of the peasantry began but has not been completed as yet. This is shown by the different forms of cooperative land ownership and by the existence of contractual employment relations within cooperative farms (non-members).

In 1973 there were 744 000 active earners among the cooperative peasants. Most of them were cooperative members with manual jobs (61.3 per cent), helping relations (10.6 per cent) or employees (0.5 per cent). Because of the transformation of the cooperative farms into socialist large-scale farms and because of their changing economic structure the role of the cooperative members with non-agricultural manual jobs (14.7 per cent) and of employees (11.6 per cent – their number jumped from 71 thousand to 195 thousand between 1963 and 1973 and their share increased almost four times) as well as of direct production managers (9500 people, 1.3 per cent) has been also on the increase. More than half of the cooperative farmers were females in 1963 but by 1973 the share of women decreased to 38 per cent (while it increased to 36 per cent in the labour class). Relative to previous states of affairs it is a remarkable development that 37 per cent of the cooperative farmers completed primary school and that 26 per cent of them are skilled workers and 32 per cent semi-skilled workers, though the lag is still appreciable in social dimensions.

Economic, political and cultural development has been accompanied by a growing number of intellectuals and their increasing ratio among active earners. Between 1949 and 1973 their number almost trebled (from 8 to 24 per cent) and reached more than 1.2 million. The growth of employment in productive branches was particularly strong (about 6-fold). Analysis of the main groups of individual occupations shows that the number of qualified technical staff, health and cultural, book-keeping, transportation and commercial employees increased at the highest rate. Despite the substantial development Hungary still falls behind the advanced capitalist countries with their 35 to 50 per cent share. More than two-thirds of the intellectuals (in 1949 half as many) have at least secondary school-leaving certificate, and 23 per cent (in 1949, 18 per cent) hold diplomas from institutions of higher education.

All these caused changes between 1949 and 1973 also in the composition of active earners in various settlements. In 1949 nearly three quarters of the rural population worked in agriculture while in 1973 only 40 per cent, and at the same time 37 per cent in industry. Half of the workers in the industry and the building industry live in the countryside. Today the proportion of people belonging to the labour class is almost the same in the capital and in other cities and communities in the country.

Social mobility accelerated relative to the pre-war years. The main trend of movement is that the peasant becomes worker, and the worker and the peasant become intellectuals. The mobility of men settled by the mid-sixties, but that of women kept increasing. Thereby the differences between male and female career opportunities have become smaller. The growing number of young skilled workers, secondary school leavers and university graduates, boys and girls alike, also accounts for that. It is a new symptom, an outcome mainly of the growing proportion of industrial work, that in the last ten years the ratio of manual workers in agriculture coming from worker families increased from 5.4 per cent to 9.3 per cent. Another new phenomenon is that half of the marriages are now between partners coming from different social classes or strata.

In the section discussing *demographical development* the author dwells on the changes in the social position of women. Their increasing education, vocational training and rate of employment are important indicators of the gradual implementation of emancipation. In 1975 two-thirds of women in the working age held jobs. With this rate Hungary was on the top even among the socialist countries, and scored

two or three times higher than the capitalist countries. In spite of improvements the wages of women are still 30 to 32 per cent lower than those of men. (This lag is only 15 per cent in Sweden, 22 in Denmark, and 29 in the FRG, but is 35 per cent in Switzerland, 41 in Britain and 53 in Japan.)

Income and consumption are essential indicators of the situation of social classes and strata. In Hungary work is the main source of incomes, but in several fields of the economy the payrolls should be more differentiated to make income more dependent upon professional knowledge and responsibility and upon the qualitative and quantitative indicators of performance. Beside income from work, social transfers play an important role. In the past few years the growth rate of the latter was a multiple of that of salaries. This way the Hungarian government wished to put an end to the most striking and unjustified social inequalities. Household-plots and auxiliary farms also contribute to the income of the population. These numbered 1.7 million in 1972, and nearly half of them are not owned by peasants. Some 5.2 million people live in households with plots. Today in Hungary there is no capital property to give ground to exploitation, nevertheless, existing wealth (e. g. apartments, holiday cottages to let, etc.) influence the income and consumption level of a minor part of the population.

The extreme poles of income distribution ceased after 1945, and the standard of living began to increase as early as from the fifties and especially from the mid-sixties. As a result of production in household-plots the income level of cooperative farmers in fact reached and even somewhat exceeded the incomes of workers by the end of that decade. Though the greatest disproportionalities no longer exist, there still are many people with low income, mainly families with many children, the retired, the poorly qualified manual workers, the physically and mentally disabled.

The standard of living is always marked by what and how much is consumed. In 1977 per capita consumption was almost three times higher than before 1945. Beside the increase of food consumption it is important that with espect to animal protein consumption we have come near to the level of the advanced western countries, and have attained the European standard as regards vegetable and fruit consumption. But we still take too much fat and cereals. We have made a big step in household energy consumption, clothing, durable consumer goods supply, and even in satisfying housing requirements, the acutest problem of society. The differences in the consumptions by various classes and strata have become smaller, but, on a higher level though, these differences should be still more reduced.

The author arrives at the conclusion that class differentiation continues to be the basis of our social structure with the labour class and especially the labour class of the large-scale industry as its core. The Hungarian social structure is in permanent movement, "the main trend of its development is the approach of major social strata, the gradual fading out of the drastic differences that had evolved between them through history" (p. 205). Part of the differences, e. g. intellectual *vs.* manual labour, inequalities between town and countryside, origin and wealth, etc. are historically class labels and disappear only in the course of building up advanced socialism. Other differences might reproduce themselves under the conditions of socialism, too – for example in the field of incomes – and these can be directed towards social equality only through deliberate economic and socio-political control and inspiration.

D. J. TÓTH

JOHANSEN, L: *Lectures on macroeconomic planning. Part 2 – Centralization, decentralization, planning under uncertainty.* Amsterdam–New York–Oxford, 1978. North-Holland Publishing Co. 411 p.

In this volume Leif *Johansen* continues to expound the main ideas of his book entitled "Lectures on macroeconomic planning. Part 1" and published in 1977.* However, while in

*A review of this book can be found in Acta Oeconomica, Vol. 19, No. 1, pp. 104–106

Chapter 4 of Part 1 greater emphasis was laid upon the discussion of general topics, in Part 2 rather some special problems of planning, more closely connected with planning practice, are given predominance.

The author devotes a special chapter (*Chapter 5*) to the issues of centralization, decentralization and coordination of economic planning. Another chapter (*Chapter 6*) deals with the decentralized form of plan elaboration under conditions when decision-making power is centralized in the economy. Finally, L. Johansen analyzes planning under uncertainty in *Chapter 8.*

Leif Johansen's work is not aimed at providing instruments directly applicable in practice for economic decision-makers – though several results of his book might be safely used also in practice. His main purpose is to make the essential relationships of economic planning, decisions and economic conditions deeper understood, which might strongly influence our views developed or developing about economic planning, foresight and decisions. This may be regarded perhaps as the greatest merit of the book. It does not give prescriptions for planners, economic policy-makers and economic researchers, but provides viewpoints for making economic theory and practice better founded and for the further examination of problems raised by the book.

Previously, it was a very wide-spread view that state ownership of the means of production requires a high-degree centralization of the economy, while private ownership necessitates a decentralized economy. Socialist economists theoretically proved already in the 1920–30s that state ownership and the decentralization of the economy are not exclusive notions. (Cf. O. *Lange*'s theory on "competitive socialism" or the discussions on "NEP" in the USSR.) Nowadays, on the basis of historical and practical experience rather the contrary statement seems to be realistic that state ownership though usually accompanied by a higher degree of centralization yet the two forms are approaching each other in several fields. L. Johansen also points out in *Chapter 5,* dealing with this sphere of problems, that centralization-decentralization is not a one-dimensional phenomenon, but can be interpreted only on the basis of a joint examination of several viewpoints. In his opinion centralization-decentralization can be dealt with in the following dimensions:

1. *Central preferences* – If there is a central planning authority in the economy, it will always strive after the enforcement of certain preferences. Thus, an economy is the more centralized, the more extensive the sphere of central preferences and the greater the number of economic processes the central planning authority wants to influence in the interest of asserting its own preferences. At the same time, also the enterprises, consumers, etc., i.e. "lower levels" have their own preferences in an economy. Therefore, the relationship between the preferences of the centre and those of the lower levels is also important. From this aspect the more centralized the economy the stronger is the "paternalistic attitude" of the centre towards the lower levels, i.e. the greater the endeavours in order to enforce the interests of enterprises and consumers in the central preferences. In this case the starting point of the centre will be that it knows what is good for the enterprises and consumers better than the participants of the economy themselves. (It may also occur that the consumers themselves delegate the right of decision-making to the centre, because they do not trust their own expertise.) Therefore, the above statement may be re-formulated after all in such a way that in terms of the preference dimension the more centralized the economy, the more extensive the preferences of the centre and the more they cross enterprise autonomy and consumer sovereignty.

2. *Plan contents* – From this aspect the degree of centralization depends on how widely the range of economic activities is covered by the central plan and what mass of information it contains. The degree of centralization can be well indicated by the quantity of preparatory materials and studies related to the plan and, besides, also by the fact to what extent enterprise, local administrative, etc. plans are consistent and in conformity with central plans. Conformity and consistency of plans at lower and higher levels, respectively, indicate a high degree of centralization independently of the decision-making structure of the economy.

3. *Information flows and plan elaboration* – According to Leif Johansen a centralized system

is characterized by the exclusiveness or predominance of vertical flows of information, while in a decentralized system horizontal information flows are determinant and even within them information flows among enterprises have a decisive part. Therefore, in terms of the information dimension the economy is the more centralized, the stronger the vertical information flows *versus* horizontal ones, and within this, the rougher the information flows from the lower level to the centre and the more detailed the information sent from the centre to the lower levels, furthermore, the more of these informations are directed to specific addressees, to one or another economic unit.

4. *Decision-making power* – The author states that the right of decision-making was previously unambiguously connected with ownership, but nowadays both state and private ownership may be compatible with central and decentralized decisions as well. The author considers the case private ownership – central decision-making as least likely. The measure of centralization depends in terms of this dimension on the division of decision-making power between the centre and the lower level, as well as on the instruments available to the centre for influencing the lower level.

The author establishes six criteria for evaluating the degree of centralization related to these dimensions (proportions of and relationship between central and lower-level preferences; degree of detailedness of central preferences; plan contents; pattern of information flows and plan elaboration; distribution of decision-making power; state or private ownership); on the basis of these criteria, 64 combinations are possible in principle, from the completely centralized system (CCC CCC) to the completely decentralized economy (DDD DDD). The set of possible systems can be further widened insofar as, according to certain criteria, a system can be both centralized and decentralized. (E. g. D XX XX C = a variant of "competitive socialism.") In practice, however, there exist rather strong connections or at least correlations between various criteria, thus the set of realizable systems is much smaller.

In the following part Leif Johansen lists possible instruments available to the centre and examines various mechanisms for the central stimulation of the economy. Here several examples are presented from the practice of East-European socialist countries – in connection with the comparison of volume-incentives and profit-motive – and economic reforms of the 1960s are compared with pre-reform economies and those formulated in the theory of "competitive socialism" from the aspect of stimulation. The author deals in detail with the functions of prices (in his opinion prices may have five different roles in principle) and examines the effect of prices in the centralized and decentralized systems. Since the various price functions may be contradictory, the goal to be achieved can only be an *optimum* price system.

An exciting part of this chapter is where the author examines the costs and returns of the system of planning, management and control. By means of a witty model he shows how the costs and the results of material production may be connected with the costs and returns of the bureaucracy of the system.

Next Leif Johansen examines in *Chapter 6* the possibilities of a decentralized plan elaboration under the conditions of centralized decision-making power. His starting point is a simple input-output model and the maximum of the objective function of the economy is approached through iteration of information exchanges between the centre and the lower level. As a next step the model is enlarged and generalized on the basis of exact assumptions, in such a way, that optimization models separately elaborated by the centre and the lower levels "answer" each other and the optimum solution will be found in this process. The author presents *Kantorovich*'s multi-level model, *Malinvaud*'s "inner linearization" and *Weitzman*'s "outer linearization" methods, the "reflector programming" elaborated by *Gy. Simon* and finally describes the model of two-level planning of *Kornai* and *Lipták* considered by him as the most elaborate one, and its combination with the decomposition method of *Dantzig* and *Wolfe*. Finally, he examines the modifications of the model of decentralized planning in case of various limited resources and capacities (labour force, capital, foreign trade. . .) and mentions some special cases, too.

In *Chapter 7* of his book Leif Johansen reverses the problem: while in the foregoing he deals with decentralization possibilities of the central decision-making system characteristic of the socialist countries, henceforth he examines the relationship between decentralized decision-making power better corresponding to the practice of capitalist countries and central planning. He tries to answer the question: when and to what extent central planning might become necessary in the decentralized system and in what forms can central planning and a decentralized economy cooperate? The starting point in his investigations is the main thesis of welfare economics, the requirements of economic equilibrium corresponding to the Pareto-optimality; on this basis he finds the main problem of economic policy: the practical constraints on the achievement of the theoretically optimal state should be found and the economic system accordingly modified. Namely, the economy might be diverted from the Pareto-optimal state by the established system of income distribution, the existence of various externalities, unemployment, inflation, the effects of foreign trade, strengthening of monopolies, economic risk and growing uncertainty of ventures, etc. (the author mentions fifteen factors altogether). All these factors and effects set important tasks for the central control. Therefore, L. Johansen analyzes interactions of the variables likely to be influenced by the centre and lower levels, respectively, on the basis of decentralized models and thus tries to determine rational limits to central intervention. The investigation is carried out both in a static and in a dynamic model, then the criteria for an iterative solution between the centre and lower levels are given. He states that a planning system built up in this way may function only if instrument and target variables of the central and lower levels can be well separated from each other. After that he presents how the model can be applied for the case of economic cooperation and foreign trade between countries relatively independent from each other (after *R. N. Cooper*).

The most interesting part of the chapter deals with the effects of central economic forecasts on the decision-makers of a decentralized economy. The question is examined whether it is possible to make correct forecasts at all, if the forecasts influence the very phenomena examined. These problems are closely connected with the basic issues of the game theory of *O. Morgenstern* and *J. von Neumann*. By analyzing the more general variant of *Keynes'* multiplier model, Leif Johansen shows under what conditions central forecasts might promote or impede the optimal functioning of the economy. (Concretely, the author examines the relationship between forecasts on the national income and private investments.) He states that forecasts may stabilize, but also destabilize the economy – the problem is very similar to the "cobweb theorem". Namely, if decision-makers do not fully trust in central forecasts and deviate from these when making decisions, then the centre – for tactical reasons – will try to publish such forecasts that deviations from it by the decision-makers should lead precisely to the equilibrium solution. This is a viable method until the distrust of decision-makers with regard to forecasts is relatively permanent. However, if the deviation between forecasts and reality increases the distrust of decision-makers the tactics of the centre will lead to a situation that later on decision-makers cannot be influenced by forecasts any more.

The chapter – that can be read as a comprehensive analysis of possible forms and effects of indicative planning – closes with the evaluation of practical experience of indicative planning, first of all of the results and deficiencies of the French planning system.

A further generalization of results obtained until now is given by the investigation presented in *Chapter 8*, where L. Johansen analyzes planning under conditions of uncertainty. Thus, the values of economic target and instrument variables are replaced by their probability distributions.

Firstly, various types of risk and uncertainty factors existing in the economy are separated (e. g. distinction is made between uncertainty resulting from accidental changes in external circumstances and the uncertainty of factors within the economy as well as the uncertainty of instruments influencing the economy and that of objectives and preferences, respectively, etc.).

Following this the author describes various procedures and strategies of adaptation to factors of uncertainty and those suited for actively reducing the degree of uncertainty. Another direction of generalization is designated when, instead of the given values of economic objectives, their expected utilities are introduced. Attitudes of decision-makers towards uncertainty are dealt with as a problem completely independent of the existence of risk and uncertainty, then, as a synthesis of the chapter, joint effects of various attitudes and factors of uncertainty are analyzed.

At the end of his book Leif Johansen states that precisely the strengthening of uncertainty factors exercising their effects in a decentralized economy might necessitate the intervention of the central level in economic processes by means of planning, forecasts and other methods of influencing, since market mechanisms cannot ensure the realization of optimal equilibrium under such conditions. In his opinion the role of the centre may be more important in fields where effects of risk und uncertainty are most strongly felt and from where uncertainty may easily spread all over the economy, thus considerably endangering the stability of major economic processes.

I. MAJOR

BRABANT, J. M van: *East-European cooperation. The role of money and finance.* New York–Washington–London, 1977. Praeger Publishers. 395 p.

The monetary-financial problems of the CMEA are in the limelight of growing interest. There is a new vigour in literature; several publications have been released in the socialist countries with the objective of a comprehensive elaboration of the field. It is nevertheless not devoid of interest to read how a western economist sees the impact of monetary conditions on the development of CMEA integration.

The main point in *J. van Brabant's* book is that in order to enhance the process of integration the role of finances has to be increased. He is of the opinion that the traditional way of plan coordination in physical units of measurement is not a satisfactory means towards that end as long as real economies show considerable strains and unsatisfied demands, and all CMEA countries endeavour to increase efficiency through utilization of the comparative advantages of regional and world division of labour.

The author's approach is not a simplifying one. He does not underestimate, on the contrary, he highly appreciates the role of planning and of direct cooperation in production. The role of money and finances has to be increased in a way that the CMEA countries should not renounce the enormous advantages of plan coordination.

In the *introductory* part of the book the author deals with the conditions under which the socialist economic integration was brought about. He states that the establishment of the CMEA served the demonstration of political unity on the one hand and escaping from economic isolation on the other.

He points out that at the beginning several concrete recommendations were studied with the aim of complex regional cooperation. The community was driven by *Stalin's* standpoint towards the bilateral organization of relations. He indicates that this system of international cooperation matched the systems of direct economic control. In his opinion in the given period these methods were reasonable. „A tightly centralized organization might have been the only possible platform supporting fast transformations. The turbulent times, inexperienced management and labor force, backward ways of thinking, unproductive economic relations, and other factors well could have prompted the course of forced industrialization under strictly centralized control. But they hardly justify maintaning these more incidental features of socialism once the above conditions tend to disappear as a result of historical, economic, and political changes." – he writes (p. 21).

He considers it necessary that almost each CMEA country attempted to carry out certain reforms in the system of control, but also reveals that these ventures were not consistent. In part, the proper ideological grounds were missing; no real criteria were available to the decision makers by which they could tell the socialist instruments of commodity and money (market) relations

from the elements that could be applied in the conditions of capitalist production. Again, in his opinion, even the modest reforms ran against numerous interests which, when activated, halted or reversed the changes. Yet he admits that in the present period, in developing the system of preferences and allocations, efficiency considerations are already taken into account and decisions have been decentralized to some extent. Yet the CMEA countries could not after all, transform their economic structures to catch up with technological progress; the capital output ratio has not improved, the intellectual and material resources are not fully utilized.

In Chapter 1, J. van Brabant also touches upon the interaction of the national and the international mechanisms. However, he does not think it to be as close as defined by the Hungarian economist S. *Ausch* in his book published more than ten years ago.* He believes it is an exaggerated postulate to hold that no real commodity and money relationships can exist in the international market without a substantial increase of their role in national economies. This statement of van Brabant may be correct from the practical point of view because the national systems of economic control cannot be expected to change at all or at the same rate in the short run. From the theoretical point of view, however, we believe that the definition given by the Hungarian economist still holds, and can be completed with adding that the international mechanism inevitably *reacts* on the viability of the models of national economic control.

In the remaining part of Chapter 1 the author reviews the organizational framework of multilateral cooperation and its basic documents. He presents the structure of the CMEA: the Council session, the executive committee sessions, the standing committees, the joint institutions, and CMEA's international organizations. Special attention is paid to the standing committee for monetary and financial affairs. He considers it an important decision-making organization whose scope of authority extends to the discussion of a number of highly significant issues. He reviews the CMEA Charter, the Principles of the Socialist International Division of Labour, and the main targets of the Comprehensive Programme.

In Chapter 2 to 4 he deals with the CMEA clearing system, its antecedents, creation, and working experiences. In 1957 the CMEA countries made an attempt at making the bilateral clearings partially multilateral, but this was not very successful for only the so-called "soft goods" were included in the range of settlement under stricter terms than the bilateral conditions. In 1963 a decision was taken about transacting the total turnover in multilateral clearing and about the creation of a common currency, the transferable rouble. However, and with justification, he establishes that CMEA trade is still transacted on bilateral grounds, and that this is incompatible with multilateral clearings.

In such circumstances the transferable rouble is merely an instrument of settlement for bilateral economic relations. He quotes statements by authors from various socialist countries to the effect that the transferable rouble fulfils the functions of money; but van Brabant doubts that it does. He states that the common money cannot be an independent measure of value since the socialist market adapts to the world prices; also it qualifies as a means of circulation as a medium of exchange only under the bilateral trade agreements. It fulfils its functions of accumulation in the form of forced saving, so it is not sure whether those accumulating it intend to be in that position.

He outlines the backgrounds and conditions under which the International Bank for Economic Cooperation was established, the statutes of the Bank, and the forming of its capital. He points to its dual role: it is an enormous multinational clearing organization for the settlement of regional trade in transferable rouble, and at the same time an agent of involving capital from the western markets in convertible currencies. Reviewing its activities of more than ten years the author states that the Bank does not possess real funds against which it could finance the planned or above-plan imbalances, and there is no such unit of account which the CMEA countries would accept in settlement of liabilities; the transferable rouble is not such a unit of account. It follows that the

*AUSCH, S.: Theory and practice of CMEA cooperation. Budapest, 1972. Akadémiai Kiadó. 279 p.

Bank cannot have a credit and interest policy of its own. In his opinion the declarations claiming that the rate of the transferable rouble coincides with its purchasing power and thus it qualifies for a real rate are not justified. First, as the transferable rouble is *de facto* not exchangeable into convertible currencies (at this or at other rates); second, the price disproportions existing in the socialist market, which are at the same time the main obstacles to multilateralism, have to be also taken into consideration. This is namely the reason why the balances to be credited or remitted to each other do not represent identical values. At the same time the author also challenges the opinion of his western colleagues who say that multilateralism could be attained through various ways: multilateral trade agreements, making the CMEA bodies supranational ones, or by converting the balances in transferable rouble into convertible currency. In his opinion the problem of *ex-post* balances is not solved by *ex ante* multilateral agreements but some solution is needed. Making the CMEA bodies supranational could solve the problem only if autonomous nations did not exist; and a shift to convertible currency couldn't but affect trade between each other adversely. In his view the probability of incurring debt would act towards the reduction of turnover which cannot be a desirable end.

However, according to van Brabant, the coordination of the internal and external prices on market basis cannot expected to come true in the near future because this, in his opinion, would be incompatible with the principles of socialist planning. He could more correctly put it this way: incompatible with the routine so far pursued by central planning. The necessity of such linking prices is raised these days not only in the Hungarian or the Polish but also in the Soviet literature. It is therefore not correct to expropriate the attribute "socialist" only for planning with autarkic prices.

The author believes that the type of multilateralism that could meet the current requirements of the CMEA countries does not necessitate total external and internal convertibility but it would be sufficient to provide for the exchangeability of the balances for commodities. He assumes that planned commodity-based convertibility could be a solution backed by the Soviet Union, and thus predictably the CMEA clearing system will develop along this line.

Chapter 5 deals with the establishment of the International Investments Bank. The author points out that it was a necessity for the CMEA economies to establish a monetary institution for development. In the post-war period the accomplishment of the great tasks of restoration and industrialization in Eastern Europe had not been supported by any appreciable flow of foreign capital. The government credits granted between these countries in non-convertible currencies had been in most cases attached to bilateral turnover agreements, i.e., had been of the commodity-credit type. Nor was a consistent strategy developed afterwards as regards the capital movements inside the region, although specialization and cooperation, and the development of the process of socialist integration in general, would have required one.

The Bank's two main tasks are: to grant credit and to draw in resources. van Brabant points out that, starting out of their own situation, the different countries emphasize different aspects of the credit policy: those with advanced industries accentuate the importance of specialization in the manufacturing industries in order to minimize parallel production; others with natural resources stress the development of the basic vertical stages; Romania and Bulgaria should like to eliminate the different levels of development. As data show, crediting activities have actually shifted towards the financing of basic material and primary energy extraction and transportation. The Bank's activity does not set the maximization of profit as a target: the condition of granting credit is that the investments should serve common interest. This is normally shown by the growth of exports to the member countries as a result of the investment.

The credits given by the Bank may be used for purchasing commodities, but the role of the actual creditor is practically overtaken by the supplier of the commodity. It seems, the author observes, that the Bank's operations in transferable rouble are determined by freight agreements and not by the IIB credits. In case the commodity supply agreements are included in the bilateral trade turnover and if there is a strive

for equilibrium there, then according to the system of prompt payments, the regular IBEC procedure, the debtor may *immediately* begin to pay back the credit, for the credit did not modify bilateral liabilities. A paradoxical situation emerges in which "the borrower will be financing International Investment Bank projects himself." (p. 236)

As to the resource procuring activity of the Bank, van Brabant maintains that it is an important channel from the point of view of drawing in convertible money. In lack of liquid assets in transferable rouble, or in national currencies, the main resources of real crediting may be formed from credits raised from western banks and from the money market. The bulk of depositing operations was limited to putting the Bank's convertible assets out in the western money markets as remuneratively as possible.

All in all van Brabant assesses that so far the IIB has played a rather modest role in influencing the investment policies of the CMEA countries; the special achievements in the field of enhancing specialization and cooperation in the CMEA as a result of the Bank's activities is not measurable or liable to evaluation.

If the above chapters are the presentation of the CMEA clearing and credit system and institutions, then the objective of Chapter 6 is to show the system of rates of exchange and its different elements. The author treats all the three spheres of those settlements where rates of exchange do, or should, play a role: commercial payments, non-commercial type settlements, and the conversion problems of costs of joint enterprises originally emerging in national currency.

He reviews the role of exchange rates in the economies traditional central planning (practically limited to statistical accounting purposes); outlines the development of the non-commercial rates and gives a criticism of the current system; he presents the "development" of the conversion methodology and the formal procedure for the joint enterprises, using the Polish-Hungarian joint enterprise Haldex as a model.

The author points out that, with only a few exceptions, domestic prices in CMEA countries parted with the world market, while the contractual prices parted with both, i.e. both world market prices and domestic prices. Since the official rates determined by gold standard have nothing to do with actual purchasing power parities, the countries "replace" the uniform currency rate now in operation by coefficients varying by types of transactions. These coefficients have little effect in creating an efficient foreign trade pattern and account for a great deal of obscurity; at the same time, in the different countries – as seen in the introduction of the book – the field of decentralized decisions has somewhat expanded. Along with the appearance and strengthening of the desire of CMEA economies for increased participation in world trade the idea was raised of making the currencies convertible as a condition of the real process. In most of the countries there are strivings towards diminishing the number of coefficients and bringing them closer to the uniform rate. The chapter is closed with a reference to the words of the Hungarian economist, Károly *Kövér:* the CMEA countries ought not make a fetish of the exchange rate, nor should they deny its role. In reality, however, the rate of exchange seems to have become a fetish while its role is contested and confined. . .

In the 7th, closing chapter the author sums up the problems related to *convertibility.* Here he sets forth the connection with the introductory idea of the book: integration requires a more advanced monetary system – but what should it be like?

Experts of CMEA countries devised different ways for improvement. The terms they use are quite abundant: they write about the creation of multilateralism, about the accomplishment of real transferability, about convertibility. These notions translate various degrees of the same phenomenon, and, on the other hand, they are independent categories in interaction.

Finally, van Brabant divided the approaches into the following three groups: manoeuvring towards multilateralism (as an objective) from *without,* which would mean partial convertibility of the transferable rouble; from *within,* which encompasses measures with the purpose of attaining transferability within the region, and a third, so-called "realistic strategy" can be also recommended for multilateralization by which planned stability could be maintained but the unnecessary rigid elements would be eliminated

from the system of cooperation. This latter would mean a planned multilateral settling of the bilateral balances.

In the chapter dealing with the International Bank for Economic Cooperation he pointed out that such a proposition cannot be a solution to the settlement of balances forming *ex-post* in an unplanned way and, therefore, he assumes that the positive side of this concept is the planned inclusion of the inevitable net balances – those formed through confrontation of the planned bilateral liabilities and assets – into the current system of bilateral agreements. This commercial basis could provide realistic grounds for the credit policies of the IBEC and the IIB, *van Brabant* writes. He notes, however, that the balances emerging in unplanned way are another problem. He would refer these to the scope of bilateral credit connections.

Only the technical mode of "multilateralization" is left open to the reader. True, the author notes: transferring commercial agreements onto the *enterprise level* could be a workable model of multilateral trade. At the same time he rejects the conception of "approach from within". The reader still feels that the models devised by van Brabant and that of approach access-from-within are not far from each other, because the only way to put the foreign trade relations onto the micro-level is actually through a powerful development of the commodity and price relations in the CMEA countries. But we can agree with the author's statement that those who expect the perfection of the credit and interest policy alone to bear the results are wrong.

In the concluding part of the chapter – the author discusses the various CMEA recommendations made for the introduction of convertibility. He mentions the two Polish propositions elaborated in the 1960s (introduction of clearings corresponding to the EPU mechanism, and the creation of a double range of goods with two corresponding types of currencies). The liberalization of trade, without which commodity-based convertibility cannot be realized, was also included in these propositions.

In the early 1970s Soviet experts put forward an idea about convertibility only for noncommercial transactions. On behalf of Bulgaria it was proposed to centralize reserves with the IBEC. There were hints in the Soviet literature at eventually making the Soviet rouble convertible. Increasing of the creditor's concern by making debtors pay the interests in convertible currency, or to extend credits in convertible currency up to the extent of balances in transferable rouble to creditors of transferable rouble was also raised. (In other terms: giving the chance to debtors belonging to the clearing zone to repurchase credits granted in convertible currency for transferable rouble.)

The author doubts that the propositions to this effect could hold out on the basis that such intentions are not contained explicitly in the official documents and statements.

Van Brabant distinguishes two basic types of convertibility: *monetary* convertibility and *commodity* convertibility. He thinks the East-European currencies are unlikely to become soon commodity-convertible. The first and most important obstacle is the unsatisfactory size of the "convertible" commodity bases. The way which the East-European countries can be expected to take is the so-called *planned convertibility*. This notion, though at first glance self-contradictory, would preserve the main characteristics of the present currency system, i.e., currency monopoly and firm and plannable foreign economic relations without the rigidity of the bilateral planned balances. The main difference would be the settlement of balances formed in a *planned* way through credit or in convertible currency. (The postulate of settlement in convertible currency similarly to the propositions concerning "planned multilateralism" would not necessary apply to unplanned balances.

Thus the further development of the monetary system would serve the development of the CMEA countries cooperation in production; it would be an internal, regional, financial exchangeability, amended with the said system of credit or *ex-post* conversion with respect to balances. The accomplishment of interregional convertibility in a broader range and also commodity-based convertibility in the inner circle still requires a less rigid system of trade agreements, better adjustment of contractual prices to world market prices and increased supply of commodities of satisfactory quality.

K. BOTOS

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B. CSIKÓS-NAGY

CONTRIBUTION TO THE THEORY OF PRICE MECHANISM

Socialist production relations create conditions for planned proportional development. Decisions are comprised in a uniform framework by national planning, yet in individual rational economic decisions price has an orientating function. In socialist economy price fulfils this role only if it is adequately promoted by the economic control system.

For restoring economic equilibrium in the Hungarian economy the orientating role of price must be strengthened, what is required is that prices should reflect inputs as well as world market price fluctuations.

Economy and technology

Clarification of the relationship between economy and technology opens the way to understanding the role of price in socialism. The complexity of the problem lies in that the visible sphere of the economy is all but technology. Economy itself is present in the form of use-values and management of the economy appears in the form of technological processes. In shaping the production structure of the economy it is first of all technical (technological) interrelations whose consideration seems important. Namely, the economy can function smoothly if everything is everywhere available in the quantity required by society.

After all this, what should we consider an *economic moment* in economic life? Should it be *efficiency?* On such a basis, the relationship between economy and technology can hardly be described, since it would imply that only the economic decision is rational. This is an absurd statement. Rationality is a general principle of human action. Therefore, technical and economic rationality equally exist.

To manage an economy is to keep in view the *whole* in order to be able to decide on the *individual* in a way that the decision serves the interest of the whole. A good manager of the economy is the one who can

– assess the needs of present and future;

– judge the importance of each need from the aspect of the general satisfaction of needs;

– clearly survey what is available of means in comparison with overall needs.

This explains why equilibrium and the efficient allocation of production factors and consumer articles are at the centre of economic investigations. In all what appears in the form of technological processes it is *general equilibrium and efficient allocation* related to it that represent the economic element.

We make a distinction between direct exchange of products (barter economy) and exchange of commodities (monetary economy). In commodity production need takes the form of demand, and production that of supply. Demand is the size of need regulated through price, while supply is that of production regulated in the same way. That is why the category of price is to be considered the most important economic element in economic life.

Political economy was created in capitalism and it developed for a long time as the theory of market economy. The founders of political economy called the control principle that keeps demand and supply balanced by relying upon the market-clearing effect of price the "invisible hand". This is realized through human decisions. The consumer decides on what to spend his money, and the producer decides on the composition of goods to be taken to the market. Those who have capital decide on what to invest their money in. The assumption here is that it is competition entirely free from restrictions that creates the price mechanism necessary for a realistic economic calculation and, in general, for the assertion of economic efficiency.

In socialist planned economy the invisible hand is also functioning, yet there the conditions for its functioning are determined by state (social) consciousness. The state (the government) controls the economic processes. Thus price movement is also largely a matter of government control. What appears to be a natural property of price in a free-market commodity producing economy is here a requirement of normative control.

Planned economy built upon socialist production relations *creates the conditions for planned and proportional development.* A harmony between economic and technological rationality may develop. Yet it does not come about automatically. It depends on decisions made in consideration of economic laws, conditions and possibilities, on their implementation, and on whether we made good use of the national income produced, whether there is an optimum proportion between accumulation and consumption, whether resources are correctly allocated among economic sectors, whether public consumption is well harmonized with market supply, and whether the population's consumption is well adjusted to possibilities offered by resources available to society. Decisions are comprised in a uniform framework by state planning, and price is orientating in rational economic decisions. We have done much in order to bring about and improve the orientating ability of price. Yet the difficulties of the tasks to be still solved are not to be underestimated. These difficulties account for the opinion in Hungary that the lack of an "adequate" price system must be made up for by constructing a system of technical criteria.

It is worth dwelling somewhat upon this question. Part of the problems related to the orientating role of price is connected with the uncertainties related to predicting prices. These exactly cause the risk involved by long-term decisions. We have not – and we cannot possess – full information about where and what kind of new capacities will enter production in the world economy, what new technologies will be introduced, and what tendencies will be prevailing in demand–supply relations. Uncertainties of price predictions are rooted, among other things, in the limited "plannability" of the technical

criteria that are to replace – according to this opinion – the category of price. But the most important thing is that for technological parameters no other ordering principle can be determined beyond price that can bring them to a common denominator and qualify them according to economic efficiency. And, when the purpose of structural transformation is restoration of the upset international balance of payments and improvement of the terms of trade, every decision can be substantiated but as a function of relative import–export prices.

Economy and technology organically determine each other. The one cannot replace nor dispense with the other. Economic decisions are worth nothing without a real material–technical basis. Also, even the best considered technological developments may carry the economy to a dead-end if not co-ordinated with the relations of commodity production and with requirements deriving therefrom. A commodity producing economy has no comprehensive economic signal system but price. If, therefore, we endeavour to assert economic efficiency, the category of price simply cannot be circumvented.

Price as a decision criterion

The relationship between economy and technology has to be well perceived, so as to clearly see the complicated sphere of price problems. The way to clarifying the role of price in socialism leads through many pitfalls.

According to one opinion, the social consciousness characteristic of socialism can assert itself when market spontaneity is suppressed. This opinion lays emphasis on the superiority of socialist economy over capitalism and points out that the state is able, by means of central planning, to control production by relying on needs to much fuller extent than the market mechanism. *That is why technical–material organization is considered by many as the most important element of socialist planned economy.* A mere reference to the law of value is devoid of contents. The functioning of the law of value means, namely, for many only a technical utilization of the categories of market mechanism (money, price, trade, etc). Otherwise, references to the law of value become characteristic when equilibrium disturbances are worsening.

The price function raises definite demands on the economic control system. The optimum functioning of socialist economy infers, beside other things, that *the state adequately harmonizes*

– decisions made on the direct and indirect effects of price;
– instructions and incentives;
– economic and social policy measures.

1. The greatest chance for the assertion of economic efficiency offers itself if decisions are made *where price information is the most extensive.* When computers were first used, when the possibility of mathematical programming and of the preparation of plan variants thus interpreted arose, opinions emerged according to which economic efficiency could be guaranteed only by means of strongly centralized control. Namely,

the *shadow prices* – as accessories of a rational production structure – obtained by mathematical programming are available only to the central planners. Yet we must know that shadow price information can provide but little practical help to planning for a long time to come. The mathematical methods available are insufficient. The computer can work only with information put in by man. Thus uncertainties of price prediction cannot be avoided by mathematical programing, either.

Institutions are in different positions as regards the *price effect.* It is upon this basis that distinction is made between economic control by the state and enterprise management. State organs, striving after representation of *social interests* cooperate in the planned and proportional development of the national economy. Enterprises, representing group interests, are "forced" through the profit incentive to an optimum utilization of resources.

The effect of price on the decision of those working in government administration is indirect. In this sphere success and failure are related to the price effect through a series of transmissions. Besides, in government administration economic efficiency is considered only as *one* criterion of decision. Government decisions are derived from the socialist system of values. Steady economic growth, full employment, distribution according to need and work, etc. are the attributes of the stand taken in economic policy. In enterprise management, however, the price effect is direct. If profit or loss is the criterion of success or failure, economic decision-making implies such taking of responsibilities and risks as are dependent on prices.

Under the conditions of commodity production state planning cannot dispense with the control function of the market. This may be institutionally realized when planners critically analyse the economic situation and draw up their plans by using the information thus acquired. Yet the control function of the market raises also a demand of a different character: namely, that market actors should be free in their decisions on matters in which rational behaviour can be expected only as a reaction on market impulses.

It was these considerations that encouraged the implementation of the Hungarian economic reform in 1968. It was upon these grounds that a distinction was made between *long-, medium- and short-term decisions* and that the conclusion was reached that enterprise independence should be maximum in forming the *microstructure,* but it should be limited as regards *macrostructure.* Upon the same grounds relies the effort that state intervention in simple reproduction should be minimum, while it should be maximum in determining the directions of development.

2. In the initial period of setting up a planned economy, when in socialist countries the stressing of contrast with the capitalist market economy seemed to have an ideological importance, it was a characteristic opinion that social consciousness asserts itself as the opposite of market spontaneity: planned economy excludes any kind of automatism. That is why at that time *government instruction became the only accepted form of expression of social consciousness.* It is this fact to which it can be traced back that planned economy was identified with behaviour conforming to central plan instructions,

and, in general, with the effort that the state should centrally control the economy in all its elements.

In such a control system the price automatism cannot function in principle, yet the method of *price incentive* is used. In an economy regulated by central instructions the economic contents of price incentive can be only that the material advantage should represent also an incentive for what is obligatory by instruction. In this context, however, two problems arose.

First, contradictions between plan directives and price incentives became inevitable. E. g. it is obviously impossible to stimulate for manufacturing up-to-date products through price formation guaranteeing larger profit, if this effect is counteracted by the financial mechanism which taxes away the profit. It makes no sense to stimulate for utilization of the abundantly available natural resources (and thus for saving scarce resources) through preferential prices, when the state centrally regulates the allocation of materials.

Second, it became clear that it was not possible to give central direction for all details of the economy. Thus, in this control system *declaration-like* instructions were frequent. *But in the economy there is not and cannot be a vacuum.* The law of value infiltrates through gaps left unguarded. In such case, however, the law of value does not support the plan any more, since such control system renounces making use of the market mechanism to serve planned development from the outset.

These are the circumstances that secure a distinguished position for indirect regulators. That is why it is expedient to give priority – among regulators – to financial instruments over non-financial ones. That is why among direct regulators value (price and income) regulators must enjoy priority over physical (production and distribution) restrictions. That is why it is justified to revise economic policy objectives if their realization requires too many physical restrictions. That is, namely, an indication that the national economy has been charged with tasks exceeding its capacity.

3. The great socialist thinkers of the past connected by a natural instinct capitalistic private property with commodity production. Commodity production is *anti-humane.* The market-clearing function of price can be realized only in a way that it excludes some people from the possession of goods which they would like to have. Selectivity, which is a specific feature of market price automatism, is just as anti-humane: it rewards the strong and punishes the weak. That is why Rosa Luxemburg turned against economics itself. Great socialist thinkers thought that production organized on socialist foundations would create a profusion of material goods, so that the forced path determined by the market for consumption could be eliminated.

Life has disproved this assumption. *But this has not changed at all the antagonistic attitude toward commodity production.* Yet the effort to restrict commodity production and to possibly eliminate it may easily hit back. It is not possible, under the conditions of commodity production, to organize the economy of the socialist society in a way that we simultaneously take a stand against commodity production. That is what happens in fact

when levelling at any price becomes one of the guiding principles of economic policy. This may become manifest in the form of

– *regional levelling* in development policy;
– *egalitarianism* in wage policy;
– *redistribution of incomes* through the state budget in price policy;
– regulation oriented towards the *average enterprise* in taxation policy.

Of course, the anti-humane features of commodity production must be restricted but, if possible, only by ulterior (complementary) regulation. *Social policy* may be pursued by applying various instruments. If there is a choice among alternatives, the better one is that which can provide solution by circumventing the functioning of the price mechanism. That is why it is better to grant subsidy to families with children in the form of family allowance than subsidizing the prices of children' s clothes. The important thing is, however, the objective necessity of differentiation. Distribution according to work and that according to need must be well harmonized, but, first of all in the sphere of the market exchange of commodities, the distribution according to work must be consistently asserted.

Price as a signal system

The main directions of development of the Hungarian price system were laid down in the course of economic discussions prior to the 1968 economic reform and of those in recent years. It was in these discussions that the need for introduction of prices proportionate to value was formulated. It was formulated for the first time in the 1968 economic reform that everybody should pay for the product what it costs. We cannot use available resources reasonably if we value them differently in consumption than in production, and in production not in a manner that would be justified by costs.

Nevertheless, no consumer price reform was effectuated in 1968. For the introduction of consumer prices proportional to value first the production structure has to be transformed through development policy. In the case we intend to reduce consumer prices containing large net income to the level of value, first the conditions have to be created that the growing demand entailed by lower prices can be satisfied. With consumer prices subsidized by the state decisions can be made only in consideration of the demand-constraining effect of the price increase, and of the manner in which this affects the export structure and development policy.

By weighing all circumstances at that time the period needed for switching over to prices proportionate to value was estimated at 10–15 years. Much has been done to this end since 1968. However, as a consequence of the oil price explosion of 1973, the increase in prices of oil-products on the world market formed new price conditions. Hungarian consumer price policy in the years 1975–77 tried to assert first of all the effects of these on our country. Therefore in heavily subsidized sectors, particularly in those of food and services, the placing of consumer prices onto a value basis suffered

some delay. About the relationship between consumer price and production cost the following picture may be given (see the Table).

The consumer price must be regulated by input (producer price). Today, however, as it can be seen in the Table, the price of a part of goods and services bought by the population are below inputs (producer prices).The price of basic foodstuffs is subsidized to the extent of 26 per cent by the state budget. About 32 per cent of total subsidies goes to food. Public transport accounts for another 24 per cent. Certain prices of services are fixed so low that if we wanted to adjust them to inputs, they ought to be raised to double or more: e.g. the charges for district heating, and for laundries. At the same time, in the price of not-everyday-necessities considerable state income i.e. turnover tax is realized. E.g. in the price of alcoholic beverages and tobacco goods, turnover tax amounts on an average to 40 per cent, and this contributes over 50 per cent of the total turnover tax revenue of the state.

The introduction of prices proportionate to value may take place but gradually. At the same time, there will be also *permanent exceptions.* We wish to keep low the price of products serving basic cultural, health- and social purposes also in the longer perspective.

Taxes on and subsidies to consumer prices in Hungary in 1977

	Deviation of the consumer price from value (%)	
	above inputs (turnover tax)	*below inputs* (price subsidy)
Basic foods		26
Of which: meat, meat products,		16
fats, milk, dairy products		66
cereals		26
Alcoholic beverages and tobacco goods	38	
Clothing articles	5	
Of hardware and technical goods: private car	31	
telecommunication articles	1	
technical articles	7	
Household chemicals, paints	11	
Fuels		38
Services		40
Of which: public transport		117
district heating, hot-water supply		168
laundry		140

Although housing rents, the charges of passenger transport, public utilities and prices of a few basic foods must be raised occasionally, they will be presumably cheaper also in the future than what would be justified by inputs. At the same time, in the case of a few products and services it is justified to apply prices above value (dispreferences). Such are e.g. certain consumer goods, as alcoholic beverages and tobacco goods.

In the Hungarian economy which is highly sensitive to foreign trade the value of goods is organically related to the international value relations. Input can be calculated only if the imported means of production figure in the calculation at their real value. In the case of exports the work of producer enterprises can be qualified in the final analysis only by the price the foreign customer is ready to pay for the goods. Therefore, in the course of the perspectivic development of the Hungarian price system we strive for strengthening the price regulating role of the *rate of exchange.* This role points automatically to the organic connexion between home and foreign trade prices. Exchange rate policy has to

– guarantee the relative stability of the forint currency;

– correctly orientate enterprises engaged in foreign trade about the value proportions of foreign currencies;

– influence exports and imports in harmony with the demands of national economic equilibrium.

The rate of exchange cannot be, of course, the only price regulator. Similarly to other countries, we too have to defend home production against imports. This is the task of the tariff system. Similarly to other countries, we have to exempt exports from taxes imposed by the state in the sphere of home trade. This is the task of the system of tax-refunds. But the protection of home production against imports, as well as the separation of export calculation from domestic calculations must be kept within reasonable limits, and they must be applied in conformity with GATT.

In the connexion between home prices and world market (foreign trade) prices, a separate problem is caused by the fact that *contractual prices used within the CMEA are different from world market prices.* The basis for the formation of CMEA contractual prices is provided by the world market price. These prices, fixed for one or more years, follow world market price movements through the average prices of the preceding five-year period. As long as this practice is pursued, it seems to be expedient to adjust, as far as possible, domestic price formation for imported primary energies and raw materials to the price of the most expensive import resource. The Hungarian economy may develop faster than planned and in a few sectors even the fastest possible development of production seems desirable. In these cases it must be achieved that the expansion of production should be economical at world market prices.

Since the conditions of both production and market are changing continually, the price can orientate economic decisions only if the changes in domestic inputs, foreign trade prices and, in general, market value judgement, are expressed by *price movements.* At the same ime, a relative price stability has to be preserved. Reconciliation of these two requirements caused difficulties when inflation on the world market was sharpening, i.e.

at the time of the 1973 oil-price explosion. We could convince ourselves, however, that the system of mixed (official and free) prices, rules controlling the size of profit (justified and unjustified price increases), the obligation to previously announce price increasing intentions, the right of veto, and an efficient checking of prices provide sufficient guarantee for price stability.

The larger the weight of foreign trade in the national economy – in the case of a small national economy – the more characteristic it is that *profitability of production changes as a function of world market price movements.* This change is an indication that:

– the internationally measured efficiency of productive branches does not get stabilized, there may be branches of production that move from the zone of loss to that of profit, and the reverse may happen as well;

– there is practically no such export commodity pattern in which proportional profitability can be realized.

It is not difficult to understand that, because of macrostructural conditions, short-term adjustment to world market price movements can be but limited. On the other side, the long-term transformation of macrostructure can be based only on a presumed price structure, from which practice may considerably deviate.

Under such circumstances what seems important is to consider, in what proportion the state centralizes the net income necessary to cover social needs as a function of uniform norms covering each production branch (phase), i.e. of profitability. The larger the ratio of income taxed away the wider the sphere where and the larger the extent to which producer price must be reduced by subvention to the level of world market price. The same holds, *mutatis mutandis,* also for consumer prices. The budget subventioning of exports and consumption means in many cases only that the state pays back part of the tax it collected from preceding phases or from the enterprise that manufactures the product at a loss.

What seems desirable in our foreign-trade-sensitive economy *is that the budget should tax away the larger part of net income* realized in production and to be centralized in order to cover *social needs in the final phase of realization of the product.* It is with this in view that we envisage implementation of such a reform which will reduce considerably taxes imposed on production cost.

Connexion between the financial and the price mechanism

When functional disturbances occur in a socialist economy, the deficiencies of the economic control system come to the centre of attention. On such occassions agreement is very soon reached in criticizing the existing price system, as well as in that the functional disturbances of socialist economy can be eliminated only by carrying out a price reform.

Anybody may have any opinion, based on abstract reasoning, on price and on its role, but *price, and its real role can be determined only in the context of the political,*

social, and economic medium in which it exists. Socialist planned economy sets a constraint on the category of price. From this aspect, the deficiency of our economic control system can be indicated by stating that the *constraining of the price function is stronger than necessary.* As a consequence, possibilities are left unused because they cannot be turned to the advantage of society merely by changing the price system.

In order to have a clear conception of the economy, statements are drawn up from time to time about the ranking by efficiency of production branches, and about distortions caused by the price system in profitability relations. As a standard for ranking by efficiency the national value (price of production) used to serve previously, and recently world market (foreign trade) prices have been applied. This shift is based upon the recognition that in our foreign-trade-sensitive economy economic efficiency is measurable only as a function of international competitiveness. Now the question is the following: what change could be expected if, at a "magic touch", new prices were substituted for the old ones? It would turn out at once, that also the new prices can exist only if complemented by financial bridges. Ranking by profitability will still deviate from that formed by the "ideal" price. Therefore, what ought to be thoroughly examined is the considerations behind the neutralization of the price effect and what realistic chance there is for its elimination by a measure of a price character.

Different judgements of the role of price are clearly manifest in the dispute about the rate of exchange. Regulation of the rate of exchange is, in any case, a central question of measures serving the perfection of the price system. It is through the rate of exchange that a connexion is established between the monetary and the price mechanism, and it is first of all this connexion that determines the position of monetary instruments in the government regulation of planned development.

Only a speculative dispute can be pursued about the rate of exchange, since we are dependent on the experience of the capitalist market economies. That is why we argue in terms of "borrowed" categories, such as the equilibrium rate of exchange or the open economy. The former wishes to indicate that the international balance of payments is a matter of controlling the rate of exchange, because a relative currency value can always be found at which profitable exports plus non-commercial incomes cover imports plus non-commercial expenses. The latter concept describes the economy as one which produces goods convertible at will, and thus, the volume of exports decreases or increases as a function of devalution or revaluation of the currency.

This explains why in the mid-1960s, when we were planning to determine a *rate of exchange* for the new economic mechanism to be introduced in 1968, several suggestions were made *to establish it at the marginal value,* i.e. to assert the principle that the least economical exports needed to maintain equilibrium of the balance of payments should be still profitable. For this standpoint the knowledge was provided by the theory of the equilibrium rate of exchange elaborated for the commodity producing market economy. These days the idea of the marginal rate of exchange has lost much of its popularity. As a result of the oil price explosion of 1973 the balance of payments of a number of industrial

countries shows a deficit. This is explained as a *structural crisis* and not as a consequence of wrong exchange rate policy.

Under the old control system in Hungary the foreign trade price compensation settled in each transaction rendered profitable for the enterprises all exports which involved losses for the national economy. And yet we could not transact exports to the West that would have covered import needs. Why? Presumably because of the restrictive policies of industrially advanced capitalist countries, and also because the production structure developed one-sidedly, in accordance with demands within the CMEA. At that time state planning attributed a marginal importance to trade with the capitalist world economy, though in practice dependence on Western imports was considerable.

It is obviously impossible to overcome a structural problem merely by monetary instruments, i.e. by regulation of the rate of exchange. And the structural problem has further aggravated since 1974, since our country is poor in oil. The problem we are facing here is extremely complex.

What can be the rate of exchange in it? Generally speaking, it is obviously to promote fulfilment of the requirements raised towards the financial and price system. From this aspect it is first of all a realistic assessment of the input necessary for earning foreign currency (especially of the imports) that seems important. In our foreign-trade-sensitive economy this question is raised in a specific context. Since we must develop the economy mainly on an imported energy and material basis, natural resources must be valued at world market (import) prices. Thereby, however, it is the rate of exchange itself that becomes one the regulators of the production cost level (producer price level). Therefore, we can proceed somewhat more freely in valuing the currency.

This is what leads us to the other question: is it devaluation of our currency, or rather its revaluation that better serves our economic policy objectives? Hungary being poor in natural resources, it is in our interest to force society to increased thrift with scarce materials. In first approximation it seems that the expectable result will be the better, the more expensive the material, or, the lower the forint is valued against foreign currency. This suits also public opinion. Also in private households one must live within one' s purse.

What appears to be a simple truth here is not always confirmed by experience. Let us just think of the so-called compensation tendencies – granting financial support to balance some centrally decided price increases (milk, meat etc.) – observable already in the regulation of living standards but which take an even more definite form as soon as we leave the field of family household. Under certain conditions, what is more expensive seems more advantageous for the enterprise if it can apply routine calculation, because it can enforce the price thus obtained. It can do so on a seller's market, and can do so even if a price pressure exists but it is comparatively easy to obtain budget subsidy. Unfortunately, we have no sufficient experience of such a situation where the economy is not overcharged and the state allows more freedom for market value judgement.

Under such circumstances what is to be stressed is rather that the rate of exchange should not much deviate from the consumer price parity measured in terms of the

consumption pattern. Therefore, it is desirable that the perfection of our price system should pave the way also for a switch-over to a uniform rate of exchange. This is a sufficient safeguard for the realistic valuation of our currency.

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Price has a very important function in the development of the forces of production. If the price provides adequate orientation in economic decisions, and government decisions are guided by efficiency, the economy can develop in an optimum – or almost optimum – way. This also infers, however, that economic policy objectives are realistic. Special attention should be called today to this fact in Hungary, since, because of the price explosion on the world market, the terms of trade have deteriorated. Losses deriving therefrom are considerable. Our objectives must be determined in coordination with new conditions.

К ВОПРОСУ ТЕОРИИ МЕХАНИЗМА ЦЕН

Б. ЧИКОШ–НАДЬ

Основоположники экономической науки называли «невидимой рукой» упорядочивающий принцип, который, опираясь на роль цены как регулятора рынка, поддерживает равновесие спроса и предложения. Они предполагали, что неограниченная конкуренция создает механизм цен, необходимый для осуществления экономической эффективности. В социалистическом плановом хозяйстве также действует «невидимая рука», однако то, что товарно-капиталистической экономике свободного рынка кажется естественным свойством цены, здесь представляет требование нормативного регулирования. Строящееся на социалистических производственных отношениях плановое хозяйство создает условия для планомерного и пропорционального развития. Государственное планирование создает общие рамки решений, но в отдельно взятых рациональных хозяйственных решениях ориентирующая роль принадлежит цене.

В социалистической экономике цена выполняет свою ориентирующую функцию, если система народнохозяйственного управления соответствующим образом согласует: 1. решения принимаемые под косвенным и прямым воздействием цены (т. е. на уровне государственного управления и на уровне предприятий) 2. плановые директивы и экономические стимулы, поскольку противоречие между двумя видами регуляторов может быть лучше всего преодолено, если и среди прямых регуляторов преимущество отдается стоимостным регуляторам (цена, доход) перед натуральными (количественная регуламентация производства и распределения); 3. экономические и социально-политические мероприятия.

Рассматривая сегодняшние проблемы венгерской экономики, автор подчеркивает, что для восстановления экономического равновесия необходимо усилить ориентирующую роль цены, а это требует, чтобы цены (в том числе и розничные) соответствовали бы стоимости, т. е. отражали бы затраты. В то же самое время в такой чувствительной к внешней торговле экономике, как венгерская, затраты должны соответствовать международным стоимостным соотношениям, т. е. внутренние цены должны также следовать за движение цен мирового рынка. Поэтому автор подробно рассматривает проблемы реформы розничных цен и регулирования валютного курса.

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J. HOÓS

ECONOMIC GROWTH AND EQUILIBRIUM: THE CASE OF HUNGARY

In the present stage the internal and external equilibrium of the Hungarian economy demands a deceleration of the rate of growth. This has to be used for raising efficiency, while the factors promoting growth should be taken into account in the future as well. Utilization of the thus derived possibilities is a condition of accelerating growth later on.

Qualification of economic growth

Economic development is often called economic growth, too. Because of its outstanding role in social development, measurement and qualification of growth, i.e. a realistic statement of the effective progress of society in the field of economic life is of extraordinary importance. In practice, all this is expressed by indicators measuring economic growth. Growth is, of course, a complex process with many-sided manifestations and effects. Since growth is influenced by several factors, its qualification is not a simple task; depending on which of its aspects will be emphasized it might be either over- or under-estimated with regard to the real situation.

In practice, economic growth is measured with the most comprehensive economic categories, thus with the absolute value of/or percentual changes in the indicators of national income, social product, gross national product, net national product, or value added. These indicators properly express the development of economic growth – mainly in the long run. However, they are not sufficient for judging the real results of the growth process. These indicators themselves need qualification. In this respect it is especially important that not only the growth rate and volume of national income, social product or national product should be evaluated, but also the part (volume) available for domestic use. However, this postulates that economic growth should be evaluated not by using these indicators alone, but by applying the system of national accounts (balances) serving for the determination of these indicators, that is by means of the balances of social product, national income, gross and net national product, respectively. It is from these balances that it can be stated whether growth was accompanied by export or import surplus and what was the composition and structure of this export or import surplus, respectively; whether the export surplus was a result of consciously outlaid resources or of some other circumstance unfavourable for economic growth; whether the import surplus was a consequence of a deliberately incurred debt founding long-term development or of unexpected, unforeseen economic and political forced effects. (For example, a large import surplus has developed in several countries all over the world because of considerable price losses in foreign trade, and that in such a way that it had to be used

mostly in current production and consumption and less or only partly for future-oriented development.)

Therefore, if economic growth is qualified and evaluated while neglecting the system of national accounts, unfounded economic policy conclusions might be drawn. For example, the growth of national income* produced in a given country might be of a rapid rate, while the state of equilibrium of the economy is upset or deteriorating. However, this state cannot be maintained for a long time and the re-establishment of equilibrium requires decisions and economic behaviour basically differing from the previous ones. For example, if the import surplus results from the fact that the exported part of output could not be efficiently realized on external markets** (because of losses in terms of trade or uneconomical production), this growth can by no means be qualified as dynamic. Any dynamic growth achieved in this way will be followed by recession or by measures affecting distribution.

On the basis of an over-estimated growth a distribution (e.g. investments, increase of personal consumption) exceeding possibilities might take place. Under such circumstances an increasing consumption may be obviously accompanied by an import surplus, lack of external economic equilibrium or its further deterioration. On the other hand, domestic producers and consumers will not understand measures aimed at reducing the growth rate or even the absolute volume of domestic consumption in the interest of correcting these processes. In a flagrant case this may appear even so, that a considerable part of enterprises and workers will have the feeling that they cannot expand their activities and improve their living conditions in harmony with their efforts.

Keeping expectable consequences in view, it is justified, therefore, to avoid the emergence and eventual maintenance of a difference between the growth rate of the national income realized and that used up. And if this cannot be avoided, then it should be made clear that the effective growth is to be qualified fundamentally on the basis of the growth of resources that can be used up at home. The goal to be achieved is that no difference causing an import surplus should develop between the growth of the national income produced (measured at constant prices) and that of the national income realized (measured at current prices). (Unchanged domestic prices are again assumed.)

If no essential changes occur in the terms of trade, the national income produced and that realized will deviate from each other in the same direction: if the growth of one of them is accelerating, that of the other will do so as well and *vice versa.* The national income measured at current prices, i.e. the one realized, usually exceeds the national income produced, (i.e. measured at unchanged prices), that is, the extent of the change in the volume of products and services forming the national income; the difference of growth between them will be the greater, the faster the increase of the domestic price

*National income (net material product) measured at comparable, constant prices.

**That is, the growth rate of realized national income, at current prices will be considerably less – unchanged domestic prices supposed – than the growth rate of the national income produced – measured at constant prices.

level. With unchanged terms of trade the import or export surplus, will basically depend on the domestic distribution policy, therefore, this should and can be qualified as a function of this policy. Over-distribution or a considerable credit granting (placing a part of the national income abroad, formation of export surplus) may take place under such circumstances, too.

Table 1
Hungarian national income
(Previous year = 100)

Denomination	1970	1971	1972	1973	1974	1975	1976	1977
National income produced at home (at comparable prices)	104.9	105.9	106.2	107.0	105.9	106.1	103.0	107.8
National income available at home (at current prices)	107.0	107.8	108.3	110.3	104.0	106.8	109.7	109.5
National income used up at home (domestic consumption at current prices)	113.6	112.9	99.2	105.7	116.0	110.6	105.9	109.9
Import (–) or export (+) surplus (in 1000 million Ft, at current prices)	–7.7	–22.5	+4.8	+19.9	–19.9	–35.7	–22.4	–26.1

Source: Statistical Yearbook 1977 and Népgazdasági Mérlegek (National Accounts) 1970–1977. Budapest, 1978. Central Statistical Office.

Table 1 illustrates well what has been said in the foregoing. For example, in 1974 the growth of national income produced at home was about 6 per cent, (at comparable prices), while the national income available at home increased by 4 per cent (at current prices). This latter may be regarded as effective growth, the distributable domestic resources increased practically by so much. But, since the national income used up at home increased by 16 per cent, (at current prices), a considerable import surplus, foreign indebtedness resulted. The main reason for the emergence of this situation was the considerable deterioration in the terms of trade as indicated in *Table 2.* In 1976 some improvement took place in the terms of trade and, mainly for this reason, a growth process of opposite sign took place as compared to 1974. That is, the growth at current prices – which can be regarded effective – was greater than that measured at comparable prices. Effects of changes in domestic prices have to be evaluated, too. In the two years mentioned, however, these changes did not influence the substance of the trend indicated.

Table 2
Development of the terms of trade in the foreign trade of Hungary
(Previous year =100)

Period	Total	Socialist markets	Non-socialist markets
1951	88.6	94.9	93.2
1952	100.1	96.5	105.2
1953	104.3	103.9	101.5
1954	96.4	96.1	98.4
1955	98.8	99.6	96.4
1956	96.5	93.9	100.2
1957	95.7	97.1	92.5
1958	104.0	103.0	106.4
1959	98.2	99.0	96.0
1960	100.1	101.1	97.0
1961	102.8	101.0	107.4
1962	100.1	99.7	100.4
1963	103.2	101.9	107.6
1964	98.7	98.9	98.0
1965	99.4	100.4	96.9
1966	99.5	101.0	96.2
1967	101.1	99.9	103.6
1968	100.0	100.4	98.9
1969	101.1	100.0	104.0
1970	100.8	99.9	103.4
1971	98.7	98.5	99.4
1972	99.3	98.2	101.7
1973	98.7	100.8	96.2
1974	92.6	97.1	88.0
1975	92.9	90.6	95.1
1976	102.2	98.3	106.7
1977	96.6	97.5	97.2

Source: Data of the Central Statistical Office.

The qualification of economic growth from national economic aspects on the basis of the system of national accounts is important also because it gives a picture of the inner structure of the utilization of available resources and thus the efficiency of their utilization can be evaluated. Utilization, and thus also growth is, the more efficient, the smaller – in relative terms – the proportion of stocks and unfinished investments. To illustrate it with a numerical example: a five per cent increase of the national income realized may be more favourable than a seven per cent one, if the former is accompanied by an accumulation of stocks and unfinished investments corresponding to one per cent of the national income, while the same accumulation corresponds in the latter case to four per cent of the national income.

Relationship between economic growth and economic equilibrium

Following from the foregoing, it is thus important under what equilibrium circumstances economic growth takes place. From among the conditions of equilibrium, the external balance is worth of special attention, though that of the domestic economy, thus of the consumer market, the investment market and the state budget, cannot be neglected, either. These latter are closely connected with the equilibrium conditions of the external economy. *At the expense or – we might say – "in favour" of external equilibrium economic growth can be accelerated or slowed down, respectively.*

Economic growth can be undoubtedly accelerated temporarily by an import surplus even if this will not be advantageous for growth later on, in the long run. The latter case is very likely to occur if the raising of living standards is financed by available surplus resources or if uneconomical production and export are maintained or supported in this way. Temporary utilization of a part of the import surplus for these purposes might be justified from an economic policy aspect under pressing circumstances. But such acceleration of economic growth might prove also wrong from the aspect of economic policy. Namely, there is neither a need, nor a possibility to realize such growth permanently. If we want to make growth permanently dynamical in such a way, then sooner or later this growth will have to be restricted and its slowing down will be unavoidable. The balance of foreign trade of the country – since inadequate efficiency, the main cause of disequilibrium, will not improve – will be deteriorating to such a great extent that imports and mainly the increase of imports will have to be limited. This is all the more true because in this situation import intensity will increase relative to the export competitiveness of the economy. Thus for a unit of imports more and more will have to be exported. Basically the same effect will assert itself as in case of a deterioration in the terms of trade. This effect will be stronger if terms of trade losses also occur. And, when inevitable import restrictions are introduced, the previous positive effect accelerating growth will be replaced by an ever stronger braking effect. This is especially so, if the problem of equilibrium cannot or only to a small extent be solved at the expense of personal consumption i.e. perhaps investments have to be radically restricted.

The above relationships between growth and equilibrium can be especially strongly felt in an economy sensitive to foreign trade, where growth largely or perhaps fully depends on the expansion of exports, where a decisive part of the products of branches of key importance for the economy should be realized on export markets and also the meeting of domestic needs of the population and producers depends on imports to a considerable extent. In such an economy it is of fundamental importance that the import surplus be utilized in a way promoting the foundation of efficiency and economic growth as much a possible.

With regard to the relationship between economic growth and equilibrium another situation, opposite to that outlined in the foregoing, may also develop. In case the national accounts indicate an export surplus, i.e. a part of national income produced at home is used up abroad temporarily, this might mean also a deliberate non-utilization of the growth potential. In such a case relationships presented previously will be mostly of

an opposite effect. If this export surplus is considerable compared with the national income realized and limits the possibilities for expanding domestic personal consumption, investment demand and activity, then it may considerably moderate the dynamics of economic growth. However, the decrease of the growth rate will be temporary if the export surplus is utilized later on in a way to make possible the expansion of domestic productive and improductive consumption. (E.g. financing of such projects abroad which may contribute to a balanced and growing supply with materials and energy of domestic production, or ensure such additional resources for domestic investments which could not have been achieved by means of domestic development projects.)

Characteristics of intensive growth

Economic growth may be thus accelerated or slowed down at the expense of external equilibrium. This acceleration or slowing down, however, can only be temporary after all. The most important factors *permanently* determining the rate of economic growth are technological development, expansion of the means of production, the volume and qualitative composition of labour resources, natural environment as well as the economic mechanism – all in close connection with prevailing production relations. These factors fundamentally determining growth determine, at the same time, also the character of growth, namely, whether economic growth is extensive or intensive.

If the long-term trend of growth is analyzed, it may be stated that in societies with up-to-date production dynamic growth usually takes place in such a way that the number of hours worked by a worker is permanently decreasing and also the yearly man-hours are diminishing. This unambiguously indicates that the quality and qualification of labour become more and more important factors in economic growth. Because of the decreasing worktime the growth rate of man-hours available to society show also a decreasing tendency, while economic growth is accompanied by an increase in population; together with this the rate of employment of the population and the labour force available for the national economy are increasing for a long time. With increasing labour force the diminishing worktime results in the long run in a decreasing growth rate of the socially available man-hours, or, in other words, the latter are increasing usually to a smaller extent than the productive labour available. The increase of the socially available man-hours can be maintained as long as its increase resulting from growing employment is greater than the decrease of average per capita worktime. At a certain level of economic development the expansion of labour resources will slow down because of a slower age limit and falling upper limit to the working population, i.e. because of the slower growth of the economically active population within the entire population to such an extent, that increasing employment can only compensate for the decrease of average worktime. The total of available man hours will no longer change then.

From the time when the total of man-hours available begins to stagnate and growth has to be entirely realized by raising level of productivity, extensive economic

development will be replaced by economic development of an intensive character. An important criterion of intensive economic growth is, therefore, that *at national economic level the increase in available man-hours does not contribute to economic growth any more, but the latter results entirely from productivity.* This is an important criterion of intensive economic growth, but not sufficient in itself.

Economic growth of intensive character is closely connected also *with the changed structural characteristics of the economy.* Namely, changes in social labour resources and in the socially available man-hours take place in a specific way in the individual branches of the national economy. First of all, it is characteristic of these changes that in a certain stage of development labour migrates from agriculture to the industry and other national economic branches in large numbers. This is made possible firstly by the fact that labour productivity is highly increased in agriculture by means of up-to-date industrial products and the development of agricultural technologies. Thus the growing demands of the population for food can be met even with a decreasing labour force. In this period also employment is dynamically increasing, mainly by drawing a part of women working only in households and of domestic aids into industry-like, socially organized work. These two factors – increase of productivity in agriculture as well as drawing of new layers of population into socially organized work – ensure considerable additional labour resources for the industry and other branches of the national economy. In this period the increase of industrial production is the primary factor in economic growth which results, on the one hand, from the creation of new workplaces and from the raising of productivity at existing workplaces, on the other.

At a higher level of economic growth – that coincides, as a matter of fact, with the initial period of the scientific-technical revolution – the increase in industrial employment will slow down, employment decreases and industry more and more becomes an additional labour resource for other branches of the national economy, first of all of the servicing sector. In the industry a process similar to the one previously taking place in agriculture begins and develops. That is, the industry is able to meet demands raised towards it also with a decreasing labour force. However, a great part of the labour released here will no more migrate to productive, but to tertiary branches.

All this coincides with the fact that the socially available man-hours are stagnating or decreasing and the only source of economic growth at national economic level is the raising of productivity. This structural change has to be considered as another decisive criterion of intensive growth. This criterion appears also in that in the course of growth no more such considerable inter-sectoral regrouping of labour takes place as previously, i.e. the proportion of the non-productive sphere does not increase so rapidly as did that of the industry previously.

The importance of structural questions is further increased by fact that *the improvement of efficiency* is a primary requirement in the period of intensive economic growth. In the productive sphere increased efficiency requirements can be met only by dynamic structural changes. And, structural changes have to follow the trends of technological development, rely on the achievements of science, in other worlds the possibilities

offered by the scientific-technical revolution have to be used to the greatest possible extent. After all, economic growth will be really of intensive character if these complex requirements can be met. This also means that a structural regrouping of labour and the raising of productivity will not satisfy alone the requirements of intensive growth, since these have always been necessary and inseparable conditions and consequences, respectively, of economic growth.

Growth rate in the intensive stage of economic development

Economic growth of intensive character includes the possibility of a decreasing growth rate. Namely, if the increase of productivity in the productive sphere cannot compensate for the decrease of the available man-hours and especially for the relatively considerable decrease of the productive man-hours, the growth rate will necessarily slow down. However, this may occur only *if society cannot make* use, when changing over from the extensive stage of growth to the intensive one, of the additional sources of growth provided by technological progress and the scientific-technical revolution, i.e. if it cannot accelerate technological progress and through it structural shifts at such a rate that as a result of increased productivity in the productive sphere a regrouping of an adequate labour staff to the nonproductive sphere should become possible, while increasing production in the productive sphere establishes the material and technical conditions of a more rapid economic development. Therefore, in the case of a technological development at a proper rate a diminishing growth rate is not necessary in the period of transition from extensive to intensive growth.

In the period of intensive growth proper qualification and measurement of growth is of increased importance. In the intensive stage of growth the increasing proportion of the tertiary sector, the emphasis on qualitative requirements in education, the health service, cultural life, environmental protection, working conditions as well as with regard to urbanization more and more require that economic growth should be analyzed and evaluated not only as an economic, but also as a social category. Under such circumstances, satisfaction of the politically prescribed social needs can be realized for example also with a slower growth rate, while the mechanical forcing of a relatively higher growth rate may cause disproportions in certain spheres of the economy, and a diminishing economic efficiency (for example, through the inadequate level of infrastructure –, or considerable environmental damages).

Changes in the internal conditions of economic growth in Hungary

Most important changes influencing the inner conditions of economic development took place in labour and investment sources as well as in the capital intensity of the economy. Labour resources and the man-hours available for society cannot be significant-

ly enlarged in the future, what is more, the *socially available man-hours are likely to decrease.* While the employment increased by more than 1 million between 1949 and 1976, its increase will probably hardly amount to 100–150 thousand between 1975 and 1990. This is well indicated by the fact that, for example, the Fifth Five-Year Plan for 1976–1980 reckons in employment only with an increase of 60 thousand. Taking also the shortening workweek into consideration it cannot be excluded, either, that in the 1990s socially available man-hours will decrease by 10 per cent in comparison with the present one. The rate of employment is also high, in this respect we are among the first all over the world: the number of dependants per 100 wage-earners is 112 in Hungary, while in Italy 175, in Holland 180 and in Norway 153. Women in working age who stayed at home in households have been activized maximally. More than 70 per cent of women of working age have some socially organized job. Their proportion cannot be further raised for demographic reasons. The additional labour to be released by agriculture is decreasing, while labour requirements of the non-productive branches are dynamically increasing.

Resources for accumulation, within them those for investment can be expanded only to a moderate extent in the future. There will be no possibility to increase by leaps the proportion of accumulation within the national income as it happened immediately after the war. The present 25–27 per cent rate of accumulation is remarkable also internationally. Beside the relatively smaller growth possibilities of resources for accumulation, the capital intensity of the national economy increases. Modernization and reconstruction of existing producing bases require expensive investments. The utilization of domestic raw material resources, the building of energy lines and reservoirs should be accelerated. The building up of infrastructure has to be continued which will engage considerable amounts of money and labour and, thus, relatively diminish the range of resources available for the expansion and modernization of productive branches. Another factor requiring additional expenditure is the protection of nature, the necessity to diminish various environmental pollutions.

Because of all these circumstances the fundamental future source of growth can only be an improvement in the efficiency of social production, more precisely, the raising of labour productivity and a more rational utilization of the means of production. In the forthcoming period economic growth will become unambiguously intensive. This will manifest itself also in that the development of all productive branches, thus also that of the industry, will depend on the rise in the level of productivity. The relatively considerable lag of industrial productivity by international standards not only demands this as a necessary task, but may also further it in several respects. With industrial development of such character a high growth rate can be achieved first of all by releasing labour employed in the industry, by regrouping live and embodied labour to more efficient and productive fields, i.e. through structural modernization.

The emphasis laid on efficiency as the factor fundamentally determining economic growth, in Hungary makes structural transformation a condition of key importance for development, and that in a new sense as compared with previous concepts, corresponding to intensive growth. It is not the structure of the national economy by main sectors that

has to be changed, but the product pattern – and the structure of groups of products, respectively, – within the individual branches has to be modernized. This also means that as against the previous period when expansion and widening of the production line and product pattern were characteristic, changes of such direction should be moderated in the future and the spectrum of production ought to be narrowed down in several fields, eliminating the manufacturing of certain products or groups of products and regrouping, in a planned way, labour and means of production engaged by them to modern, more profitable fields.

Changes in the international conditions of Hungarian economic growth

Important changes took place also in the international conditions of economic growth. They influence, on the one hand, *the state of equilibrium of the national economy* and the realization and purchasing possibilities on the other.

The equilibrium conditions of economic growth were basically affected by the price explosion on the world market after 1973. Hungary – as it can be seen from Table 2 – suffered such losses in the terms of trade which are justly considered as the most serious foreign economic effect of the last 30 years. Thus, for example, import prices increased by 16 per cent in 1974 as compared with the previous year, within them those of imports from the non-socialist countries by almost 35 per cent. The increase in the prices of products exported was considerably smaller, altogether 8 per cent. Under the effect of the price explosion the foreign trade deficit increased in comparison with that of previous years. The Hungarian national economy – similarly to most other countries – could not rapidly compensate for these unfavourable effects with its given structure. In the interest of maintaining the increase of the domestic productive and personal consumption at an adequate rate the foreign trade deficit had to be accepted.

The effect of the deterioration in the terms of trade will be felt for a longer period. Thus it should be reckoned with that economic growth will be accompanied for some time by external disequilibrium. A gradual re-establishment of equilibrium necessitates that a *relatively considerable part of the national income produced should be permanently used for paying of our debts resulting from the deterioration in the terms of trade,* while dynamically improving the efficiency of production. This will obviously reduce development resources available for modernization of production and for improvement of its efficiency. Moreover, this situation occurs under such circumstances when intensive growth would require even the utilization of considerable additional resources.

External economic conditions have changed also in other respects with regard to both the socialist and the capitalist countries. As regards socialist countries, the trend of changes may be summarized in the following:

– We have to reckon with the fact that raw material producing capacities of the CMEA-community will be scarce in comparison with demands. The situation will be similar with regard to the supply of high-quality products and investment goods repre-

senting up-to-date technology, too. The CMEA-countries – among them Hungary, too, – will increase such imports from non-socialist markets and, in order to balance them, their exports to the same markets should be increased at a more rapid rate. A great part of the increment of our raw material and energy needs, too, can probably be satisfied only from non-socialist countries, at least in the coming one or two five-year plan periods. At the same time, though with moderate growth, prices of imports from the socialist community will more and more approach world market prices.

– The socialist countries raise higher requirements towards the up-to-dateness and quality of our export products, just as we do the same, in connection with the strengthening characteristics of intensive growth. And this requires the importation of up-to-date technology. Increasing demands of the population and the rising level of consumption have similar effects, too.

It follows that the conditions of raw material purchases will be more and more difficult on the socialist markets, on the one hand, and more and more demanding requirements will have to be satisfied also in exports, than previously, on the other. Thus, while during the last 30 years we could buy raw materials and energy from socialist countries according to the dynamics of our economic growth and the sales possibilities of our products were favourable, this situation too will change in the future. Exports to the socialist countries can be dynamically boosted only if they are accompanied by improving modernization of the products and by an import structure favourable for us.

Considerable changes took place in the capitalist world economy, too. These changes may be expected to be lasting as well. First of all the growth of world trade has become slower. In the last 25 years this was very dynamic in comparison with previous periods. Thus, for example, the yearly increase of exports amounted to 3.7 per cent between 1870 and 1913, to 1.1 per cent between 1913 and 1950, to 8.6 per cent between 1950 and 1970 and to 6 per cent between 1970 and 1975. The dynamic increase of export was an important factor in the relatively rapid growth of capitalist world economy following World War II. As a result of latest events the former international monetary system has dissolved, economic growth has slowed down and this has been accompanied by considerable unemployment and high inflation.

There are forecasts indicating that the growth of capitalist world economy will become slower as compared with the growth rate realized after World War II and much more uneven. This is partly due to the changing power relations between capitalist countries. The United States of America have lost their previous determinant role in the world economy. They can fulfil with growing difficulties their somewhat coordinating and regulating functions – always governed by their own interests – that would be required under the circumstances of modern world economy for the international, dynamic growth of productive forces free from significant and frequent cycles. Western Europe and Japan are more and more enforcing their own national interests against the United States. However, the assertion and fight of conflicting interests bring about direct tensions and crisis phenomena and, are therefore, opposed to the requirements of a more balanced development of capitalist world economy.

Another reason to be mentioned is that – the capitalist economy seems not to have exploited the possibilities inherent in economic integration to any considerable extent by the mid-1970s. This refers mainly to Western Europe. Any further progress in this field would already mean a considerable subordination of national interests to common interests, which is, precisely following from the above, already a more difficult task. The reserves for growth of developed capitalist countries – in many respects related to the acceleration of integration – resulting from considerable differences in the technological level of the United States, on the one hand, and of Japan and Western-European countries, on the other have become exhausted, too.

Previously, it was a factor accelerating growth, that Western Europe and Japan, and in several respects also the United States had widely applied achievements of scientific activity, displayed before and during World War II in the interest of increasing military potential, in economic life following the war. In other words, Western Europe and Japan, but in many respects also the economy of the United States could achieve an improvement in the efficiency of production not by extending the limits of science, but within the limits already developed by previous intensive scientific researches, so to say by an "extensive" utilization of technical development possibilities. To further improve efficiency, in the future also the limits of science have to be extended which requires considerable additional expenditure and is also consuming. It might be also put in such a way that further development of the economies of Western-European developed capitalist countries, Japan and of the United States, respectively, is becoming intensive as regards scientific activity, too.

This changed world economic situation of developed capitalist countries influences Hungarian economic growth by further increasing the requirements of competitiveness raised towards our exports to these countries. In addition, these increased requirements appear under circumstances when economic growth demands more than ever to expand our exports to and imports from these countries.

Considerable changes have taken place in the developing countries, too. On the one hand, these countries have become differentiated. Economic growth of countries rich in raw materials and energy resources accelerated thanks to their extended sources of accumulation. As a result, their import possibilities are great as well. We are interested, therefore, in increasing our exports to these countries. The majority of developing countries poor in fuel and raw materials got into a grave economic situation. Their import possibilities are limited. In this relation our exports can be enlarged mostly only insofar as they are connected with credit. While taking these circumstances into consideration, it should be reckoned with as well that developing countries more and more appear on the world market as exporters of products not requiring mainly skilled, qualified labour. Therefore, competition raised by these countries should be reckoned with in the case of all such products. In practice this implies that the export of our products requiring simple labour should be gradually diminished in the future, since we cannot compete with the relatively low wage-level of developing countries. This urges, again, for structural changes.

Changes occurred in world economy have made, thus our growth conditions more unfavourable. At the same time, the dependence of Hungarian economy on the world economy is further increasing. As a matter of fact, this is a necessary concomitant phenomenon of intensive growth. It is more and more characteristic of our economy that *the narrowing down of the spectrum of production* in the interest of improving efficiency is accompanied by the claim of consumers and users for an ever widening assortment of products and services. Thus, the contradiction between the assortment of products economically producible at home and that of products required by the population and producers, will further sharpen in the future. To resolve this contradiction is possible only by the evolution of economic integration. Consequently, *to the extent structural transformation becomes a more and more determinant condition of economic growth, also the evolution of economic integration will more and more become a direct precondition of economic growth in Hungary.*

This is supported also by the fact that the rate of economic growth is increasingly depending directly on the increase of export. The value of export amounts to 38 per cent of gross domestic product. More than half of the total output of ten productive branches – of the pharmaceutical, aluminium, telecommunication and vacuum technical industries, precision engineering, manufacturing of transport vehicles, shoe industry, animal husbandry, poultry processing industry, fruit growing, the canning and preserving industry – are exported. Therefore, economic growth is more and more equivalent to the increase of exports. However, this is possible only with dynamic imports.

Factors promoting Hungarian economic growth

Beside the more unfavourable conditions of economic growth, however, also some important favourable effects and circumstances should and can be reckoned with.

Conditions can be gradually created under which socialist economic integration may develop to an extent that it can be taken for sure that the international economic background necessary for continuous economic growth will be made considerably faster in the coming 5–10 years.

It may be expected in the future that world economy and world trade will further expand – though presumably with greater fluctuations than in the last 10–15 years – and our international economic relations can be extended also with the West. Consequently, it is a realistic assumption that economic relations required by intensive economic growth can be built up with developed and developing countries and that the primary energy, raw materials and technology necessary for growth can be obtained.

It should be considered also as an especially favourable factor, that a relatively great number of qualified labour is available, together with capacities by whose further development and modernization the requirements of intensive growth can be met.

From the viewpoint of growth the development of agriculture realized up to now is an important stabilizing factor. Although extensive reserves have, no doubt, been mostly exhausted in the agriculture during the last 10–15 years – especially in plant growing –, nevertheless, there are still considerable reserves even in plant growing if achievements of up-to-date science and technology are utilized. At the same time, extensive reserves of animal husbandry – apart from poultry raising – have been mostly not explored, yet. Nor can it be doubted, that the utilization of agricultural reserves requires much more investment than previously realized. If agricultural development policy is accompanied by an intensive exploitation of the achievements of science, this will make it possible to further increase the stabilizing role of agriculture both in domestic consumption and in exports.

Acceleration of technical progress can be an important source of growth. This essentially means an exploitation of the significant gap existing between the domestic and the leading international technological level and scientific researches. Therefore, an intensive adaptation activity has to be displayed. In other words, *our relative backwardness can be turned into an advantage if scientific results already achieved elsewhere are applied.* This necessarily involves a much wider application and practical utilization of foreign scientific results and technological recommendations than before. Possibilities for such an activity are given, partly in the quality of the domestic labour force and the capacities built up, but also because an extensive scientific basis has been established during the last 30 years. In case these forces can be concentrated on adaptation and a corresponding domestic development, then important additional sources of growth can be explored, through technological progress.

To the successful solution of the tasks related to intensive economic growth also the rich experience obtained in the course of developing our system of economic control and management up to now may contribute to a considerable extent. Until now, the control and management system could always adapt itself to changed new circumstances. This may be an adequate guarantee also for the future.

Adaptation to the latest conditions of development requires an efficient coordination of central control and enterprise management and also that control and management should be more organically integrated with foreign economic policy, and that domestic and international aspects of the solution of economic tasks form a unity indeed. The solution of economic tasks is supported also by balanced political conditions. This is important, because, owing especially to the nature of structural changes, economic shifts involving the suppression of certain particular interests have to be reckoned with. Intensive economic growth requires changes not only in attitudes, but also in the structure of economic relations. For example, the increase of industrial productivity necessarily entails the elimination of uneconomical production, export and import activities and a regrouping of spheres of interests lying behind them. This may give rise to such local political tensions that a favourable political atmosphere should be especially appreciated from the viewpoint of their successful solution.

Expected development and qualification of the rate of Hungarian economic growth

Having examined the above factors of economic growth we can come to the final conclusion, that *the growth rate will necessarily become less dynamic* relative to previous periods. (Data referring to growth can be seen in *Table 3.*) It cannot be set as a realistic

Table 3
Yearly average growth rate of the national income

Period	Percentage
1951–1955	5.7
1956–1960	5.9
1961–1965	4.1
1951–1965	5.3
1966–1970	6.8
1971–1975	6.2
1966–1975	6.5
1951–1975	5.8
1976–1977	5.4

Source: Statistical Yearbooks

target to permanently maintain the more than 6.5 per cent rate of economic growth of the decade 1966–1975. Consequently, a slower growth has to be prepared for, with all the economic and political consequences involved (accordingly, the Fifth Five-Year plan referring to the period 1976–1980 has already reckoned with a slower growth). However, this slower growth will not be basically slower even in the long run than that between 1951 and 1965. But it cannot be excluded, either, that for several years – mainly because of the urging satisfaction of equilibrium requirements – only an even more moderate growth can be envisaged. But, – precisely in consequence of the circumstances mentioned above – to achieve this moderate growth will be a more difficult task, raising higher requirements towards economic control and management, than the realization of faster growth in the past.

With economic growth becoming intensive, even if this will be accompanied by a slower rate of development than in the period 1951–1975, growth may be qualified as dynamic also further on considering its trend. That is, in the longer run, transition from the extensive stage of development to the intensive one is not necessarily accompanied by a considerable slowing down of economic growth under Hungarian circumstances. *But this assumption holds on only if we can make good use of available domestic and international possibilities as well as of favourable circumstances.*

Under the circumstances of intensive economic growth the adequate interpretation and qualification of economic growth become more important, too. *Growth should be judged unambiguously from the viewpoint of economic efficiency in close connection with the equilibrium requirements of the economy.* Dynamic economic growth can be made an end in itself or forced less and less in the future. It should be avoided that economic growth and the improvement of efficiency are accelerated at the expense of indebtedness nor serving the improvement of economic growth is justified which meets real demands competitively, serves indeed the raising of living standards and contributes to the enlargement of accumulation – first of all of fixed assets – and to the improvement of national economic equilibrium. Otherwise, as we have already referred to it when discussing theoretical implications, acceleration of growth will be necessarily concomitant with the deterioration of national economic efficiency and a lasting slowing down of growth. Under our given conditions of growth, when a certain slowing down in growth may be expected anyway and external economic equilibrium is not favourable. either, the danger of endeavours to such acceleration cannot be neglected. It is especially important in this context that growth be evaluated in a complex way and qualified not by the dynamics of a single indicator, but on the basis of a thorough analysis of the system of national economic accounts.

ЭКОНОМИЧЕСКИЙ РОСТ И РАВНОВЕСИЕ (НА ПРИМЕРЕ ВЕНГРИИ)

Я. ХООШ

Экономический рост измеряется наиболее общими экономическими категориями (национальный доход, чистая национальная продукция и т. д.). Однако для качественной оценки роста и эти показатели необходимо оценивать на основе системы балансов народного хозяйства. Это необходимо также и потому, что система балансов дает возможность получить представление о структуре ресурсов, обеспечиваемых ростом, благодаря чему можно оценить эффективность их использования. Следует также дать оценку того, в каких условиях равновесия происходит экономический рост. Особенно важна оценка внешнеэкономического равновесия и роста. Экономический рост можно ускорить или замедлить за счет или в пользу внешнеэкономического равновесия. Однако это ускорение или замедление – если они не сопровождаются повышением эффективности – не могут быть длительными и могут привести к экономической и политической напряженности. Эти взаимосвязи следует принимать во внимание и при оценке экономического роста венгерского хозяйства. Важным является приведение темпов роста в соответствие с условиями экономического равновесия, последние же требуют верменного замедления темпов роста. В направлении замедления также действуют и ставшие более трудными внешнеэкономические, а также внутриэкономические условия развития. В то же самое время можно и следует считаться с факторами, которые благоприятно воздействуют на рост венгерской экономики, например, с квалификацией рабочей силы, с созданными производственными мощностями, со стабилизирующей ролью сельского хозяйства, с преимуществами, вытекающими из технического прогресса на основе селекции и интенсивной адаптации, с благоприятной политической обстановкой. Использования этих возможностей настоятельно требует интенсификация экономического роста в Венгрии.

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J. DRECIN–J. TAR

INVESTMENT EXPERIENCE DURING THE 1976–1980 FIVE-YEAR PLAN IN HUNGARY

The introduction of the study reviews the major investment estimates of the current five-year plan and outlines the important experiences of Hungarian economic development during the first three years of the plan period. It discusses the tasks to be completed in the years 1979 and 1980 in order to attain the objectives set. Also some problems are pointed out which have to be solved in the course of formulating the investment policy of the 1981–85 five-year plan, in harmony with the development of the planning, state administration and economic control system of the national economy.

The analysis of the Hungarian economic situation shows that proper control of investment activities is the clue to the restoration of the upset equilibrium of foreign trade. It will be therefore worth while and expedient to scrutinize the experiences gained during recent years about the planning, the decision-taking and the control of investments.

Objectives of the five-year plan

Let us recall some basic objectives of the 1976–1980 five-year plan. The plan provided for 870 billion forints of investments for economic development purposes in the state and cooperative sectors, about 25 per cent more than in the previous plan period. An additional amount of about 100 billion Forints private investment, mainly into housing, was also estimated in the plan computations. Concerning the annual distribution of the planned volume of investments it was thought to be expedient to reckon with a rather moderate growth rate in the first years as, owing to our predictable foreign economic difficulties, the growth of the domestic use of the national income would have to be moderated. The plan therefore estimated a very modest growth for 1976 relative to the years before, and assumed steadily increasing investment opportunities each year thereafter. Because of the predictable price increases of capital goods (buildings, roads, machinery, equipment, etc.) and of the implementation costs of investment projects, the average annual rate of investment growth was expected to amount to about 7–8 per cent, computed at actual prices.

For the five-year investment estimate the rather complicated process of income formation and distribution had to be planned, because in Hungary the decision-making and financing system of investments is rather flexible, and the autonomy of the economic units is a considerable factor in shaping the investment process. The accruing revenues

and the part available for investment purposes therefrom had to be planned not only in general terms but also with respect to the distribution of incomes by state and enterprise disposition, the income position of the main sectors, the funds for extending credits, the pattern of using the credits, and so on.

A number of investment projects were determined by the plan simultaneously both in physical terms and verbally. Thus, for example, the plan stipulated to increase the capacity of power plants by 1500 MW in order to satisfy power requirements; to extend and modernize steel production and the coking plant in the Danube Iron Works; to expand the Székesfehérvár Light Metal Works, the production of buses, of computer equipment, of electronic component parts and other capacities; to develop the processing stages of the olefine plant; to put important projects into operation in the Borsod Chemical Works and in the Tisza Chemical Works; to accomplish the construction of the cement factory at Bélapátfalva; to continue the reconstruction of the printing industry; to complete the extension of the salami factory in Szeged and to put into operation the meat plant of Gyula, etc. Most of these projects are carried out at the proper pace, a considerable number will be accomplished in the plan period and will start production. However, for various reasons, there are also underfulfilments: among others in the power plant program, in completing the coking shop of the Duna Iron Works, in the construction of the Bélapátfalva cement factory and the Szikra Newspaper Printing Office. There are also other somewhat overdue fields.

The plan provided for a marked development of the building industry, of agriculture, forestry, water management, and the infrastructural fields in the broader sense of the term, i.e., also including transportation, telecommunication and trade as well as the nonproductive sectors. The Fifth Five-Year plan stipulated, *inter alia,* the building of about 430 to 440 thousand apartments, at least 70–75 thousand kindergartens and 17–18 thousand nursery accommodations and the building of a number of other health, educational, etc. institutions. Most of these provisions of the plan were attached in the decision system to central decisions, and were in a very big part based on budget expenditures, that is, on government financing.

In compliance with the principles of our control system the plan laid down actually only the prime investment tasks by material-technical-economic content, but did not specify in such form the majority of the concrete development tasks of enterprises. This conception follows the proven method of deciding about local development issues where and when the investments' actuality, size, ways of solution and technical-economic relations with other fields can be based on sufficiently deep insight. A big part of the concrete development tasks cannot be referred to the direct decision-making system of the central control agencies *instead* of the enterprise because, owing to insufficient professional or detail knowledge and to the accompanying rigidity of the development policy, this would disturb the harmony of the economy and impair its efficency. The control regulators drawn up along with the plan were believed to give us the indirect methods by means of which the behaviour of the centrally not instructed investors could be suitably controlled and coordinated with the equilibrium interests of the national economy.

Developments of three years

In the three years so far elapsed from the five-year plan period valuable experience has been gained. By now it is quite clear that our development-investment conceptions have not been implemented in strict conformity with the plan as far as economic equilibrium is concerned. Till now we have spent more on investments than we had planned, the rate of fulfilment has fluctuated, centrally decided state investments have lagged behind the plan, and the funds available for investments in the enterprise sphere have been considerably bigger than forecast. Harmony between investment objectives and execution has not improved appreciably either. Moreover, as a result of new capacities expanded through investments, more jobs have been created, that is, less have been cancelled, than would be desirable; thus there is no perceivable improvement in the employment policy in Hungary: labour shortage continues to exist and disturb production.

The disharmony between investment targets and actual accomplishments can be described also with some data.

In the state and cooperative sector round 151 billion Forints were spent on investments in 1976, 3,6 billion Forints more at current prices than the estimate for that year. At current prices there was a growth of 3,8 per cent over the previous year: at comparable prices this shows some decrease in terms of volume. The implementation of state investments lagged behind the planned rate by 3,7 billion Forints. On the level of the national economy this was compensated, naturally only with respect to the value process, by an overfulfilment of 8,3 billion Forints in enterprise investments.

In 1977 the amount of investments outlays in the state and cooperative sectors was round 181 billion Forints, 17,6 billion Forints more than the estimate of the annual plan. This amount included an underfulfilment of 2,3 billion Forints in state investments as against more than 20 billion Forints overfulfilment in the enterprise sphere. In 1977 the amount of outlays was nearly 20 per cent higher (at current prices) than in the year before.

The national economic plan for 1978 estimated 86 billion Forints for state investments, 93 to 94 billion Forints for the decentralized investments of the enterprise sphere, and about 180–181 billion Forints for the whole of the state and the cooperative sectors, including the reserves of the national economy. As shown by the course of plan implementation, there is an underfulfilment of about 2 billion Forints in state investments while in the enterprise sphere there is an about 19 billion Forints overfulfilment relative to the estimates.

It is worth noting that in the state and cooperative sectors 47 billion Forints more was spent on investments in three years than calculated in the partial estimates for this five-year plan period. Besides, in these three years, from 1976 to 1978, state investments were by about 8 billion Forints underfulfilled and those in enterprises were by more than 63 billion Forints overfulfilled. All these indicate deviations not only with respect to the amount of expenditures but in a certain sense also with respect to the distribution of investment decisions by spheres of authority. How should we evaluate these symptoms

from the point of view of planning and control on the one hand, and of the relationships between the real processes on the other hand?

We are going to discuss first our inferences concerning the planning of the amount of investments. The "moderate" investments estimates of the five-year plan were disputed as early as during its preparation. As it always happens in the course of planning, the demands for investments were much higher than the volume deemed realistic by the central planning organizations. (Planners examine the investment possibilities, naturally, not only from the physical and technical aspects but also on basis of the equilibrium requirements of economic development.)

It is really expressed by overfulfilments that in the period under study we could afford to allocate more resources to investments than contemplated, but only an overall economic analysis can show that this overfulfilment took place along with a higher deficit in the balance of foreign trade than had been planned, and was one of its causes, even if not the decisive one. Excess investment outlays also increased the deficit of the state budget and had a harmful effect on the organization and efficiency of the real processes because they upset the order of investment implementation, while in the "market" of capital goods and services inflationary elements were introduced by excess demands. In this sense it would have been a real and not a formal interest to set limits to such a significant overfulfilment of the investment plans.

In the analysis of the investments by types of decision the deviation of state and enterprise investments from the plan has to be assessed in different terms than the national dimensions of investment activity. In fact it is the *volume* of investment overfulfilment in the enterprise sphere that we have to disapprove of. The deviation of the relative proportions of state and enterprise investments from the plan in itself cannot be subject to our criticism, also bearing in mind that these categories do not show the real contentual features of the decision making process with sufficient accuracy. It is beyond doubt that the inaccuracy of planning is partly a reason of the deviation from the planned relative proportions of state and enterprise investments, since the capacities of the contractors carrying out state investments were overestimated, while enterprise incomes were underestimated in the plan. However, it must be also listed among the reasons of the difference that, by creating a 45-billion Forints credit fund for export development, the operative government control initiated a reasonable interference with the aim of increasing the opportunities for enterprise investment. The actual enterprise investments should be thus critized not from the aspect of the relative proportions of decision-making but because of their exaggerated volume.

A study of the causes that led to the oversized investment process reveals that the most important points for the future are the experiences gained in control and regulation. What emerges from the given situation is less the shortcomings of planning but rather those of the decision-making practice and of financial control. We certainly do have methodological difficulties as well, hampering more accurate estimates in the financial process, but the major errors are in the practical decisions: in the fact that the extremely intricate "financial dialogue" between state and enterprises which affects incomes is

usually decided in a way that the enterprises get more chance to improve their financial position from state resources than intended by the centre. Since this is a recurring symptom, it is also a warning for the future. On the other hand, in the case of investments financed by the state budget the oversize investments are planning errors, as also evidenced partly by the regular underfulfilment for years and partly by the slow implementation. They are present mostly in the five-year plan but also, to a smaller extent, in the yearly plans. But the nature of this error is not the same as that of the regulation disturbances of the enterprise sphere. Namely, the planning of state investments is basically not a financial task but a technical-economic (that is, a problem-oriented) type of work. Planning is regularly wrong in estimating the input costs required for the solution of the problem. Some planning errors are corrected by the decision-making mechanism and by the flexibility of the plan in such a way that part of the investment targets specified previously are omitted from the annual plans, and it even happens that projects included in the annual plan are not started.

It can be ascribed to this deliberate attitude that the starting of several new lignite, brown coal and bauxite mines or their reconstruction, and the starting of the major state investments of the new Csepel Pipe Works and the new Transdanubian Cement Factory have been postponed to a later date (probably to the early 1980's). Some phases of the olefine plant and the major project encompassing the 3rd stage of expanding production capacities of artificial fibres from polyacrilic-nitric base materials have not been started, in harmony with our efforts at a better exploration of many important detail opportunities for international cooperation. We have, on the other hand, begun to build for example the Hajdusági Sugar Factory which is not figuring in the medium-range plan. Its equipment are delivered by Poland, and the bulk of the building and mounting work is also done by Polish building enterprises. The building of the Budapest Sport Hall, another project which is not mentioned in the current five-year plan, has also been started with considerable financial contribution by enterprises in the capital and with a remarkable amount of voluntary work done by young people and by workers of factories in Budapest. Still, in the field of state investments implementation lags by 2 to 3 billion Forints each year behind the plan. Thus, it can be established not on a theoretical but on a practical basis that the dimensions of the state investment plans are exaggerated by about this magnitude.

There is another feature which drives planning, and in particular the state decisions, into somewhat exorbitant undertakings. In this respect not only the planning but also the social "mechanisms" call for analysis. The various expectations towards state investments are definitely not in line with the potentials of the economy. This has been very well known for some time. Although central planning trims some exaggerations, it cannot trim all of them. Some of the excessive demands are fed by the institutional system of the state itself through attaching big social, sectoral, or enterprise interests and arguments with different impacts to the different targets, while central planning is not always able to withstand the pressure of demands. This symptom is, in a certain sense, a problem of social consciousness because it also expresses a degree of dividedness of the decision-

making system as well as the exaggeration of demands on state resources, which has grown into an attitude. It is only natural that once a decision system is in addition composed of a too big number of "partial responsibilities" belonging to many professions and fields, no wonder that there will be too many corresponding centres of interest in the society. Though it is not impossible, it is difficult indeed to coordinate them properly with macroeconomic conditions.

The long known deficiencies of planning, regulation and central control are thus again spotlighted by the investment processes of the years 1976 to 1978. We are getting more and more aware of the symptoms of the shortcomings and of their possible remedies but the deeper causes have not yet been explored. For this reason we should increase research work on our decision making system, on the pattern of interests and their attachment to the organization of management.

Restraining the growth of investments and selectivity

From the analysis of the economic situation during 1976–1978, above all of our foreign economic tasks, and from the evaluation of investments a number of conclusions derive for the years 1979–1980, and even for the next five-year plan period. The following are assumed to be established conclusions:

– the money receipts of enterprises available for development must be adjusted to a lower growth rate of investments. The instrument of this regulation is to generally narrow the "external" (governmental) channels through which the enterprises can improve their incomes, and in some justified cases to curb the revenue to be left with the enterprises perhaps as early as in 1979. The method to be pursued should not, as a rule, include drawing away the already available resources;

–it ought to be an attitude to be displayed for several years that a number of state investment projects are omitted, that is, to design this sphere for somewhat humbler objectives;

– all the above must be solved so as to reduce the growth rate of investment (at current prices) to about half in the next two years and in the early 1980s. If possible, investment overfulfilments should not exceed 65–70 billion Forints over the whole fifth five-year plan period. Following from the external and internal equilibrium position of the national economy the appropriate amounts would be a total of about 180–185 billion Forints in state investments and some 220–225 billion Forints in enterprise investments for the years 1979–1980.

– Despite the more restrained investment objectives and the regulations "serving" them, a flexible scope of movement has to be reserved – and should be eventually even increased – as far as circumstances allow it for enterprise investments aimed at modernizing their existing capacities, adding to the convertible commodity bases, improving the country's balance in convertible foreign exchange. The technical future and competitivity of the industry depends mainly on these investments. In planning the use of investment

resources it should not be forgotten that at the end of 1977 the stock of working fixed assets in industry amounted to round 590 billion Forints, (gross value) of which the the value of machinery and equipment was 360 billion Forints. The value of machinery per employee can be nevertheless regarded as low: in the state industry it is hardly 210,000 Forints, while in industrial cooperatives it does not amount to 30,000 Forints. Moreover, most of this machinery should have already been replaced, and therefore it is becoming ever more pressing to invest in technological and product development.

It is not yet clear in detail how the pattern of uses in the national economy will be modified by a more restrained investment growth rate. This will require more planning work. However, some problems are discernible. The shrinking of the dynamically growing investing opportunities or activities we got used to will create a somewhat new situation in which the uses will have to be more consistently coordinated with the solution of the long-range development problems of the national economy. These are basically problems related to economic structure but with implications for the investment structure. We know that we still have to find the way how to attain a more differentiated pattern of investment while the investment growth is slow and while international specialization is still relatively underdeveloped in the manufacturing industry.

The expectable economic conditions, and especially the international factors, will lead to a worsening of our difficulties concerning the capital requirements of a marked structural transformation in the manufactury industry and of enhancing its competitivity. The energy and basic material industries as well as the infrastructural objectives which absorb ever increasing quotas from the funds available for investment purposes are also instrumental in this respect. The problem of scarce resources could be relieved in part by more selective allocations to investments and in part by external credit resources for development. But greater selectivity in allocations depends on the improvement of the workings of the economic control and management. A preliminary planning period of 2 or 3 years is still at our disposal for clarifying what is to be done, but for the 1981–1985 five-year plan period we absolutely have to develop more comprehensive recommendations for regulation and control. Till then we have to put up with the less comprehensive methods available to us within the given limits. However, these methods should not be underestimated either, and the pressing tasks of 1979 and 1980 must be solved with the known set of regulators and with the known instruments of planning.

In the light of the given circumstances we must very carefully avoid the rigid formal methods of regulation in the measures to be taken, and maintain the flexibility of our development policy. We are therefore straightly facing the task of making steps in two directions in order to put an end to the "running away" of the investment process. Firstly, the decisions taken so far need scrupulous revision and more moderate state investment plans must be drawn up. Secondly, the growth of enterprise incomes available for investment purposes has to be moderated through credit policy, by restrictions on state subventions, and perhaps from 1979 on by direct income control measures. From the "control technical" point of view the task is rather easy to solve. We also have the necessary experience as similar problems were solved with these methods in 1972.

The real difficulties of investment control lie, however, not so much in the regulation of the volume of total investments but are rather related to planning and control which would produce *selectivity*. Enterprise profit is one of the cardinal motors of growth in our system of control. The enterprise profit, as a basis of the motivation system, affects growth naturally in different ways, depending on the particular characteristics of the different sectors and enterprises. From the practical point of view two deficiencies are typical of our present system of motivation. In the given system the interests attached to increasing the amount of enterprise profit are partly transformed into excessive preoccupation with increasing the volume of production and, on the other hand, they present themselves in an unnecessarily equalitarian way (everybody wants to grow). This would be of course less harmful if we had a price system expressing real inputs more faithfully since in that case the regulating forces of the market would really have more influence on the structure of production and sales.

In Hungary the money participating in the economic processes is not convertible for objective reasons, our price system does not always transmit the actual economic informations, nor does the regulation of the enterprises relations with foreign markets mediate the market requirements towards production appropriately. It is thus not surprising if the "interest in growth" of the enterprises is not necessarily sensitive to competition, to the structure of demand by markets nor to the equilibrium requirements of the Hungarian economy. It is almost natural that these shortcomings have their impacts on the problems of investments and development too, by orienting the growth paths of the enterprises too much towards investments, and by not giving enough encouragement to finding the ways for intensive growth.

In the real process of our economy a confrontation has been manifest since 1975 between the estimates of our plans (economic policy) for domestic use and the pattern of foreign sales on the one hand, and the growth interests and performances of a part of enterprises on the other hand. For instance, maximum efforts are made at expanding production (and in this context at increasing investments) even by enterprises which do not really develop their exporting capacities to Western markets adequately, although this often results in such sales proportions and market expansions which are not adjusted to, nor correspond with, the equilibrium conditions of the economy. As a result, the domestic resources and a considerable part of imports are not used in a way and to an extent that would meet the requirements of equilibrium. This is now the acutest problem of economic control in Hungary related to economic equilibrium, and is in more than one respect linked with the problems of the system of resource allocation (the system of decision-making, the channels of financing). In a certain sense the problem is undoubtedly a new one, since before 1975 our economic control and decision system had not been confronted with such sharp foreign economic imbalances and, therefore, the interdependence between the system of control and development and foreign economic relations did not present itself so strikingly.

Where is the way out?

Obviously, we cannot give a satisfactory answer to this question now, but we can try to outline a line of reasoning in pursuit of a solution.

Having learnt the lessons of recent years we believe that the most important task is to assess more accurately and consistently those direct and indirect elements of control (government decisions) which provided for the interrelations between growth, sales and economic equilibrium. The possibilities are given. We can work both with market control and with plan instructions. Both methods are based on economic policy planning setting out from the requirements of general economic conditions. The sometimes exaggerated rate of development and the sales pattern at variance with economic equilibrium can be eliminated by an income policy controlled by the central agencies which allows the formation of purchasing power only up to a certain level both on the domestic consumer market and in investment activity. In the trade with CMEA countries the expansion of production and its control should be based on agreements built into the plans – as is done by the partner countries – while endeavouring to assert our interests in structural development deriving from the objective conditions of this country. Since in CMEA relations the incomes earned from exports cannot be used freely for purchases (imports), it suggests itself to adjust also our development programs to the mutually coordinated plan specifications. The case of the trade with the capitalist markets transacted purely on basis of market mechanism is another matter: here, if the biggest part of incomes is convertible, the success of market expansion sets a limit to increasing production (weighing, naturally, also the prospective opportunities of these markets). This market flexibility (expansion) depends on an inevitably hard condition: competitivity. As this can be neither centrally planned nor accurately foreseen, it is a cardinal point for the system of control mechanism to complement central planning with an operative system of motivation, so that the enterprises and the R & D institutions should be not only capable of but also interested in finding the ways of competitive development (investment).

Thus, owing to equilibrium problems, the market background (sales conditions) of economic development will require in the future a better structured system of investment and development targets than what we have now, and a corresponding armory of control instruments as well.

It is an important experience that the formation of a better structured production and sales pattern which would satisfy the equilibrium requirements cannot be controlled basically through the incentive system (preferences or dispreferences). In the case of the internal market the regulation of enterprise incomes is decisive, and in its wake production has to adjust better to the rules of demand. Here, too, the enterprises have to study markets more intensively, and contractual relationships having much more powerful disciplinary effect must be created. The volume of CMEA turnover can be regulated basically through direct control measures as is done in the partner countries, but within the given limits much depends on the enterprises, on their efficiency, on the structure and

monetary feedback effects of their transactions, and on the impacts of these on the equilibrium of the country.

Naturally, all that requires the creation (in the not very remote future) of a price system reflecting the real economic processes better. Namely, while the relationships between the main market proportions and growth are determined by the plan, the details and the internal commodity coverage cannot be developed advantageously unless the enterprises thoroughly know and are capable of shaping the market. This, again, is not feasible without improving the instruments of indirect control. Direct government control and enterprise incentives can work in a special symbiosis and with satisfactory efficiency only if more precisely working information contacts are established between the economic policy (the national economic plan) and enterprise planning, furthermore, if the trends of demand and the relationships of technical progress are explored more deeply in enterprise planning. This is why the functioning of the ministerial organizations of economic control in the structure of the Hungarian system of control, in the development of relations between the state and the enterprises, deserves special attention. Only the ministries can coordinate the economic policy with enterprise interests and ambitions in the given sectoral fields. This is not an easy task at all, and there is a danger that the activities of the ministries show the enterprise interests fed back to the level of the ministry and not a behaviour originating from the global problems of the economy. There are both good and bad experiences that the ministries' role and methods in the mediation of economic policy are not accomplished satisfactorily enough, and a great deal of improvement is required in this field too.

Improvement is needed also with respect to methodology. For example we have to know our structural interests dictated by the conditions of the country (which are not always unambiguous by far because they are of the long-range type, and cannot be expressed exactly). It is of no less importance to have methods for expressing these interests in the decisions taken on various levels, that is, not only on the macro-level but also in the decisions taken by ministries and by individual enterprises. Our methods are not yet perfect, few analyses have been made so far, and we do not have sufficient experience in applying newly devised methods (e.g. the system of technical-economic criteria which was drawn up in order to substantiate our decisions in connection with the pattern of production). The first steps towards recognitions are made now by supervising both the macro-planning work and the enterprise case analyses and plans. But more intellectual capacities must be concentrated on this work to be successful, and this does not seem to be feasible without the contribution of the ministries through organization and analyses.

As far as regulation is concerned, it is imperative to preserve and develop the flexibility of our system controlling the use of investment resources. This would call for a multilevel system of capital allocations asserted in practice too. Namely, in the expanding world of economic relations we cannot expect ourselves to be able to precisely prognosticate most of the developments and to centrally work out the corresponding exact long-term financing measures. Nor can we expect to be able to keep the enterprise

developments basically within the limits of investment funds formed from their own resources and of the channels of complementary credits. We are convinced that there will be need for not repayable (but "interest-bearing") capital allocations for enhancing adaptivity; for capital concentration through joint ventures; for a more selective credit policy than the current one in which the share of the own funds in financing a development project will not be always decisive; moreover, we should not be averse to the idea of occasional concentrations of resources by productive and trading companies for the purpose of joint ventures.

All these must be of course thoroughly considered before implementation. Here we have only tried to show that also such types of questions pertaining to the concrete situation of the economy will have to be answered step by step.

While stressing the importance of interest in efficient development we warn of a possible misbelief that any *concrete* economic action would be a function of regulators and *ab ovo* determined by the regulators and interests. This does not hold theoretically, nor is it verified by experience. In our opinion the role of managerial decisions and managers' sovereignty is growing and will be growing in the future. All the more, because even in an appropriate control system life often produces alternatives, and also because many tasks have to be first interpreted by management before action is taken, since interests are not always unambiguous either, especially if we think in terms of longer perspectives. Therefore, managerial decisions adjusted to the given situation and sometimes requiring specific considerations are irreplaceable in every field of our social development and economic life, thus also in connection with investments. It is the managers' responsibility to expand the given scope of movement as required by the main trends of development, to select the best from the alternative solutions, and to recognize and consider the critical paths in execution.

The present dilemmas faced by investment control and national economic planning will certainly become somewhat easier with the lapse of time. With respect to the preparation for the next (6th) five-year plan a more precise elaboration of the possible frameworks of cooperation with the socialist countries will work in this line. A sounder assessment of situations is enhanced by getting gradually better acquainted with the non-socialist markets, by a deeper exploration of the potentialities of export expansion and also by the determination of the set of conditions and economic 'parameters' of their flexible utilization.

A farsighted planning of the absorptive capacity of the domestic market, the sales opportunities of consumer goods and capital goods, as well as of the main volumes of the expansion of services assist in setting the main trends of our home development objectives.

Progress in these studies based on thorough scrutiny is one the instruments providing more solid grounds for the Sixth five-year plan of the national economy also with respect to investments. The investment conception and investment policy of the Sixth five-year plan will have to be drawn up between 1978 and 1980, and this work will have to be done under more resolute and determined governmental control.

КАПИТАЛОВЛОЖЕНИЯ В ВЕНГРИИ В ПЕРИОД ПЯТИЛЕТКИ 1976–1980 ГГ.

Й. ДРЕЦИН–Й. ТАР

На 1976–1980 гг. в Венгрии был запланирован относительно умеренный (25% по сравнению с предыдущей пятилеткой) рост капиталовложений. На основании данных за прошедшие три года можно установить, что деятельность в области капиталовложений не соответствовала планам, направленным на восстановление народнохозяйственного равновесия. До сих пор в целом на капитальное строительство было затрачено больше, чем было предусмотрено на данный период планом; его темпы колебались; осуществление государственных централизованных капиталовложений отставало от запланированного, в то время как капиталовложения, входящие в компетенцию предприятий, возросли в гораздо больших, чем предполагалось, масштабах. Наряду с этим расширение мощностей в результате капитального строительства создало много новых рабочих мест, при этом было упразднено меньше рабочих мест, чем было бы желательно, что не смягчило, а еще более усилило дефицит рабочей силы. Внеплановые капиталовложения могли реализоваться только при большем, чем планировалось, нарушении внешнеэкономического равновесия; возрос также дефицт государственного быджета; кроме того, нарушилась организация капитального строительства, а превышение спроса укрепил элементы инфляции на рынке капитальных благ и услуг.

Авторы усматривают непосредственные причины форсирования капиталовложений в системе принятия решений и финансового регулирования, но – в конечном итоге – в общественных «механизмах», взятых в широком смысле (институциональная система, общественное сознание). Поэтому переход к более умеренным темпам капиталовложений представляется сложной задачей, которая требует как преобразования структуры венгерского народного хозяйства, так и пересмотра системы его управления и регулирования. В этой связи авторы подробно рассматривают также задачи средне- и долгосрочного народнохозяйственного планирования.

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SOME GENERAL PROBLEMS OF THE HUNGARIAN INVESTMENT SYSTEM

Is a thorough reform of planning, decision-making, and financing of investments necessary? This question was not given an unequivocal answer when the New Economic Mechanism was being prepared in Hungary. Little change has occurred in practice since 1968, and the central allocation of investment funds on the basis of physical production targets has basically persisted. This may be an explanation of the fact that old and well-known problems of the investment process could not be eliminated. Namely, the chronic tension of the investment market and the unsatisfactory efficiency of investments still exist. Thus a reform of the investment system is needed, but this assumes changes in other important areas of the economic mechanism as well.

What kind of investment system should a socialist economy based on the combination of planned management and market interaction have? This question had been approached from the side of three different requirements in the course of the discussions preceding the 1968 reform introducing the New Economic Mechanism. The first aspect was that without a certain degree of investment independence no enterprise independence was possible and the market mechanism could not function, either. Therefore, part of investment had to be relegated to the decision sphere of the enterprise, i.e., it had to be decentralized.

On what basis can that part of investment be determined? The starting point was the replacement of worn-out fixed assets, but it became a generally accepted view that *more* must be decentralized than simple reproduction or the simple replacement of worn-out fixed assets. In effects, (a) replacement, (b) the tasks of *permanent modernization* enabling the acquisition of up-to-date equipment, so that at least the lag behind world standards should not increase, and, finally, (c) investments promoting flexible adjustment to the market, which allow fulfilment of the tasks relating to quality and to exchanging and enlarging assortments, should be decentralized; (a), (b), and (c) together represent a *"dynamical maintaining of capital stock standars"* whose purpose is not expansion of production, yet it may lead to some minor expansion as well.*

Therefore, at the time it was formulated, it was part of the conception of the "dynamical maintaining of capital stock standards" that *enterprises should not dispose of monetary funds enabling too much investment into expansion.* Later the "dynamical

*This conception was formulated in the Investment Working Group elaborating the foundations of the investment system of the New Economic Mechanism. [1]

maintaining of capital stock standards" lost this expressly "restrictive meaning", but here we will use the term in its original meaning in connexion with the critique of conceptions of that time.

Two conceptions

For investment which does not fit under the caetgory of "maintaining of standards", a decisive role was to be given to two requirements: *efficiency of investments,* and *promotion of state development priorities.*

In the case of equilibrium prices, efficiency is expressed by the profit content of prices. According to the guiding principles of the price reform – constituting a part of the reform of the mechanism – prices were to approach equilibrium prices*, allocation of investments in the competitive sphere** was intended to be subject to profitability to a considerable extent. Allocation subject to *profitability* with equilibrium prices (i.e. striving for a maximum profitability) means the assertion of the *law of value* in the allocation of investments.

As regards the kind of investment allocation to be subject to profitability (prices) on the one side, and to state development priorities – not expressible in prices and not enforcible through them*** – on the other side, two opposite views emerged.

One school – let us call it that of *direct centralization* – advocated the maintenance of centrally planned decisions. This school refuted market spontaneity as a whole, without analysing the possible content of this spontaneity or investigating the possibility of its planned control. What is more, it refuted also the role of the law of value played in investment allocation which for that school was a synonym for spontaneity.****

*According to the guiding principles, prices have to develop under the joint effect of three factors: production costs, market value judgement, and government preferences. The requirement of approaching equilibrium prices is contained in the second factor.

**The competitive sphere includes those economic fields in which conditions of economic competition among enterprises can be created. In Hungary, agriculture and manufacturing may face both international competition and internal competition. Home trade, the building industry, a few public services and the basic materials producing industry partly belong to the competitive sphere.

***Namely, if the prices of a production branch are raised above the equilibrium price with a view to fast development, part of its products will become unsaleable. Thus this is not an expedient method. If, however, prices are set at the level of equilibrium prices, we cannot talk about "price preference" even if that level – as it is highly possible in case of a production branch to be developed at a fast rate – surpasses Marxist labour-value or its modified form existing in the given economy.

****György *Sik* [3] – explaining this position most consistently in the press – disagreed with the idea of a "spontaneous functioning" of the law of value in the field of investment allocation. Then he disagreed also with the "distributive role of the law of value influencing the expansion of accumulation goods" – thus refuting the law of value itself and not its *spontaneous* assertion. He refuted it on the grounds that "we have at our disposal the instruments which allow to centrally . . . and objectively control it" (i.e. distribution of the accumulation goods – K. A. S.). In which way should this

If investment decisions are centrally planned decisions, enterprises must be freed from their material (profit or loss) consequences. In this way, however, enterprises are exempted also from the obligation of searching for more efficient and more profitable solutions, as it was pointed out by those holding the opposite view, i.e. followers of the conception of *indirect control.*

Advocates of this latter standpoint wished to create enterprise interest in the realization of profitable investments by rendering general the *credit financing* of investments beyond the "dynamical maintaining of standards". They suggested that the bank, which grants credits, should play an active role in selecting the investment targets. The bank should grant credit on such investment which is expected to yield higher profit, and for which the enterprise assumes a shorter repayment period. Enterprises would thus submit most profitable investment proposals in order to receive the credit and to be able to earn a profit above credit amortization. Advocates of this conception wished to assert state development objectives and preferences by differentiation of credit terms among sectors and subsectors according to need.

Yet they forgot to consider something. What would happen when a credit is completely repaid? Then the remaining part of profit increases for the enterprise. According to the authors of this conception, one possibility for the enterprise is to put this increase in profit into its development fund. Let us remark – then the enterprise may come into possession of such financial resources which can considerably enlarge its development fund which in principle should only allow the enterprise to maintain its capital stock standards. Thus the system of "maintaining standards from enterprise development and funding expansion from credits" is eliminated. Thus the method suggested* may result – unintended – in the accumulation of enterprise development funds covering expansion. We shall see that this unintended, and at that time not recognized, consequence, is in fact a very important positive feature of the system. In any case, at that time it counted only as an inconsistency.

When elaborating the guiding principles of the economic reform the two opposing views were not reconciled: the approved guiding principles of the investment system reflected a compromise. Beside investments of the non-producing infrastructure, the so-called individual *major investment projects* resulting in considerable development of a producing sector were referred to the *central decision sphere.* Since the limit of "con-

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"objective" central control function? "It must be considered a basic requirement that we should compare the realistically expectable results of future development" (that is, with each other in selecting from development objectives – K. A. S.). It becomes clear from other remarks made by Sik that the term "result" actually is to be understood as "profit". That is, the author's conception is an investment allocation tending toward a levelling of profit rates. This has to be called investment allocation based on the law of value – if the expression "law of value" is used not as a synonym of spontaneity but in the customary sense – even if, as the author conceived, investment decisions are made centrally (of course, only inasmuch as the prices are equilibrium prices).

*See [4].

siderable development" was set rather low, this was contrary to the conception of indirect control. The so-called *lump-sum investments** also went into the central decision sphere. More concretely, the government determines the main lines of a lump-sum investment, while the sectoral ministry determines its details. The advocates of direct centralization wished to use this category to fill the "gap" between individual major investment projects and the decentralized "dynamical maintaining of standards". This concept was almost totally rejected and the standpoint of the advocates of indirect control was asserted. In effect, the lump-sum investments hardly touched the competitive sphere. Accordingly, in the guiding principles an important role was accorded to the *credit system* corresponding to the conception of indirect control. Enterprise development funds became the source of credit repayment. The development funds were accumulated from a part – usually 60 per cent – of depreciation allowance, and from taxed profits. They, in principle, were to serve as cover for the "dynamical maintaining of standards". Thus the above-mentioned inconsistency in the conception of indirect control was included into the guiding principles as well.

The first years – a new point for discussion

Yet at the time of the *introduction of the reform* this contradiction did not come into the centre of interest. As regards the practical steps of the investment system, the necessity of completing the numerous investments started in preceding years proved to be a decisive circumstance. These were classified into the above-mentioned investment categories; but the investments included into the decentralized or enterprise sphere – i.e. not into the sphere of state decision – also had to be partly financed from the budget (since they actually had not been decided by the enterprise itself). Therefore, the accumulation of enterprise development funds had to be "calibrated" so as to remain at a low level and the scope of credit had to be modest (about 10 per cent of total investments) and even that credit had to be spent, for the most part, on financing investments begun in the earlier years.

What tendencies showed in the first years of the reform?

The ratio and increase of decentralized investments over the plan was conspicuous: they made up 50 per cent of investment fulfilment already in 1968 (instead of the planned 40 per cent); this ratio then gradually rose to 57 per cent by 1971 instead of the moderate reduction planned for each year. [5] The reason for overfulfilment was partly the accumulation of enterprise development funds over the plan: this accumulation was underestimated by 10–20 per cent every year. [6]

The fast increase of enterprise development funds was one of the reasons why the sphere of credit financing could not be considerably enlarged – in spite of original intensions – without a further increase of excess demand. Credit could not receive the

*For groups of investment with similar purpose, such as e.g. retail network, etc. – Ed. note.

"distinguished" role assigned to it in the guiding principles of the reform. In this connection the above-mentioned inconsistency in the indirect control conception was clarified – but in a way *which split the followers of indirect control into two schools.*

One school – which will be called followers of *"financial centralization"* – wished to expand the credit sphere at the expanse of enterprise development funds, by introducing the repayment of credits from untaxed profits. The other school – which will be called the followers of *"partial decentralization"* – took a stand for a further increase of enterprise development funds and for a widening of the credit sphere at the expense of budgetary investment financing. We shall give account of the dispute [7, 8, 9, 10, 11] at the end of our article, adding further ideas to the arguments of the latter school.

The question under discussion was investigated by a Working Committee formed by the Economic Policy Department of the Central Committee of the Hungarian Socialist Workers' Party with a wiew to reconsidering the theoretical bases of the investment system. The Committee took a stand for maintaining the established system of development funds and – anticipating a further development of the whole economic mechanism and mainly of the price system – for a gradual increase of decentralized funds and the maintenance of the credit system built thereupon.

Moreover, the Working Committee emphasized that enterprise investment decisions *must be influenced by government* (first of all financial) instruments (which we shall specify in the following under the name of "guiding" instruments). At the same time, it warned against an exaggerated extension of direct centralization of certain investment decisions (which we shall specify in the following under the designation: application of "individual" instruments), and even deemed their reduction desirable.*

In practice, however, it was the tendency of direct centralization that began to be strengthened.

The allocation problem and its roots

The system of development funds clashed with central development objectives: enterprise development funds accumulated not at the place where and not in the proportions in which development would have been desirable according to the national economic plan. In order to reveal the nature of the structural tension between plan targets in physical terms and the accumulation of development – i.e. the so-called *"allocation" problem* – we have to investigate the principle questions concerning planned state influence over structural changes. In this we will start from an article by Ákos *Balassa.* [13] The author distinguishes three fundamental types of control and influence over structural changes in the competitive sphere of the economy. They differ from each other on the one hand in how much the structural changes can be planned on the national economic level, or, in the possible accuracy of planning, on the other hand – and closely related to the former – in the use of guiding instruments.

*See the article of T. *Nagy* [12], leader of the Committee.

The first group of structural changes includes those for which it can be proven beyond doubt that they are the *most efficient* ones among possible solutions, while their *implementation cannot be expected from enterprise activity* because of the scarce funds of the enterprises, or because of their lack of interest. In the implementation of these structural changes, so-called *individual* instruments must be applied: central decision is made on material (production, etc) targets, necessary inputs (investments, etc), and on the participation of the state in financing these inputs. If the structural change demands essential and co-ordinated actions of several enterprises and sectors, a comprehensive *central development programme* is needed; if it is limited to a narrower field, it might be implemented also through a major state investment project.

The author lists those structural changes into the second group, in which national economic planning demonstrated the usefulness of realizing some structural task for *certain aggregates,* but thinks it is justified to let also *market effects* assert themselves in regard of the extent, forms, and micro-structure of implementation. Therefore, in this instance it is necessary to assert the effect of the general economic regulatory instruments (e.g. the general profit motivation system), but achievement of the target is intended to be promoted also by preferential *"guiding"* means – state subsidies, credit preferences. Thus certain investment targets are made more attractive and more easily realisable for enterprises, without, however, the state accepting direct responsibility for the realization of investments or dealing with their details.

Finally, the third and very large part of structural changes cannot be unambiguously decided centrally, or their realization does not require separate central measures. There it is the structural changes in consumers' demand that must affect the structure of production and foreign economic relations. In this field, national economic planning investigates tendencies, it informs enterprises and develops such economic conditions and economic environment that will allow the structure of demand to affect the structure of supply quickly and intensively. *Market self-control* may be considered as the guiding system of structural changes of such type: the interaction of demand, supply and price, and the credit system functioning according to the "traditional" banking aspects.

And now let us revert to the above-mentioned "allocation" problem. Is it the mechanism of market self-control that has formed the accumulation of enterprise development funds so that they came into conflict with central development objectives? Basically it is not, because the functioning of this self-control was restricted for the first years of the reform to a narrow field by the guiding principles of the reform. In the accumulation of the development funds the price system plays a primary role. Most of the prices have been fixed by the state from the beginning; what is more, price control became increasingly stricter from 1969 on. Therefore, the problem could be found basically *in an inner contradiction of economic control by the government.*

In most fields even the conditions of free price formation were missing: possibilities of competitive imports were limited for various reasons, and home competition was constrained already on account of the dimensions of the Hungarian economy.

In addition, the strongly monopolistic organization of the economy complicated the situation. Factories potentially competing with each other in individual subsectors were in most cases fused into a large enterprise under the earlier management system in accordance with the requirements of control at that time. The production lines of enterprises having more or less convertible capacities were "stratified" to an extent beyond that justified by "economy of scale" considerations, even independently of them, just to "simplify" control through plan directives. Thus at the introduction of the reform it was only in a few fields that several enterprises manufactured the same products, and each enterprise manufactured the least possible number of products.

The unaffected existence of this enterprise structure was not only an obstacle to free price formation. Competition is possible also with fixed prices. Instead of competition, however, each enterprise remained "responsible for supply" of its own products. "Responsibility for supply" plays a role, not only in the home market, but also in CMEA trade, inasmuch as this means for enterprises the fulfilment of delivery obligations specified in physical units of measurement, based on interstate agreements. [14].

What is more, sectoral ministries have always remained intact. Thus the possibility that these ministries would issue directions practically always existed and in the 1970s this possibility was strengthened. In the final analysis, therefore, *the hierarchy of the organizational system of economic control based on physical production tasks has survived.*

This institutional system – beside playing an important role in driving market self-control back to the periphery – necessarily caused the above-mentioned inner contradiction of state economic control reflected in the "allocation problem".

After the 1968 price reform the price system remained *autarkic* to a considerable extent, even though not as much as it had been: in most fields the production costs of the home producer – usually of a single one – were recognized in prices. Where price did not cover production costs, a budgetary subsidy was granted. The large volume of state subsidies was considered in 1968 as transitory i.e. an instrument of smooth transition to the new mechanism. After a few years of moderate reduction, however, subsidies again started to grow.

In such development of prices and subsidies, an important role was played by the fact that these were established by the responsible central organs as a result of bargaining with the producer firm – usually the only one manufacturing the product in question – and with the sectoral ministry supporting that firm. Cost calculations were based on the figures of the enterprise. If price and subsidy together had not covered the production costs stated, not a few of several small-scale producers would hawe suffered losses, but the single producer, i.e. one large company would have suffered a loss. What is more, the large enterprise would have suffered a loss, not in one of its several lines, but – because of the "stratified" production profiles – in its only one. It was difficult, of course, for responsible organs to make a decision entailing such grave consequences.

In the rising level of – the already high – subsidies a role was played also by the effort at keeping the price level, first of all the consumer price level, stable. Instead of a

price increase otherwise considered as justified, often state subsidy was used to maintain the profitability of production. Price stability, and later on from the early 1970s a relative price stability allowing a few per cent yearly price increase could be achieved in fact, but on the other side the price system deteriorated from the aspect of every other requirement. The situation deteriorated further due to the lack of adjustment to world market prices, particularly with the accelerating price movements on the world market that started in 1973. Home prices were adjusted to import prices with long delays and only partially; a large part of the rise in import prices was neutralized through state subsidies, while a large part of incomes gained from the rise in export prices was taxed away.

Thus, the formation of enterprise profit and development funds was determined by this price and subsidy system, complemented by a further factor – self-evident in the given system. This factor was that, at the time when prices and subsidies were determined, enterprises concealed in their calculations – justifying their claims – their possibilities of reducing production costs, in order to be able to utilize these reserves gradually later on. Because of the latter factor accumulation of the funds regularly surpassed the planned level. The intersectoral and inter-enterprise proportions of the accumulation of funds determined by all these factors could not correspond to the aims of development policy.

On the other side, however, the given institutional system marked also development policy itself. Development policy was formed also in the bargaining processes among the various levels of hierarchy and it presented, as a result, a problem, more exactly, it has remained a problem just as it had been before 1968.

Though in the development of the competitive sphere, in making state decisions in this regard, and when allocating related state funds the role of efficiency was emphasized, the institutional guaranties for the assertion of the principle – the *strict repayment obligation* of state funds granted for development and/or reliable economic efficiency calculations – were missing.*

*In the allocation of state funds for investment no strict repayment obligation was asserted. Budgetary means received for financing individual major investment projects or part of them had to be repaid depending on to what extent the given investment was porfitable: repayment drew away, as a matter of fact, only the increment of the development funds that came about as a consequence of the given investment; the investment decision itself, however, did not depend on profitability. With state investment subsidies there was not even such a limited repayment obligation.

Investments are not fully free in the sense that enterprises pay a 5 per cent charge on fixed and circulating assets. Yet this charge – which, similarly to other cost elements, is practically always recognized and reimbursed to enterprises through the price and subsidy system – does not considerably reduce the investment hunger of enterprises according to experience. Of a similarly limited "efficiency" is the other obligation, the payment of a part of the depreciation allowance – usually 40 per cent – into the budget.

In 1969, it was prescribed that profitability calculations must be made for investments implemented with important state participation. These calculations were made, however, often only after actual decision-making. What is more, they were made – understandably, of course, because of the deficiencies of the home price system – at world market prices, which then did not guarantee a

Investment tension

Thus the investment mechanism remained strongly similar to that before 1968: the hierarchical organizational system based on physical supply tasks "flooded" central organs with investment proposals; the latter tried to select from among proposals – in want of other criteria – also on the basis of partial balance requirements in physical terms which, however, they were unable to do.

As a matter of fact, from the point of view of enterprises and sectoral ministries the practically free investments are aimed at securing and *oversecuring,* guaranteeing the conditions needed for implementation of their tasks, and central organs cannot have such an insight into the production processes of each sector – and particularly not into the new tendencies materializing in the new investments – that they could pick out efforts at exaggerated security. Thus from the point of view of the central organs every investment application seems to be "justified in itself" – that is, there is no selection criterion – and the total input requirement of the investments asked for always surpasses investment possibilities, particularly if we take into account the underestimation of costs, the "forgetting" of related investments, and other well-known means* of enterprises and sectoral ministries for creating a "fait accompli".**

Beside physical partial balance requirements, investment proposals are supported also by the social importance and prestige of the enterprise and sectoral leaders who submit them. Under such circumstances these proposals will necessarily *gain the upper hand over the general equilibrium requirement* between investments in process and investment input possibilities determined by the optimum average implementation period. One consequence of this tension is the prolongation of investment implementation. Its other consequence: its particular "form of movement" is the cyclical fluctuation of investments, and the increasing tension and instability carried into the whole of the reproduction process.*** This problem [8], therefore – well-known also in other socialist countries – could not be eliminated in Hungary even after the reform of the mechanism.

The problem is different, of course, in that at present state investment commitments do *not* create in Hungary tension *in themselves, but as added* to the independent

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subsequent and "automatic" control of the calculations in enterprise economy. And the subsequent checking necessitating new complicated calculations was not done in every case (See [15]). Thus the reliability of calculations was not guaranteed by anything.

*E.g, when enterprises and sectoral ministries undertake – without previous central approval – international cooperation obligations requiring also investment inputs. See [15].

**The functioning of this system in the mechanism prior to 1968 is convincingly described and analysed in T. *Bauer's* study [16].

***It is basically the investment cycles that cause the cyclical fluctuations also of other macro-economic processes, and mainly of the foreign trade balance. Besides – as was pointed out by J. *Zala* [17] – it is the investment cycles that exert the most conspicuous inflationary pressure on the whole Hungarian economy.

investment decisions and commitments of enterprises. Both the former and the latter are equally fast increasing.

If looked upon superficially, the increase of the former is sometimes identified with the role of state, i.e. its "guilt", in the creation of investment tension, just as the increase of the latter is identified with a similar role and "guilt" of enterprises. Yet this is nothing else but renouncing the analysis of causes lying in the institutional system. Searching for these causes, two questions must be asked in connexion with the investment commitments of the decentralized sphere exceeding the planned dimensions.

The first question: what is the cause for the regular underestimation in national economic planning of enterprise development funds accumulating and going to be used for investment. The fact that in 1978, i.e. the 11th year of the reform, the volume of enterprise investments surpassed the planned figure by 19 per cent cannot be explained by the reasons set forth for the first year, since planning could have learnt from mistakes made earlier. The explanation is that the disequilibrium that could not be eliminated drove planning to the forced path of a peculiar "optimism": development funds accumulating are underestimated in order to be able to create equilibrium on paper.

The second question: why do enterprises often start such costly investment projects which they are then unable to finish without state assistance, in want of sufficient financial means? It is mainly this problem for which enterprises are blamed. And yet it is obvious that the deeper lying reason for such practice is that enterprises know – in spite of declarations to the contrary – that *they can count* on subsequent state assistance.

Recentralization efforts

Under such circumstances, of course, it is only with much reservation that we can talk of a "decentralized" investment sphere. Real decentralization has been increasingly driven back during past years by the effort of economic policy *at restricting the mass of recently started investment through a more extensive regulation of physical partial balances.*

The role of market mechanism was further reduced. By modifying the economic regulators enterprise development funds were reduced twice: in 1972 and in 1975–76, i.e. their increase was slowed down. Their utilization for investment was further moderated by the introduction of the so-called construction tax and of obligatory reserves, and also by drawing development funds increasingly into the financing of increasing circulating assets, through restriction of credits on circulating assets. Granting of credit on the basis of "traditional" banking criteria remained of a low proportion in the financing of investments.

Sectoral ministries and enterprises exerted great pressure – and not without result – in order to receive credit preference and state subsidy for their development aims. As a consequence, credit granting and investment subsidy targets were regularly exceeded and this played an important role in the increase of "decentralized" investments exceeding the

target – in certain years a more important one than that played by enterprise development funds accumulating at a higher rate than planned.

It is a further problem of the application of "guiding" instruments that often they function *not as "guiding" but as "individual"* instruments. The special feature of the guiding instruments would be to let market effects assert themselves in regard of the details of realization of the centrally determined aims. In practice, however, this rule prevailed only as an exception.

The reason for it is, *first*, that in the given organizational system of the economy central development aims often start from outset "from below", as a demand for investment, as a "necessity" with respect to a given investment project in all its details. It can be explained by "pressure coming from below" that central development programmes – which were considered above as allocation instrument of "individual" character – are oversized* and thus the application of "guiding" means also serves in a great part their realization i.e. individual targets.

The *second* reason is that central organs also consider direct investment decisions as useful instruments for moderating the "excessive" demands of enterprises and sectoral ministries, and of revealing concealed consequential investment needs, etc.

Finally, the *third* reason is that the necessary means for the assertion of market effects are missing: enterprises do not possess considerable free development funds. A large number of enterprises – almost all the large enterprises – became beneficiaries of state investment actions: "individual" and "guiding" instruments. They use a great part of their own development funds also for investments approved and financially supported by state organs. (The ratio of investments purely decided by enterprises in the productive sphere does not much exceed 10 per cent.) [20, 21]

The "individual" application of "guiding" instruments implies that the state assumes direct responsibility for the concrete implementation of a large number of individual investment decisions – i.e. it can be forced to cover cost overruns** and thus the coercion of efficiency is weakened also with these investments formally belonging to the enterprise sphere. And yet to increase investment efficiency in the competitive sphere is today a more urgent task than ever. The growth rate of production must be maintained in Hungary with a relatively declining investment level, because of the growing investment intensity of the productive and of the nonproductive infrastructural sphere.

*"Experience has shown, however, that central development programmes, together with the major investment projects started in the preceding period, still draw away too great part of the investment resources at the disposal of the industry and, therefore, the self-financing of enterprises cannot develop properly." [19]

**E.g. in the centrally supported reconstruction of the dressmaking industry subsequent budget and credit sources were allowed to be utilized in addition to originally approved targets, first of all because the accumulation of enterprise development funds was lagging behind the planned rate. [22]

"Physical production economy"* versus efficiency

For outlining the desirable development tendencies of the investment system we have to start from the fact that efforts at maintaining the large number of partial physical equilibria and those at increasing efficiency *contradict each other.* There are two contradictions involved.

First, the effort at guaranteeing the physical partial equilibria impedes or – which is partially also a problem connected with the mechanism of CMEA cooperation – restricts the efforts, at intensively joining the international division of labour to the exchange of goods on barter basis.

Yet in today's Hungarian economy there are a number of such relatively advanced small-and large-scale enterprises which are able to profitably manufacture products attaining world market standards, saleable on any market, and these could be profitably developed. The revealing and utilization of this potential began with the long-term credits granted for the expansion of export commodity stocks convertible in East-West relations. These credits represent the best feature of the Hungarian investment credit system. This form of preferential credit has the particularity that it is not of sectoral character. The bank can in fact choose from credit applications: it grants credit on investment applications promising to earn convertible currency in the most profitable way. Under present circumstances, however, when enterprises can acquire investment means and realize their expansion efforts with only little effort – e.g. by joining one of the central development programmes – a large part of export-oriented and efficient development possibilities is not realized and is not even seriously considered.

The other aspect of contradiction between efforts at maintaining physical partial balances and those at improving investment efficiency is constituted by the *implications for the economic mechanism* of the former efforts.

If central development aims are formulated in detailed physical terms, then in most cases (mainly in industry) the only enterprise suited for realization is indicated, that is to say, it is decided that the enterprise shall receive investment. Thus, the enterprise is not forced to elaborate an efficient investment programme; on the contrary, its interest lies in squeezing out as much money as possible from the state in order (or under the pretext) to realize the given target.

This difficulty is not much eased by application of the *dual* – physical and efficiency – selection process. One important modification of the Hungarian investment system carried out in the Fifth Five-Year Plan period of 1976–1980 was aimed at strengthening the efficiency criterion of selection: according to the new rule, all state money received for economic investment *has to be repaid.* Since, however, also the definition of targets in physical terms has remained, the two criteria clash inevitably. The

*"Naturalwirtschaft".

outcome of the clash has been determined well in advance: it has been clear from the beginning that exemptions must be made from repayment obligations.*

So much for the *selecting* function of the new rule. It has, however, another function as well: namely it *"measures" and controls* the extent of realization of planned efficiency. More exactly: if planned efficiency is not realized, the enterprise must use for repayment also its development funds accumulating independently of the given investment. [24]

This "control function" presents, however, another problem. Repayment can be made, namely, from the *pretax profit* of the given investment and from its full depreciation, i.e. not from the taxed increment of development funds. The real purpose of this solution is that the repayment obligation might be asserted with the largest possible number of investments – not only with the outstandingly efficient ones which can repay the credit even from taxed development funds during the crediting period – and that the fewest possible exceptions should be made. If the investment financing system is left otherwise unchanged, this system of repayment cannot be changed at all. As a matter of fact, investment funds received from the state could not be repaid from taxed development funds even if they were spent only on the most profitable investment targets, since not only the development funds accumulated from the returns of investments financed by the state are not enough, but the total development funds of the beneficiary enterprises are not enough, either, because the tax burden on the development funds is heavy. Yet the tax burden must be heavy so that today's high share of the state budget in financing investments could be maintained. And this amounts to saying, after all, that if the profit of a development project lags behind the plan to any considerable extent, the ensuing deficit can hardly be compensated for from the development funds of enterprises accumulated from any other source – though, as has been mentioned, the "control function" of the repayment obligation in question would be built exactly upon it.

What sanction can be applied then, if profit lags behind the plan, and thus there is no possibility for repayment of the credit taken? If we disregard the possibilities that on such occasions the enterprise will become permanently insolvent without any consequence, or that it suddenly reduces the personal incomes of its employees, one single solution remains: *the calling to account of enterprise managers in person.*

Before explaining why we think this difficult, we emphasize once more what we mentioned incidentally already: all this would be the same even if the financial means in question were spent on the most profitable investment targets. Suppose the most profitable investment projects were chosen, this (small development funds; financing of the most profitable investment proposals from credits repayable from pre-tax profit) would not be anything else but what is suggested by the supporters of "financial centralization". Given this, as we had promised, we have now started discussing the conception of "financial centralization".

*"Probably the indirect support can be extended only gradually. According to our calculations, namely, the tax does not provide a cover for repayment of the subsidy" – writes Minister of Finances L. *Faluvégi* [23].

"Financial centralization" versus decentralization

Hungarian enterprise managers are today personally responsible for the profitability of their investments and generally of their enterprise. *Merely* for profitability problems, however, not a single enterprise manager has been dismissed if he has fulfilled other tasks well: fulfilled export tasks, finished investments on time, etc. These tasks are also partly conflicting with profitability and, therefore, the enterprise managers' responsibility for profitability is weak. And this responsibility cannot be considerably increased in the present economic institutional system built upon the hierarchy of physical supply tasks.*

The deficiency of the conception of "financial centralization" originates, however, not really in its incompatibility with the present institutional system. The real mistake is to assume that it is at all *possible* to organize socialist economy in a way that the personal responsibility of enterprise managers should in itself guarantee a strong incentive for investment efficiency. For that is an illusion.

In the competitive sphere the primary criterion of state development policy should be efficiency. This does not mean at all, however, that central development targets *starting* from the principle of efficiency are broken down to enterprises exclusively in the form of efficiency tasks. If a firm receives central development preference, then also some performance measured in physical terms is by all means expected from this firm. Further, for various reasons – e.g. because of the present mechanism of the CMEA cooperation – whatever the organizational system of the home economy, tasks determined primarily in physical terms cannot be entirely eliminated even from the competitive sphere. Therefore, in the judgement of the work of enterprise managers the fulfilment of physical targets are inevitably being taken into account.** Thus, profitability of the enterprise –

*As against the above-mentioned advocates of "financial centralization", this contradiction was pointed out by M. *Tardos* [25]. He suggested for solution a radical transformation of the institutional system. According to him, the supervision of enterprises – including the appointment of enterprise managers – should be assigned to so-called production and commercial banks independent of the hierarchical organization of state administration, subordinated only to Parliament, and interested in the profitable utilization of their assets. (While determination of state preferences and disposal of the financial means necessary for their assertion would remain within the framework of the present ministerial system.) Since these production and commercial banks would collect part of the profit of their enterprises and would spend it on the realization of the most profitable investment proposals, this suggestion may be justly considered a special (multi-centre) version of "financial centralization". Yet the suggestion does not seem realistic: it is hardly conceivable that the production and commercial banks – these supermonopolies invested with immense power – could really function independently of the state economic control hierarchy, could be governed by other interests and efforts (if only because the financial funds necessary to assert state preferences – which are, as we have seen, inferred by the conception – would be probably rather ineffective against these giants, which would again provoke direct state control over them), and then we are back from where we started.

**By this explication we do not wish to justify the well-known practice which occurs when state organs direct enterprises to fulfil non-profitable tasks without any material incentive. Of course, it is necessary to create material incentive, but if the state wants to achieve the exact realization of some physical target, incentive cannot always replace direct instruction (or agreement on realization signed

and within it the profitability of new investments – cannot be of such weight in this judgement as to really have a compelling force. Thus, if there is nothing beside personal responsibility of the leaders to stimulate the profitability of investments and, in general, of enterprises, other enterprise targets may – and do necessarily – assert themselves at the expense of profitability.

How would, therefore, the system of "financial centralization" function?

The enterprise promises an irrealistically high profitability in order to receive the investment and then, of course, it cannot keep the promise. If, however, the activity of the managers is *otherwise* positively appreciated by the superior authorities, the only possible sanction, i.e. their dismissal will not be resorted to. In time the state will realize that it is regularly cheated and stop the allocation of investments merely on a profitability basis: it will return from "financial centralization" to the system of direct centralization. This must be so, and in Yugoslavia when experiments were made with the "financial centralization" system in the mid-1950s it was exactly so.* Thus the conception of financial centralization and conceptions abroad for the reform of the direct centralization system, which are similar to the former,** Only seemingly offer an alternative to direct centralization.

We shall continue our train of thought by the assertion that there must be another incentive for profitability beside the personal responsibility of enterprise managers. Could it be a sufficiently stimulative power if the personal income of enterprise workers depended on the enterprise income? If we could answer this question in the affirmative, the investment system of "financial centralization" might be – contrary to what has been said – operative. But we cannot answer in the affirmative: the dependence in question,

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with the enterprise). On the one hand, the measure introduced to guarantee material incentive (budget subsidy, etc.) may overpay even in the best case only the opportunity cost known to the state organ at the noment of introducing the measure; if the enterprise finds more favourable possibility tomorrow, it will be not interested any more in the realization of the objective for which it seems to have sufficient incentive today. On the other hand, and even more: profit-maximizing behaviour can never be more than a *general tendency* even in an economic mechanism most perfectly stimulating it; therefore, it can never be expected *in a concrete case* that the enterprise will by all means decide to choose the most profitable version.

*"... enterprises were ready to promise a high rate of interest in order to receive the loan. They did not much care for subsequent repayment, since the tradition of free social capital still strongly survived, and since it seemed obvious that none of the large factories would be closed down "merely because it could not repay the loan". Therefore, the organs distributing social investment means were obliged to examine very carefully each case, in the same way as they would have been doing without (profitability – K. A. S.) competition. Under such circumstances competitions were necessarily transformed into the old type of administrative distribution of investments from state financial funds." [26]

**Such conception is put forward e.g. by N.Y. *Petrakov:* "As soon as the optimum distribution of social labour among sectors of the national economy is violated, market prices will deviate from the socially necessary level and a corresponding flow of resources among sectors will begin. *In a planned economy this process must be modelled by the planning organs.* [27]

the inter-enterprise differentiation of personal incomes is squeezed between the narrow limits of economic and social policy considerations.*

Therefore, a further incentive is needed: and this may be a system that makes the enterprises' *investment possibilities* dependent upon their profit. And this is nothing else than the system of development funds and partial decentralization of investments.

What should be the ratio of enterprise development funds to investments – i.e. of enterprise self-financing? It is difficult to determine it concretely. The possible rate of decentralization depends on reliability of the price system, on development policy, etc. It is in any case certain that larger development funds than those actually existing must be allowed. Development funds should secure for most enterprises – even at the price of a considerable decrease of further development possibilities – the repayment of credits received and of repayable state subsidies even if the profit returns of the investments financed by the latter somewhat lag behind estimates. Only in this way can it be avoided that in such cases – frequently occurring because of the uncertainty of economic processes even without a deliberate over-estimation of the profit – enterprise managers should be always called to responsibility, i.e. that the most trivial *direct* control measure should be resorted to.

Such an investment system – beside creating strong material incentive for increasing the efficiency of investments in the sphere where decentralized decision prevails – stimulates for achievement of planned efficiency in the sphere of centralized and mixed decisions (subsidised by the state), since lagging behind it entails a decreasing development possibility for the enterprise. It thereby allows a preliminary estimation of the latter free from "unidirectional errors" and its consideration in decision-making. Thus a growing efficiency of investments becomes possible, which is a basic condition also of accelerating economic growth and establishing equilibrium on the investment market.

Realization of the conception infers the elimininations of efforts to centrally control the infinite multitude of physical partial equilibria (which is, of course, impossible without a thorough reform of the organizational system of the economy). Yet it renders the "individual" and "guiding" instruments, to be applied to a lesser extent than today, more efficient by enabling the creation of equilibrium on the investment market.

One argument advanced against the conception is that the *price system* is not suitable to fill the role assigned to it in investment allocation. This argument – which is advanced in the same way against "financial centralization" – is voiced mainly by the supporters of direct centralization. Well, realization of the conception does infer a considerable improvement of the price system. Of course, the latter can never be "perfect"; the investment system strongly influenced by the price system always creates disproportions. But this holds also for the mechanism of direct centralization functioning

*An overwhelming majority of Hungarian economists would not deem it desirable that personal incomes should be as largely differentiated depending on enterprise income as it has been the case in Yugoslavia after the economic reforms. And, according to Yugoslav economists, counter-interest in nonprofitable investments is still not strong and efficient enough in their country.

(practically) independently of the price system: there it is the lags behind "overtaut" plans that cause disproportions – as we have tried to prove, necessarily so.* But an allocation strongly relying on the price system stimulates for efficiency of investments, which is hardly possible in the system of direct centralization.

Another objection – made by advocates of "financial centralization" – says that this system "fragments" development sources, because enterprise funds accumulate from *present* profits and do not allow development where it promises the largest *future* profit. We have seen that the conception of "financial centralization" is rooted in this objection i.e. in the attempt at eliminating this problem.

This objection is not without grounds. But the advocates of "financial centralization" overestimate the importance of this problem for at least three reasons.

First, they assume that the current profit of a firm depends only on conditions independent of the firm (on the given production line, prices, etc.) and the standards of enterprise management do not play any role in it. In reality, the actual profit of the enterprise and the expectable future returns from its investments are not separated by any thick wall: the former guarantees to a certain extent the latter.

Second, they assume that a considerable share of investment resources must be concentrated on a small number of large projects. Yet this is equivalent to neglecting a large number of small, fast repaying development possibilities, which in fact reduces the productive potential of the country. Such development policy is not unknown in Hungary; its reintroduction is hardly desirable. Suppression is necessary always only with a small part of enterprises and sectors; this is a *special* task of the state, to be solved separately, while the *general* system of investments must be shaped in a way to enable the development of the overwhelming majority of enterprises.

But what must be the inter-enterprise proportions of development? To this is connected the *third* assumption of the advocates of financial centralization: an exaggerated and mystified confrontation of the "present" with the "future", which does not see any relationship between the present and future profitability of manufacturing a group of products, and overemphasizes structural change in demand as well as the intersectoral deviations in the speed of change in production (technical, etc.) conditions.

Of course, the latter argumentation is wrong only in its extreme form. There can be no doubt that the rate of profits realized in each sector cannot coincide with the ratio of means to be invested in them. But if it is allowed, within certain limits, that enterprises *diversify* their activity and introduce new and profitable lines, it will be seen that *only a*

*In recent years, with the major investment projects which were deemed most important in Hungary received special preferences in order to accelerate their implementation, (financial preferences, ministerial action on the investment market, there are lags even in the implementation of these "accelerated" investment projects – not to mention the other projects – important in themselves – at whose expense the former were accelerated. E.g. in 1974 the experts of the National Bank of Hungary explained the lags in the implementation of projects financed from credit partly by the fact that "some construction firms concentrated their capacities mainly on major individual state projects" [28].

part of the means accumulating must be regrouped. We have already mentioned the instruments available for the state for regroupment and the necessity of their – reduced – preservation. By reduction I mean a lowered rate of profit tax and of taxing away the depreciation allowance, which would improve also the ability of the credit system to regroup assets by relying on repayment from the development funds: a larger part of a credit taken out on highly profitable investment could be repaid from its own returns. Of course, this still could not solve the problem of fast development for enterprises which have only of a small amount of capital. This is, however, an exceptional phenomenon and requires exceptional solution.

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НЕКОТОРЫЕ ОБЩИЕ ПРОБЛЕМЫ ВЕНГЕРСКОЙ СИСТЕМЫ КАПИТАЛОВЛОЖЕНИЙ

А. К. ШООШ

В статье рассматриваются три возможных типа системы капиталовложений в социалистической экономике: прямая централизация, при которой капитальные средства распределяются на натуральные цели производства (такова традиционная система капиталовложений восточноевропейских социалистических стран); «финансовая централизация», при которой капитальные средства распределяются на основе величины прибылей, обещаемых инвесторами, и приводящая к «засилью банков»; и наконец, частичная децентрализация, отводящая определенную роль названным выше элементам (ограниченному числу государственных решений и банковскому кредиту), но в значительной степени основанная на самофинансировании предприятий.

Реформа хозяйственного механизма 1968 г. в Венгрии (несмотря на отчасти противоположное намерения) в основном оставила систему капиталовложений в рамках прямой централизации, хотя ее формы часто значительно отличались от прежних, а происшедшие за десять лет изменения в целом также закрепили это направление. При таких условиях неизбежно сохранились прежние, хорошо известные проблемы процесса капитальных вложений: несоответствие между спросом на капитальные блага и их предложением, неравномерный (циклический) рост, неудовлетворительная экономическая эффективность и т. д. Создание (и сохранение) такой инвестиционной системы тесно связано с сохранением натурально-

производственного принципа построения иерархической организационной системы (отраслевые министерства; обладающие монопольным положением и в то же время узкоспециализированные, со слабо диверсифицированным профилем крупные предприятия), и ликвидация обеих систем возможна только одновременно.

В противоположность нынешней системе капиталовложений, „финансовая централизация" предлагает такую альтернативу, при которой осуществляются только наиболее эффективные, наиболее рентабельные инвестиции, т. к. банк предоставлял бы кредит только для них. Предприятия при этом не располагали бы значительными собственными средствами для капитальных вложений. Однако если хозяйственная ситуация сложится вопреки ожидаемому менее благоприятно, чего на практике трудно избежать, то это приведет предприятия, не располагающие собственными средствами, к критическому положению. Лишь в редких случаях могли бы они выйти из этого положения без значительного понижения заработной платы своим работникам, а для значительного снижения зарплаты, как правило, реальной возможности нет. Поэтому в таких случаях – причем весьма часто – помочь предприятиям должно государство; оно могло бы привлечь руководителей предприятий к ответственности за плохое хозяйствование, но сомнительно, пойдет ли оно на это.

Проблема может быть решена лишь тогда, если предприятия будут располагать значительными собственными ресурсами для капитальных вложений. Поэтому автор высказывается за построение системы капиталовложений на основе частичной децентрализации.

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INVESTMENT CYCLES IN PLANNED ECONOMIES

The determination of investment tensions and cycles observed in planned economies has been studied for many years in the Institute of Economics of the Hungarian Academy of Sciences. An examination of the situation in Hungary before the 1968 reform and in other CMEA countries which continue to use the traditional planning methods seemed to be necessary in order to gain an understanding of the post-reform Hungarian situation. This article summarizes the main results of that research. A space limitation on the article has excluded the possibility of a statistical verification of arguments. The author has had to confine himself to the presentation of a few illustrative examples. The full analysis and the verification may be found in a large study [2] to be published as a book in Hungarian.

The importance of investment has been emphasized in economics for a long time. There have been many changes in the understanding of the role of investment under central planning, but the new results justify further changes.

The first step of scientific research into the conditions of economic growth under central planning resulted in two important findings. Firstly it was realized that investment cannot be increased without restraint. In other words, a rational compromise between accumulation and consumption must be found. Secondly, it was understood that the growth of investment must be limited not only in respect to the needs of consumption but also because an economy's capacity to implement investment projects in an organized and efficient way and to incorporate them into the circular flow of economic activity also has its constraints.*

These changes in approach, however, did not touch the assumption according to which the level of investment is determined – in a proper or false way – by autonomous decision of the centre, and the starting point for this decision is the capacity effect of the projected investment. This is formuled by the "theories of growth under socialism" as the presence of the accelerator effect and the absence of the multiplier effect.** From the assumption according to which the level of investment is determined by autonomous central decision making also followed the idea that if the path of balanced growth may be identified nothing should prevent the rate of investment to be equal just to this optimum level. That is, in principle, there is nothing to prevent the balanced growth of investment. If, nevertheless, fluctuations appear, according to this view, this may originate in insuffi-

*This is expressed by the notion of investment absorbing capacity introduced by Branko *Horvat* in [5] and formulated simultaneously by Michal *Kalecki* in [6]. See also Kalecki's book [7]

**This was formulated in the clearest way by Josef *Goldmann* in [4] on the basis of Kalecki's argument in [8].

cient understanding of the centre or from the insufficient steadiness in the implementation of properly made central decision or from accidental oscillations.* The new results including those of ours lead to opposite conclusions.

The level of investment is determined in plan bargaining

On hierarchical planning

Economists who were active half a century ago, who were either enthusiastic about economic planning or who had an aversion towards it, agreed in considering it a command economy in which the centre gives commands and the other actors in the economy simply implement them. Or to formulate it in another way: however they disagreed about the rationality of autonomous central decisions, they agreed in the possibility of them.

The experience of central planning having existed for five decades in the Soviet Union and for three decades in other East European countries without major changes gives evidence of something different. A production apparatus which is in essence as complex as that in present-day capitalism is working in the planned economies of the Soviet Union and Eastern Europe; this production apparatus must satisfy needs which are almost as different and dynamic as those in present-day capitalism; and finally – despite the significant differences – the wants and ambitions of the East European producer and consumer are in many aspects similar to those of their capitalist counterparts. All this explains why the East European economies could never function as any kind of a command economy for a longer period. Since the stable system of Soviet planning emerged in the late twenties – early fifties and since it was adopted by Eastern Europe in the early fifties, this system has never meant a full centralization of economic decision-making but rather a peculiar distribution of decision-making authority between different levels of the management hierarchy, between the plans of different levels. The peculiarity of the hierarchical distribution of decision-making authority is expressed by the formula *breaking down of the plan* better than by the expression *plan directives.* Yet even breaking down of the plan points only to one side. The other one, the aggregation (with modifications, of course) of plan proposals coming from below, which could be called *building up the plan,* is no less important. The duality of breaking down and building up of the plan means that any figure in the higher level plan results from an aggregation of the corresponding figures in the lower level plans and *vice versa,* that is any change in them is mutually presupposed. (Unlike the usual approach which speaks about the centralization of decision-making I consider this direct connection between decision-making levels, between levels of planning the most important characteristic feature of the

*This view is expressed among others by *Bánsági,* P. – *Szabó,* B. – *Rácz,* D. [1], *Berei,* A. [3], *Khavina,* S. [9] and *Śrein,* Z. [14].

traditional East European planning system, and therefore I call it the *system of direct planning.*)

Consequently the decision-making process consists of submitting of plan proposals elaborated at the lower levels and of approving them, then breaking them down in a more or less modified form. This two-way process is repeated several times in every planning period (especially if we take into consideration the changes in the plans). The subject of the decisions is the establishment of target figures concerning performance and of limit figures determining the allocation of resources. Though an artificial connection between performance targets and resource limits arises at each level of the bargaining hierarchy, they are really connected only at two levels: at the top level, in national balances, where the resources used must be covered by the output resulting from the performance, and at the very bottom, in the factories, where the performance and resources are connected by norms of consumption, which are the planned values of the input-output coefficients at factory level. The actual value of these coefficients is an information of crucial importance available only there, in the factories, and at the same time it remains a valuable secret of factory managers. National balances may, in turn, be grasped only at the central level. Though at the intermediate level the connection between resources and performance is not real, the repetition of economic process allows intermediate levels of the plan bargaining hierarchy to connect allocations to performance targets and *vice versa* on the basis of experience.

The peculiarities of plan bargaining in investment planning

This system works under special conditions in the field of investment planning. First it must be stated that the enterprises, institutions and their immediate supervisory organizations make efforts to carry out more and more investment.

It is a well-known feature of direct planning that plan fulfilment becomes the main point in the evaluation of the performance of managers. Obtaining more investment, in turn, makes plan fulfilment easier. Enterprise managers are, therefore, interested in obtaining as much investment as possible. While in other fields of plan bargaining enterprise claims are in a certain degree limited by *khozraschet* or by the real constraints of labour supply etc., investment hunger is not limited by anything similar. Moreover a manager can increase his informal power status through extending fixed capital and increasing in this way the size of the firm. Owing to investment's being gratuitous and to arranging enterprise finances in a way in which financial plans are adjusted to the actual effect of investment projects, the efforts for obtaining more investment are not limited by financial considerations either. Moreover the best way to have the plan targets accepted by the subordinate enterprises is to support their investment claims for the supervisory organizations, too. These considerations are enough for the explanation of the permanent situation, in which the aggregate investment claims formulated by the enter-

prises and the immediate supervisory organizations exceed to a large extent the level of investment considered feasible and tolerable by the centre.

Hierarchical planning involves a peculiar division of functions between the levels of decision-making pyramid in the field of investment too. While establishing and drafting investment needs is basically the task of the managers of factories, enterprises or associations *(ob'yedineniya),* the macroeconomic constraints of investment appear only in national balances at the central level. It remains for the central organizations to consider these constraints. The thankless task to represent the point of the centre which regards the macroeconomic constraints against the subordinate organizations and to represent at the same time the point of the enterprises, etc., which draft investment needs against the supervisory organizations is left to the intermediate levels of the hierarchy (ministries, branch directorates, trusts etc.).

Due to the specific character of investment activity, however, investment planning splits into two processes. Though investment activity consists of investment projects, investment claims may be contrasted with the investment potential of the economy both in physical and in value terms only through the allocation of investment outlays of a given period (year etc.). Investment planning is, therefore, always concentrated on allocating (breaking down) annual limits of investment outlays, and approving individual investment projects plays only a secondary role.

Moreover the constraints of investment cannot be transmitted to the enterprises through the use of norms like those of material consumption, of stocks or of staff. Namely those norms are determined experimentally, but investment projects are mostly non-recurring ones. The bureaucratic multi-level approval system of the technical projects and of the cost calculation of individual projects ought to perform actually the role that the material consumption norms perform in material allocation.

Clumsiness and protaction of decisionmaking, poor coordination of participating activities, frequent changes in the plans, reallocations of investment limits and fading of responsibility for the effects of investment are well-known weaknesses of investment allocation under direct planning. They significantly reduce the efficiency of investment or increase the incremental capital output ratio. (This problem will be dealt with later.) A possibly even more damaging effect of the described features of hierarchical investment planning is the inability of the centre to control the investment claims.

Namely the enterprises and the intermediate management organizations have methods at their disposal by which they can break through central control. We cannot enumerate the full list of them in the present article and have to confine ourselves to indicate the main types.

The so-called *hooking on to the plan* (*zaczepianie sie o plan* in Polish, *zadrápkování or zahakování do plánu* in Czech) makes use of the concentration of the centre's attention on the planning of annual investment outlays. By including an investment project into the plan with a low amount of investment outlays in the first year or at the sacrifice of delaying the continuation of other projects of the claiming enterprise or directorate it can obtain a higher stock of investment projects in progress and a higher

investment engagement without exceeding the annual limit of investment outlays. (By investment engagement we mean the aggregate amount of investment costs to be spent until the completion of investment projects in progress and not spent yet in a given moment.) In possesion of this higher investment engagement it has better chances in the struggle for higher annual limits in the following years. This method produces a so-called fragmentation (*raspyleniye* in Russian, *Zersplitterung* in German etc.) of investment.

If the centre then tries to control the stock of investment projects in progress and the investment engagement *directly* (limits of investment engagement) or *indirectly* (normative construction periods), the claimants will find the way to break through it through *hiding* their claims (neglecting the necessary additional investments in the submitted plan proposals etc.) or through underestimating investment costs.

These methods may be applied owing to the above mentioned splitting of investment planning into approving investment projects and allocating the limits of investment outlays, and to the nonrecurring character of investment. All planning instructions may at the same time be strictly observed.

The question arises why do the central planners not compensate the negative effect of the ahove-mentioned practice with building in reserves when they plan investment outlays or why do they not reveal and restrict relentlessly the efforts to underestimate investment costs, to hide additional investment needs etc.? In that case it would become much more difficult to make claims and possibilities agree, and the centre would have to refuse incomparably more seemingly justified claims to balance the plan.

The centre is not and cannot be strong enough to do this. Moreover, even if the centre strove towards having a well-founded and balanced investment plan, the unavoidably false informations used in planning would reduce the chances for this.

There is, however, a further important reason for which the centre does not restrain enterprise claims from exceeding the framework of the central plan. In the above argument it was implicitly supposed that strains come only "from below", and the centre in turn tries to act as safeguard of equilibrium (with, however, little success). This assumption was justified first logically: so one can understand, why investment tension arises also in cases when – using János *Kornai*'s [8] expression – the "harmony soul" dominates the ambitions of central planners, therefore it transpires that the growth rate of accumulation depends not only on central decisions. It was justified historically too: in most East European countries the priorities of the central planners have changed since the period of forced industrialization: the "growth rate soul" lost and the "harmony soul" gained importance.

If, however, one wishes to understand the success of the efforts to extend investment and increase the rate of accumulation "from below" in a longer historical perspective, one must remember that in the greater part of the history of planned economies (and in some countries even at present),increasing the rate of accumulation and extension of investment had (resp. has) a high priority for central planners.

This central priority may be rationally deducted from the ambitions to put an end to economic backwardness, from the necessity to strengthen defence potential and from

the requirement to increase the prestige of the power *élite* of each country before those of the others. In this context, increasing the rate of growth and the rate of accumulation may become an end in itself while the standard of living may only be a constraint to the former.

If, however, increasing – or at least maintaining – the rate of growth is an important – or the most important – priority of central planners, the initiators and claimants of investments may reckon not only on restrictive measures but also on understanding and support by the supervisory organizations.*

Therefore it may be concluded from the analysis of the system of investment planning, of the mechanism of investment allocation, that under these conditions the plans are unavoidably overstrained.

Two possible outcomes

What does this overstraining of investment plans mean? In short the following: the investment projects approved in the five-year plans involve investment outlays which exceed to a large extent the amount reckoned with when the plan was elaborated and when national balances were drawn up. This situation is widely characteristic of the practice of East European planned economies.

Central planners may choose between two solutions in this situation. One of the possibilities is to run after one's money. Namely in the case of an individual investment project, of a development program or of the investment "package" of a five-year plan, at the time when this excess spending is revealed a part of investment outlays is already spent. In this situation, it seems advisable to aim at getting the money already spent back as soon as possible, and add to it more than initially planned if necessary, that is to continue and complete the investment projects already started. Moreover, this approach involves also the starting and completion of those additional investment projects which are necessary for the working of the capacities created by the former. This means increasing the annual and five-year plan figures of investment outlays and of the connected targets in the national plan (industrial output, construction output, employment, imports etc.). This is accompanied by an increase in the rate of accumulation and a deterioration in the balance of trade as compared with the plan.

*It is sometimes objected to this explanation of the efforts to increase the rate of growth and of investment that these efforts aim at the satisfaction of real social needs, at putting an end to existing shortages etc. ("We need housing, we need hospitals, we need factories.") The objection is not justified: production and investment aim at the satisfaction of real needs in any economic system, but one can understand the specific forms of development and the specific contradictions of different systems on the basis of the specific social forms taken on these needs. For example in our case the needs appear not in the form of effective demand but in the form of physical plan targets, of claims approved by supervisory organizations, that is as the subject of plan bargaining. The discussed contradictions of the functioning of the system may be deducted from the fact that the needs appear in this form.

The other possibility is to observe strictly the initially planned level of investment and rate of accumulation. The only way of ensuring this outcome is as follows: the works on certain projects are continued at the initially planned pace of completion and even surplus amounts of investment outlays are assigned if required, and the necessary additional investment projects are approved, the works on other investment projects are delayed or even suspended, and the starting of some projects already approved is postponed without date.

In most cases the two outcomes are combined in some way, in some proportion; these "proportions" significantly vary according to countries and periods.

If by the extent of investment we mean on the one hand the stock of investment projects in progress at any date and on the other hand the amount of investment outlays in a given period, we must realize that both of them, but especially the first is determined not by autonomous decisions of central planners but as a result of different efforts and actions of many economic actors.

It is this form of determination that manifests itself in investment cycles under direct planning, in the regulation of the level of investment by negative feedback.

The investment cycle

The four-phase case

According to what was said about overstrained investment plans above, central planners may choose between two outcomes. Rarely can they fully avoid allowing space to the higher than planned investment engagement by increasing investment outlays more than planned. In practice this means that the annual plans of investment outlays exceed the corresponding targets in the five-year plan, and sometimes even the five-year plan is modified upwards. (This is illustrated by Diagram 1.) This is the way in which relatively regular investment cycles emerge, and from these one can arrive to a four-phase model of investment cycles in planned economies.

The first phase means the starting of many new investment projects at the same time, that is new projects are started more frequently. This phase will be called *run-up.* The more frequent starting of new projects may cause a rapid extension in the stock of investment projects in progress, if not compensated partly or fully by the completion of relatively many projects which were started earlier and the works on which achieved a high degree in the preceding years. In this case the aggregate total cost of investment projects in progress will increase only a little or not at all, while the unspent part of these costs, the investment engagement will significantly increase. The newly started projects in the first period of construction involve only a relatively moderate increase in investment outlays, so it does not lead to tensions. (Examples of the dynamics of starting new projects and of investment outlays are shown in Diagram 2.)

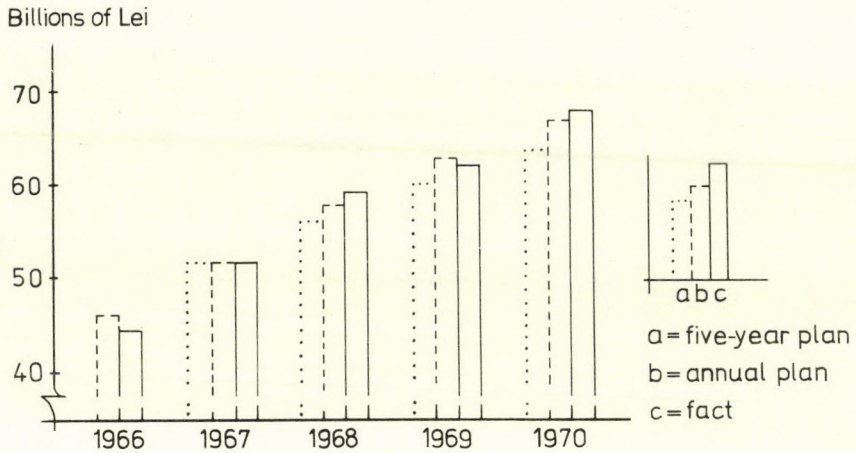


Diagram 1. Example for the differences between five-year and annual plans of investment outlays (Romania, 1966–1970, billions of Lei)

Starting new investment projects is continued in the second phase called *rush*. The projects started in the first phase require, however, higher investment outlays. The aggregate total cost of investment projects in progress continues to increase partly because the number of projects is increased and partly because the first claims on additional resources for the already started projects arise. One begins to solve the problem of the higher than planned investment engagement by a faster increase in investment outlays which exceed at the same time the initially planned growth rate. The shortage of investment goods and services (by this we mean the insufficiency of the capacity of projecting organizations and construction enterprises, shortage of construction materials, of machines and equipment etc.) re-emerges or is sharpened, and the rate of investment and of accumulation in national income rises. Either the growth of consumption will be delayed or the balance of trade worsened.

The strengthening fragmentation of investment and the sharpening of the shortage of investment goods and services incite the central planners to check the starting of new investment projects. It can be shown that it is not the investment claims which decrease during this time but that a relatively smaller part of them is approved. That is the "approval coefficient" falls. The continuation of investment projects started earlier is, however, not checked, but rather promoted: the planners intend to work off the investment engagement through forcing a rapid growth of investment outlays and of construction output even at the sacrifice of a shift between the uses of national income. The plan of investment outlays is often underfulfilled due to the shortage of investment goods and services. As compared with the previous phase the growth rate falls. The growth of the stock of investment projects in progress does not slacken in the desirable degree mainly because further cases of underestimation of investment costs come to light

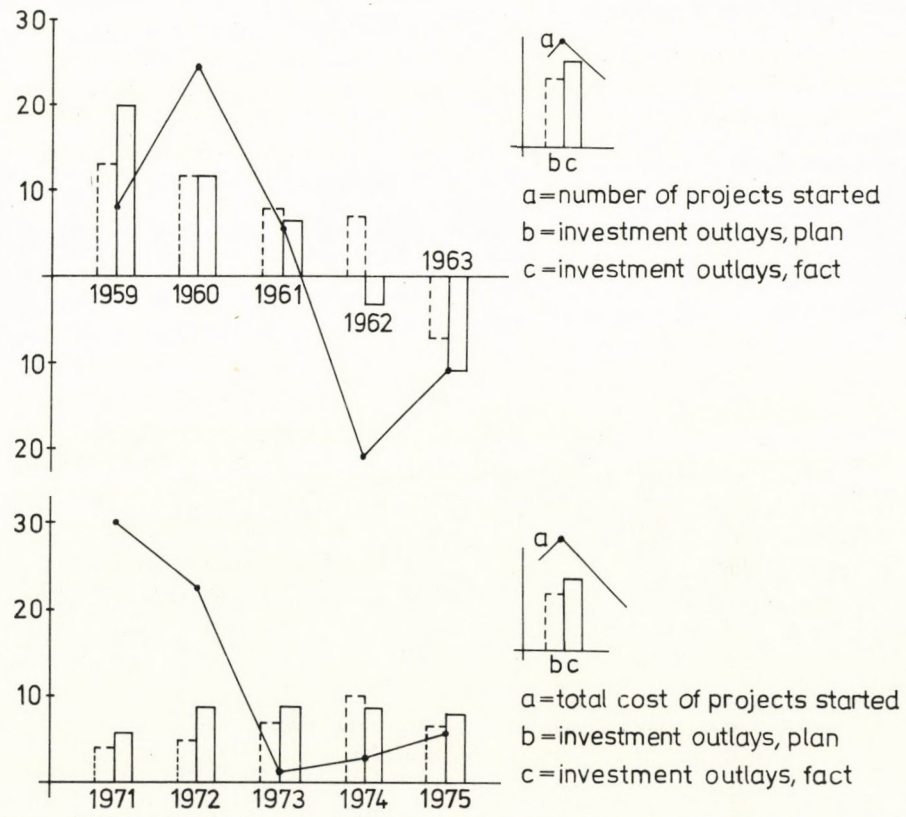


Diagram 2. Examples for the fluctuations in starting of investment projets and in the growth of investment outlays
(Czechoslovakia, 1959–1963 and 1971–1975, percentage increments)

and are acknowledged as surplus costs. The plan of completion is underfulfilled as well as in the rush. Due to surplus costs and delays in completions the growth of investment engagement is – opposite to the plan – continued too. This is the phase called *halt*, and its beginning marks the upper turning point in the cycle. Owing to the further growth of investment outlays the shortage of investment goods and services is sharpened further and further shifts may take place between the uses of national income.

Before passing over to the fourth phase two important remarks must be made. First it must be pointed out that the acceleration in the growth rate of investment outlays – culminating in the rush and continuing in the halt – spreads over to the growth rate of construction and industrial output, of transportation and in a certain sense to that of employment (overtime work etc.). The sharpening of shortages is not limited to the sphere of investment but affects material supply, labour supply and the consumers' market as well. For example the growth rate of consumers' savings may rise too.

In describing rush and halt we stated generally that the rate of investment and of accumulation increases at the sacrifice of other uses of national income. According to the use which is dominantly sacrificed during rush and halt one can distinguish between *consumption symmetrical* and *export symmetrical* (or consumption parallel) cycles. (See Diagrams 3 and 4.) In the first case national income is reallocated directly at the expense

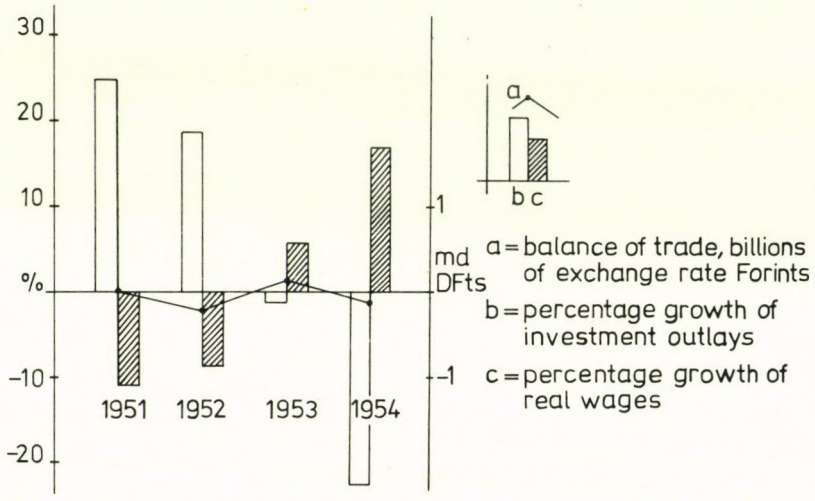
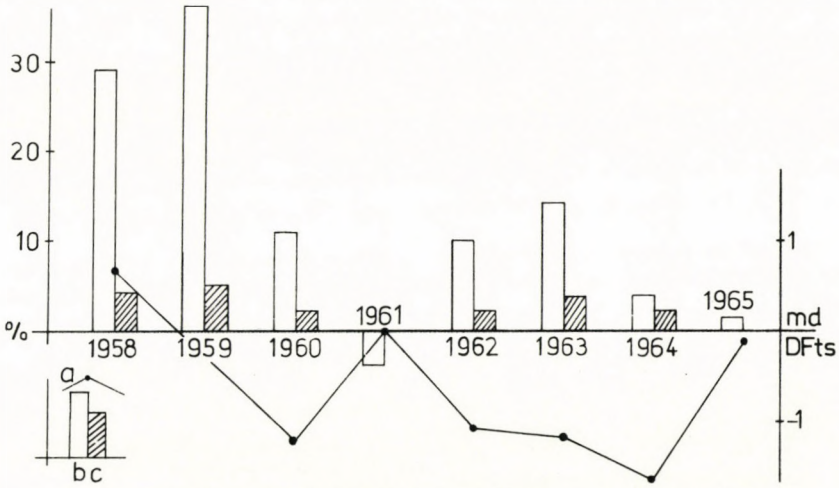


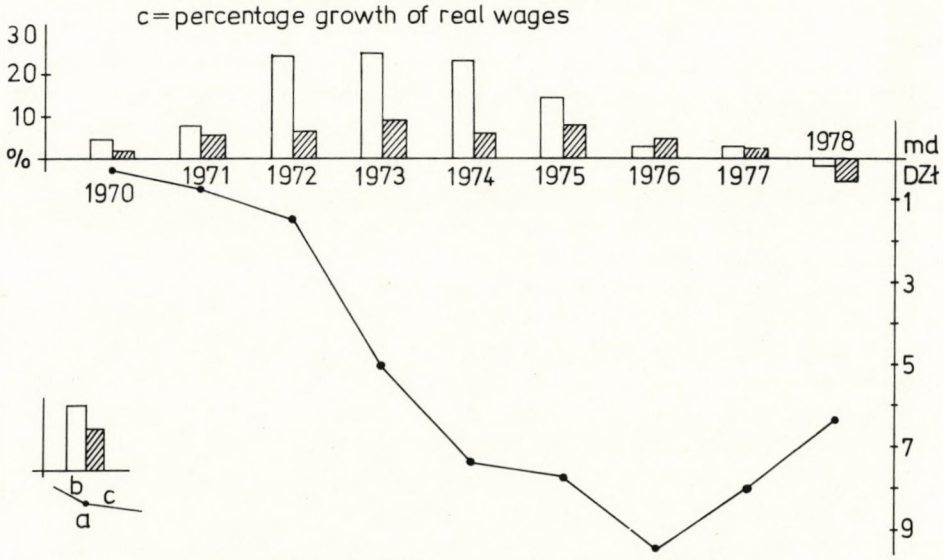
Diagram 3. Example for consumption-symmetrical cycle (Hungary, 1951–1954)

of consumption, while in the second case the acceleration in the growth of investment outlays spreads over to the growth of consumption and import, and the balance of trade deteriorates or in other words the rate of accumulation increases at the cost of the share of external utilization of national income.

When, with an intention to alleviate the tension in the utilization of national income the central planners ultimately curb the growth of investment outlays, the fourth phase called *slowdown* takes place. The "approval coefficient" continues to fall, and this change affects not only the starting of new investment projects – as in the halt – but also the annual limits of investment outlays. (See Diagram 5.) The most important feature of this phase is the fall in the planned and actual growth rate of investment outlays (in some cases even negative growth rates). Due to this the rate of investment and of accumulation falls, and an opposite shift takes place among the uses of national income. Not only the starting of new investment projects is checked but the continuation of certain investment projects started earlier but considered less important is retarted or even suspended, so that others may be accelerated. Due to this more projects will be completed, and the growth rate of completions exceeds that of investment outlays. The stock of unfinished



a=balance of trade, billions of exchange rate Forints
b=percentage growt of investment outlays
c=percentage growth of real wages



a=balance of trade, billions of exchange rate Złoty
b=percentage growth of investment outlays
c=persentage growth of real wages

Diagram 4. Examples for export symmetrical cycle
a) (Hungary, 1958–1965)
b) (Poland, 1970–1978)

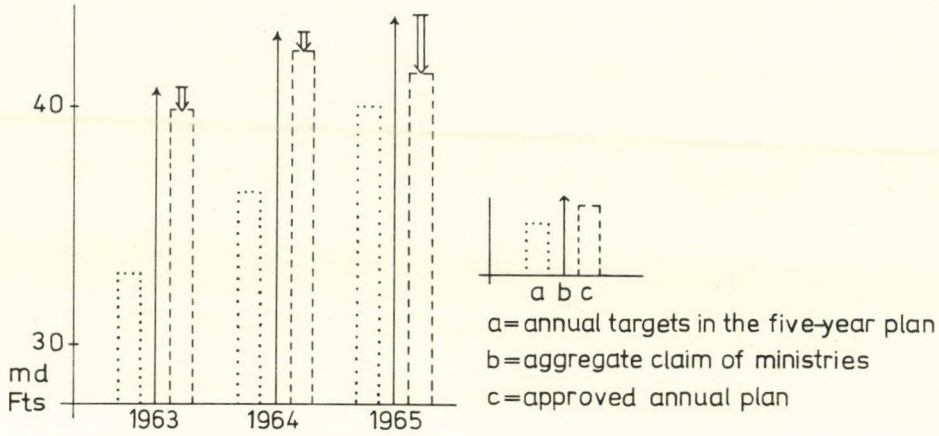


Diagram 5. Example for the fluctuations of "approval coefficient" (Hungary, state investment, 1963–1965)

investment decreases and the efficiency of the investment sector is in the short run improved.

In consequence of the slowdown the shortage of investment goods is alleviated, the rate of investment falls and the situation improves with respect to those uses of national income which were suppressed earlier. In the case of a consumption-symmetrical cycle this means an acceleration in the growth of consumption while in the case of an export-symmetrical cycle it means a fall in the growth rate of consumption too, accompanied with a higher growth rate of exports than that of imports. The former often exceeds the latter absolutely and the balance of trade may be positive.

How does the "approval coefficient" move?

The restriction of starting new investment projects for a time increases the pressure on supervisory organizations which are charged to approve. It must be kept in mind that direct planning has no measure which would show any proposed investment project as doubtlessly disadvantageous, and there are only "important" and "more important" investment projects here. If, therefore, selection becomes more severe, if the approval coefficient falls in the halt and in the slowdown, the refused proposals are not swept away, but only *postponed.* (It is often said that these claims are "in themselves justified". Therefore in the halt and in the slowdown the pressure of these postponed claims increases. Meanwhile due to the more balanced situation in the economy the vigilance of the central planners is weakened, they are less sensitive to efforts endangering macroeconomic equilibrium. Because of these two changes the selection of investment proposals is less severe, the approval coefficient rises again and a new cycle begins with run-up.

This marks the lower turning point in the cycle. It is, however, not simply symmetrical to the upper turning point. While the restriction (the more severe selection of investment proposals) is brought about at the upper turning point by sharpening of

tensions (increasing fragmentation of investment, slow growth of consumption and increasing indebtedness), the less severe selection and more frequent starting of new investment is not brought about by opposite tensions (e.g. too little stock of investment projects in progress, too low rate of accumulation, highly positive balance of trade) but by a certain alleviation in the tensions which brought about the restriction, which is sufficient for calling forth the turnover. While in the first case the sharpening of tensions *forces* the change, in the second case it is *enabled* by the alleviation in them.

This is then the negative feedback regulation which manifests in the cyclical fluctuations both in the stock of investment projects in progress and in the annual amounts of investment outlays.*

Growth without fluctuations?

The interpretation of the development of the USSR has always given much trouble for the students of investment cycles under planning. Namely the investment outlays have grown at a relatively even rate in the USSR since the war. Periods with a relatively stable growth rate of investment outlays may be observed in other planned economies as well.

Now we return to the central planners' decisionmaking problem presented earlier. It was stated that the central planners when facing the problem of higher than planned investment engagement may choose between two outcomes, and regular investment cycles were deducted from the choice for the first outcome. There is, however, an important condition for this: a significant acceleration in the growth of investment outlays and a rise in the rate of accumulation above the initially planned level is possible only under the condition of the possibility of either reducing the share of consumption on national income (as in most East European countries in the early fifties) or running into debt to an extent significant as compared not only with the amount of exports but also with the national income (as in many East European countries in the mid-seventies). None of the two possibilities exists for the USSR in the last decades (Soviet indebtedness though being important in relation to Soviet hard-currency exports is negligible in relation to national income), and therefore Soviet planners must choose the second outcome.

When it turns out periodically in the USSR that the stock of investment projects in progress exceeds the planned level and that the investment outlays involved by the

*Some authors do not accept this cycle model as an explanation or accept it only as a partial explanation, and in the latter case emphasize mostly "technical" causes of cycles. They believe that the large-scale undertakings of modern industrical development may require a rapid growth of investment outlays in a few years period. At the present size of economic and investment potential of East European planned economies this argument is hardly tenable. The annual investment outlays of even the largets projects do not exceed a few percentages of the amount of investment outlays in the national plan. It must be added that the length of the cycles is shorter than the time necessary for the completion of a large investment project and especially of an entire development program.

projects approved in the five-year plan significantly exceed the five-year plan target of investment outlays, the planners give free way for a part of investment projects, which are considered the most important, while the continuation of the others is retarded or suspended and the approval of newly started projects is restricted. Therefore though one cannot observe regular fluctuations in the growth rate of investment outlays, they may be observed in the growth of the stock of investment projects in progress and in the growth of investment engagement. Starting of new projects is periodically more "frequent" and more "rare" in the USSR too, the approval coefficient fluctuates there too. Moreover the planners are more frequently forced to retard or suspend the continuation of investment projects started earlier, to reallocate investment goods and services (construction capacities with workers and equipment, construction materials etc.), than in other countries.

The effects of tensions

Why is this – permanent or periodical – overstraining of investment disadvantageous?

Many authors have already indicated that additional investment results in faster economic growth only up to a certain point. (It is in this context that the notion of investment absorbing capacity was introduced and has been used.) In the present article emphasis is laid on the other side: the demand effect of investment.

The Kaleckian theory of growth contrasts the "demand determination" of capitalist economy with "supply determination" of socialist economy. Starting from the asssumption that under socialism nothing limits the full employment of production factors, the theory considers the level of production and the rate of growth as determined by capacity constraints. Additional investment cannot therefore result in higher growth rate.

Overstrained investment and rate of growth

This approach disregards the fact that "full" employment of capacities or of labour force may be realized at different levels. Let us take the example of labour. If additional demand appears under full employment, the labour supply may further increase in the form of higher intensity of work – if properly rewarded –, of the extension of overtime work and of secondary employment. The employment of "fully" employed capacities may be analogously increased. It is true, that this increase in employment may be only temporary, but even this may mean years. In addition this approach argues in supposing a closed economy.

If, on the contrary, the always existing – though limited – possibility of additional burdening of internal resources and that of running into debt are considered, the empirical fact of regular short-run increases in the growth rate caused by additional investment is explained. Moreover: though the growth rate may fall in the years of slowdown,

the permanently high level of employment of resources may result in a growth rate higher on the long run than *ceteris paribus* under a lower rate of investment, without regular overstraining.

The assumption *ceteris paribus* must, however, be abandoned. Overstrained investment, that is starting of many investment projects at the same time and the resulting fragmentation of investment – that permanently characterizes investment activity in East European planned economies –, accompanied by cyclical investment fluctuations has many unfavourable effects on economic growth. These unfavourable effects are felt in two fields: on the one hand the efficiency of accumulation is lower, and on the other hand technological development is slower than othervise. What do we mean by this?

The fact that more investment projects are simultaneously in progress than enabled by the investment potential of the economy results in prolongation of construction periods and delays in completions. The most important consequence is a higher share of accumulation fund tied up in the stock of unfinished investment than necessary and therefore one per cent of growth of fixed capital requires more accumulation than othervise.

The fragmentation of investment and the frequent forced reallocation of investment goods and services create confusion and disturbance during the completion of investment projects. A consequence of this confusion is the utilization of considerable additional imputs (a part of which is unpaid voluntary work which does not appear in the accounts). In effect output is reduced. The delays of different degrees cause disturbances in the working of completed new capacities etc. These effects increase the necessary investment outlays per one per cent of growth of national income, that is they result in a lower growth rate on the long run.

The prolonged completion of investment projects is unfavourable for technological development, too, since the new capacities may embody in essence the technology available at the time of projecting. This technology – both product design and knowhow – may become obsolete if its operationalization is delayed.

Since the fragmentation of investment means that the stock of investment projects simultaneously in progress is too high in relation to the annual amount of investment outlays – at least as compared with the technically and organizationally justified relation –, and that investment engagement determine to a very high degree the use of investment resources of the economy. Investment decision-making, that is the allocation of investment becomes rigid, and the possibilities for the adoption of new trends of technological development through quick realization of new investment projects are insufficient.

The inability of the system to control investment claims and the high incremental capital output ratio resulting from the mechanism described above give the semblance of a capital shortage as some kind of a natural quality of East European economies, though in reality this is as much the product of the actual economic system as for example the labour shortage.

Under the given conditions, however, it has real effects like the labour shortage, and one must comment on two of them. Firstly, if one cannot save on the investment outlays

per unit of capacity increments, one tries to save on capacity increments. Poorly designed money-saving solutions are wide-spread. This is especially striking in services. As a second effect not only the poor quality of service capacities but something more: the low share of investment in the service sector must be indicated.

While the relationships discussed earlier affect directly the growth rate of national income, the effects discussed in the last passage not only reduce the statistically shown growth rate of national income but are unfavourable mainly for the growth of national wealth and of the living standard.

The principal cause of shortages

In this section, we will discuss, how overstrained investment also strongly influences some other characteristics of economic growth.

One element must be accentuated. Shortages appear widely in East European economies. The lack of investment limits and the shortage of investment goods and services, the so-called "capital shortage" and labour shortage have already been mentioned. One can add the shortage of raw materials, the insufficient availability of necessary components, in certain countries the shortage of passenger's cars etc. Shortages accumulate: the shortage of raw materials calls forth the accumulation of stocks of raw materials, the labour shortage calls forth the formation of labour reserves within the factories etc., this in turn increases the shortage.* The shortages hamper the flexible adaptation of production to changing needs. Moreover the shortages hamper technological development in two senses: first they weaken the influences from the demand side, and secondly they reduce the liberty of designers in choosing the best modern materials and components.

There is a many-sided interrelation between the shortages and the direct character of economic management. The inability of the centre under direct planning to control investment claims and the resulting unavoidable extension of investment above the planned level and at the same time above the "feasible" level causes tensions in every sector of the economy and seems to be the most important relationship. This is the most important relationship, because though claims exceed possibilities in other fields – such as material supply, labour, wages, imports etc. – as well, only in the field of investment planning may one observe mechanisms which preclude the possibility of controlling claims by means of plan figures.

The unfavourable effects of cycles

Until now the unfavourable effects of overstrained investment as a *permanent situation* (fragmentation of investment, delays in putting in operation, shortage of investment goods and services etc.) have been discussed. Now we pass over to some negative effects of cyclical fluctuations.

*A deep and original treatment of the problem of shortages is given by J. *Kornai* [11], [12]

In none of the phases of the investment cycles under central planning can one observe an acceleration in the *scrapping* of obsolete fixed assets. The rapidly growing demand forces full utilization of any existing capacity in the rush. In the phases of halt and slowdown, however, the restriction relates to investment projects – especially smaller projects serving modernization and flexible adaptation – while the planners try to maintain the growth rate of output. Therefore the utilization of obsolete fixed assets which ought to be scrapped remains necessary. This is a brake on technical development.

Cyclical fluctuations are characteristically accompanied by reallocation of investment resources in the halt. This is the point when the resources are reallocated in favour of the continuation of projects considered most important while those which are considered less important are delayed or suspended. These reallocations always curtail the service sector, since central planners can renounce most easily the output of services without endangering national balances. The repetition of such reallocation plays, in addition to plan priorities, a role in pushing the service sector into the background on the long run.

The most peculiar unfavourable effect of cyclical fluctuations is connected with the fact that they bring pulsation into many spheres of economic activity. The pulsation may be observed first of all in construction industry, but it spreads over also to manufactures, to foreign trade etc. It is a well-known feature of East European cycles that the growth rate of output fluctuates only slightly, stronger fluctuations may be observed in investment and in the uses of national income etc. This, in turn, involves that the output is directed alternately to investment sector and consumption sector, or in other cases alternately to home market and exports. These periodically occurring forced reallocations (for example repeated entering and abandoning external markets, retooling factories etc.) cause considerable disturbances and losses.

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This article contained an analysis of the interrelation between the economic system (the economic mechanism) on the one hand and investment tensions, investment cycles on the other hand under the conditions of direct planning. The question must arise in the reader, if and now this interrelation is valid in post-reform planned economies. The preliminary results concerning the Hungarian development after the 1968 reform were published in *Soós*, K. A. [13]

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ИНВЕСТИЦИОННЫЕ ЦИКЛЫ В УСЛОВИЯХ ПЛАНОВОГО ХОЗЯЙСТВА

Т. БАУЭР

В статье кратко излагаются основные мысли более крупной работы автора об определенности объема капитального строительства в плановом хозяйстве.

Большинство как сторонников, так и противников централизованного планирования согласны в том, что в плановом хозяйстве центральный плановый орган детерминирует объем капитального строительства.

На основе описания и анализа функционирования иерархии планирования капиталовложений, автор приходит к противоположному выводу. Он подчеркивает взаимную обусловленность планов вышестоящих органов и подчиненных звеньев и показывает, как своеобразные условия планирования капитального строительства способствуют прорыву ограничений центра подчиненными звеньями. Не само стремление предприятий получить больше капитальных вложений, а скорее, неспособность центральных органов противостоять таким устремлениям ведет к внутренней напряженности планов.

Эта «встроенная» напряженность приводит к тому, что объем капитального строительства регулируется через обратную связь (где в качестве регулятора фигурируют напряжения) в форме циклических колебаний. В статье излагается модель инвестиционных циклов, состоящих из четырех фаз, в заключение перечисляются неблагоприятные последствия инвестиционных напряжений и циклов.

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A. BRÓDY

A LINEARISED MODEL OF THE CYCLE*

Starting from Leontief's closed dynamic model and after the introduction of production times $g_k > 0$, a $D = \{d_{ik}\} = \{b_{ik} g_k\}$ matrix can be defined, which is obtained in such a way that the elements of the capital matrix, $B = \{b_{ik}\}$ are multiplied by the production times columnwise.

Then the equation of motion of the economic system can be given in the form $(1 - A)x - B\dot{x} = BD\ddot{x} - (1 - A)D\ddot{x}$. This has two important positive solutions, namely, the well-known equilibrium solution ensuring growth at rate λ and the cyclic component $\ddot{x} = \omega^2 D\tilde{x}$ that brings about fluctuation according to $\cos \omega t$. The length of the cycle, $T = 2\pi/\omega$, increases in proportion of the square root of the lifetime of products and of their production time.

The closed dynamic Leontief model can be used to analyse and compute the economic cycle if we include in an appropriate manner the time requirements of production.

The growth model

We start with the usual setup: the production process requires a certain reservoir ("stock" or "inventory") of products. This reservoir releases only a fraction of its contents in each specified unit of time, say, its $1/t$-th part, or – stated in another fashion – every product has an average or expected life span of t years, and during its existence it remains in the reservoir. The reservoir thus contains all the products already produced but not yet used up.

In case of a single product and simple reproduction this circular process is depicted in Fig. 1. Let us denote the volume or intensity of the production process by x. To keep up such a stream of production the reservoir has to release in each specified unit of time an ax quantity of "inputs". Under conditions of simple reproduction $a = 1$. The process, which is first considered as instantaneous, will require the same quantity of inputs it is able to produce as output. Therefore the inventories, whatever their size, will neither increase nor decrease. Simple reproduction is self-replacing and is not sensitive to changes in stocks.

If now $a < 1$, then extension of production becomes possible, because output is greater than input, $ax < x$. If we want to increase production we have to cater for the

*I am indebted to A. *Simonovits* and T. *Tarján* for suggesting various improvements. Alas even with joint effort we could not improve on the very approximative character of equ. (5)

necessary increase in stocks as well. The inputs ax necessitate t times as much stocks: atx. When increasing production at the rate λ, that is maintaining $dx/dt = \dot{x} = \lambda x$, we have to cover not only flow inputs (ax) but also the necessary surplus stocks λatx.

The equality of actual and of necessary production will be formulated by the simplest growth model

$$x = ax + \lambda atx. \tag{1}$$

With a and t given, we may compute the permissible growth rate λ. In the general n-product case we have only to substitute flow matrix $A = \{a_{ik}\}$ for a and stock matrix $B = \{b_{ik}\} = \{a_{ik}t_{ik}\}$ for at and we simply obtain the well known equation

$$x = (A + \lambda B)x. \tag{2}$$

This closed dynamic Leontief model yields not only the permissible λ growth rate but also the equilibrium vector x which permits this uniform growth process.

Time requirements

All this is common knowledge. Now we introduce an additional assumption based on the observation that the circular process depicted in Fig. 1 can not happen "outside of time", it must have some definite duration. We may phrase this assumption in the following way:

Production of commodity k, ($k = 1, \ldots n$) *requires beside* a_{ik} *product-inputs also a time-input* $q_k > 0$, *the time necessary to produce output k from the ingredients* a_{ik}.

Particularly lengthy periods are needed when producing new investments (buildings, plant and equipment, etc.).

These time spans, "gestation periods" are well known from economic literature and suggested the notation g. They are always positive, and perhaps not too difficult to ascertain statistically: they may be a few hours in a bakery, several months in ship-building, and long years when building railways or bridges.

These gestation periods were already examined in the context of our subject-matter by W. *Leontief* [1] and P. *Petri* [2] when developing the theory of the dynamic inverse; yet they have been included among the usual assumption of stocks. Of course, these things in the production pipeline are also stocks (semi-finished products, shop inventories, unfinished investments etc.). It is easy to add t and g, as jointly determining capital intensity. But g has a second role to play that slightly alters our growth equation. A first effort in this direction was made by N. *Georgescu-Roegen* [3] when discussing the open Leontief dynamic model.

An augmented model

If the time requirement of a process is g, then a stream, started at date τ will only ripen and reach the reservoir at date $\tau + g$. If there is steady growth, there will be supplementary growth during this time, namely $e^{\lambda g} \sim 1 + \lambda g$.

To maintain steady growth we will therefore require a somewhat larger surplus. It is not enough to produce a surplus of the size λatx; for augmenting the stocks, an additional $\lambda g(\lambda atx)$ is also needed. This additional amount caters for the further growth emerging during the gestation period.
Thus, instead of equ. (1) we shall have

$$x = ax + \lambda atx + \lambda^2 atgx. \tag{1*}$$

The general case can be covered by defining a new matrix:

$$D = \{d_{ik}\} = \{b_{ik}g_k\} = \{a_{ik}t_{ik}g_k\}$$

With its aid the closed Leontief model augments to

$$x = (A + \lambda B + \lambda^2 D)x, \tag{2*}$$

the companion differential equation being

$$x = Ax + B\dot{x} + D\ddot{x}.$$

In the sequel we will analyse a somewhat broader system of differential equations, representing also a characteristic facet of economic control mechanisms. But let us first comment on the new matrix D.

The matrix D has been constituted by multiplying two time factors, t and g. It compares to the stock matrix B in the same way as the latter compares to flow matrix A. If stocks are accumulated flows, then D designates accumulated stocks, doubly accumulated flows. We shall call it the "priming" matrix, or the "accelerating" matrix and return to the justification of these names.

The priming matrix D can be developed in another manner. If (finished) production is presently x, then we have to start now a new production stream of the magnitude $(1 + \lambda g)x$ – because only after g time has elapsed will it furnish a new stream of finished products. Necessary inputs to this stream are of size $(1 + \lambda g)ax$ and in the reservoir we need a t-fold quantity, that is $atx + \lambda atgx$. In matrix notation the present stock requirements are therefore $Bx + \lambda Dx$. The additonal $\lambda D\dot{x} = D\ddot{x}$ quantity is needed only because production is not instantaneous, the new stream (and every additional stream) has to be "primed" before its yield is forthcoming.

Equilibrium growth

It is interesting to speculate why these interdependencies remained hidden and indeed why they can be safely neglected in the future – as long as we compute only equilibrium growth rates and proportions.

The coefficient of matrix D in equ. (2*) is λ^2. Now λ^2 is practically zero (<0.005). If matrix D has an impact at all this will remain *below* the threshold of statistical

perception. Even when measuring with great exactness, stocks (Bx) will be measured in equilibrium (in the average) as $(B + \lambda D)x$, because this will be the amount found jointly in the "reservoir" and in the "pipeline". Substituting in equ. (2) matrix B by $B + \lambda D$ we get equ. (2*) – so there is no way of ascertaining which model is valid. We have to rest satisfied, and in the sequel we include this "vanishing particle" λD into matrix B. Therefore when computing stock requirements we simply multiply by matrix B, which we may consider "already augmented" to $B + \lambda D$. More exactly, equ. (2*) can be transcribed into

$$x = (1 - \lambda^2 D)^{-1}(A + \lambda B)x.$$

which can be solved by the iteration

$$x_{k+1} = Ax_k + \lambda_k Bx_k + \lambda_k^2 Dx_k \tag{3}$$

where

$$\lambda_k = \frac{p^T(1 - A)x_k}{p^T(B + \lambda_{k-1}D)x_k}$$

and p^T an optional positive price vector, assuming only $p^T > p^T A$.

Yet $(1 - \lambda^2 D)^{-1}$ will be almost equal to the unit matrix. The new value of λ will be somewhat less than before and x biased toward products with a longer gestation period – but the difference will be found only from the fourth digit onward.

Non-equilibrium growth

The accelerating matrix D, however, cannot be neglected in conditions where the economy accelerates or decelerates, that is, in the case of economic cycles. Though the growth rate, $\dot{x}/x$, will fluctuate only between, say, +0,15 and –0,05 during the cycle, the "acceleration rate", $\ddot{x}/\dot{x}$, will take all the values between positive and negative infinity.

Equilibrium growth with the rate λ will have an equilibrium acceleration λ^2, that will be called *normal* acceleration. The normal flow requirements of acceleration are $\lambda D\dot{x}$, but if $\dot{x}/x \neq \lambda$ then $D\ddot{x}$ can deviate quite substantively from normal. The difference, $D(\ddot{x} - \lambda\dot{x})$ will be called the *abnormal* or *non-equilibrium* flow requirements of acceleration. This will be positive if acceleration is above normal and negative if it is below normal or if we experience deceleration.

The stock requirements of non-equilibrium acceleration can be easily computed by multiplying flow requirements by the matrix B, and they will be

$$BD(\ddot{x} - \lambda\dot{x}) = BD\ddot{x} - (1 - A)D\dot{x} \tag{4}$$

In transforming the second factor we considered that in case of equilibrium

$$\lambda BD\dot{x} = (1 - A)D\dot{x} \tag{5}$$

Equation (5) is generally not exact, though certainly exact in case of a single commodity economy. It should be considered only as an approximation, or a hypothesis which simplifies further mathematical transformations.

Controls

To comment further on the role of matrix D we have to consider that according to our former assumptions we can not influence the intensity of production, x, nor its change $\dot{x}$ directly. Both are dependent on *earlier* decisions and processes. The *present* level and pace of production is given by the *past* history of our system. What we can influence in the present is only the *future:* we can start new streams of production that will ripen only *later.*

Therefore our control variable is neither x nor $\dot{x}$ but $\ddot{x}$, we can modify only the acceleration of our system. To give an example: the yield of the existing number of oil wells is given historically, the increase of their number was decided also in the past – we can now only decide whether we increase or decrease the usual number of new drill starts.

Yet this decision will be constrained, as generally the decision on new investment starts is always constrained by the freely obtainable resources – by the free, not yet committed surplus.

Here we do not want to go into detail, but both a market economy and a planned economy behave in this respect in the same way: they can directly *observe* only stocks and can *control* only acceleration. In both systems it is characteristic that free resources will be used for accelerating production – and lack of free resources will brake the growth rate.

An equation for the permissible paths

The "free stocks" will be represented in the model as $\int(1-A)x - B\dot{x}\,dt$. If we equate this with the stock requirements of acceleration as expressed in equ. (4) we obtain, after differentiating both sides

$$(1-A)x - B\dot{x} = BD\ddot{x} - (1-A)D\ddot{x} \tag{6}$$

This is not an "equation of motion" neither a "control equation". It only spells out – analogously to the original Leontief model – certain *consistent* or *feasible* paths for the economy.

If we introduce the differential operator $\mathfrak{D}$, we can express equ. (6) as

$$(1 - A - B\mathfrak{D})\,(1 + D\mathfrak{D}^2)x = 0 \tag{7}$$

It is clear by inspection that it will have two positive solutions. The first is the already known equilibrium solution (or rather a slight modification thereof). If

$$x = (A + \lambda B)x \tag{8}$$

then $\bar{x} = (1 + \lambda^2 D)^{-1} x$ will satisfy equ. (7) and we have the well known exponential growth solution

$$x_t = \quad x_t = e^{\lambda t}\bar{x} \tag{9}$$

This could have been already computed from the much simpler equation (2). It is an equilibrium solution, therefore matrix D plays only a minor, very hidden role. Production times (gestation periods) can be therefore safely neglected under conditions of equilibrium growth, as stated already above.

The cyclical component

Yet we obtain at the same time a second important positive solution, which will be cyclical. Let us denote it by $\tilde{x}$. It can be computed in the following way. If

$$\tilde{x} = \omega^2 D\tilde{x} \tag{10}$$

then

$$x_t = e^{\pm i\omega t}\tilde{x} \tag{11}$$

will again satisfy equ. (7)

This solution is a positive eigenvector of the positive and irreducible matrix D. The reciprocal of the square-root of the biggest eigenvalue belonging to it will yield the frequency ω of the cyclical component. Substituting this solution into equ. (6), dividing through by $e^{i\omega t}$ and considering equ. (10) we arrive at

$$(1 - A)\tilde{x} - i\omega B\tilde{x} = - i\omega B\tilde{x} + (1 - A)\tilde{x} \tag{11}$$

the two sides of which are equal.

Joining the two positive solutions we obtain as a characteristic path

$$x_t = e^{\lambda t}\bar{x} + \cos \omega t\tilde{x} \tag{12}$$

This is an exponential growth along the equilibrium vector $\bar{x}$ to which a cyclical component $\tilde{x}$ oscillating with frequency ω is added. The length of the cycle will be $T = 2\pi/\omega$.

We have to stress, that the solution (12) is exact only in the case of an aggregated economy. For an n-sector economy it will be only an approximation. Neither did we analyse the economic meaning of other possible solutions to (7). All we know is, that other solutions will have eigenvalues surpassing ω and λ, and the respective eigenvectors will not be positive.

A rough estimate

For the time being we do not have dependable and detailed data for production times g_k. But we may venture an aggregated computation. In a single-product economy matrix D reduces to a single scalar $d = bg$. This will therefore be the average

capital intensity multiplied by the average production time. The length of the cycle is $T = 2\pi\, bg^{1/2}$. Now the average capital/output ratio is around 3 years, and for average production time we can roughly guess 2 months (production inventories + investment under construction per total production). Therefore $d = 3.{}^{1}/_{6} = 0.5$ years^2, hence $\omega \sim 1.4$ and the length of the cycle $T \sim 4.5$ years, not far from the average experienced during the last century.

If our theory is correct, then we may state that the length of the cycle will be determined by the geometrical mean of the average capital intensity and the average gestation time. The length increases with the square root of capital intensity and gestation periods.

The computation of the cyclical component, $\tilde{x}$, is governed by the priming matrix D. Therefore we can assess the relative amplitudes shown during the cycle. Here we find that products with short production time (and short life span) will fluctuate much less – the most cycle-sensitive products being those where both gestation time and expected life span are long.

ЛИНЕАРИЗИРОВАННАЯ МОДЕЛЬ ЦИКЛА

А. БРОДИ

Если исходить из замкнутой динамической модели Леонтьева, то после введения времени производства $g_k > 0$ можно сформулировать матрицу $D = \{d_{ik}\} = \{b_{ik}g_k\}$, которая получается так, что элементы матрицы капиталоемкости $B = \{b_{ik}\}$ умножаются на время производства по каждому столбцу.

В этом случае уравнение экономической системы можно записать в виде $(1-A)x - B\dot{x} = BD\ddot{x} - (1-A)D\dddot{x}$. Это уравнение имеет два важных положительных решения, т.е. известное сбалансированное решение, обеспечивающее темпы роста, равные λ, и компонент цикла $\tilde{x} = \omega^2 D\tilde{x}$, который приводит к колебаниям по *cos* ωt. Продолжительность цикла $T = 2\pi/\omega$ увеличивается пропорционально квадрату срока службы изделий и времени производства.

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REVIEWS

A. SÁNDOR

HUNGARIAN – DUTCH ROUND-TABLE CONFERENCE

It has been now for the third time that in this decade the Hungarian–Dutch round-table conference has met: first it was in 1971, then in 1975 and now in early October 1978 in Budapest. While the purpose of the two previous conferences was to improve the dialogue between the two countries and to develop bilateral relations, at the third conference the whole of East–West relations, questions of cooperation between the CMEA and the Common Market, as well as the place and role of the different economic integration organizations within the new world economic system were on the agenda. As of every meeting of such nature, the actual meaning of the third Dutch–Hungarian conference was that ideas and opinions of the two parties came somewhat closer to each other. All three round-table conferences were organized on behalf of the Hungarian party by the Research Institute for World Economics of the Hungarian Academy of Sciences – head of the delegation was József *Bognár*, director of the Institute –, and on the Dutch part by the Kennedy Institute of Tilburg – head of the delegation was Alting von *Geusau*, director of the Institute.

Although beside lectures it is usually the emerging disputes and dialogues that are the most interesting, it is worth quoting from the theses introducing the conference.

A few of the Dutch theses: the Belgrade conference has not promoted European economic cooperation. Commercial as well as organizational problems between the Common Market and the CMEA have remained unsolved. The present uncertain situation of world economy renders the home economy of countries as well as economic cooperation among them problematic. While in the Hungarian economy a gradual liberalization is observed, Common Market countries are more prone to take protectionistic measures.

A few of the Hungarian theses: since 1974 the growth of Dutch–Hungarian trade has slowed down (though trade itself has grown), and during recent years the intensity of foreign economic relations became fluctuating. Decreasing dynamism appeared first of all in Hungarian exports, which had partly cyclical and partly structural reasons. Development of relations was hindered by the crisis evolving in 1974 and by the restrictive economic policy introduced as a consequence also in Holland, and also by the not always adequate competitiveness and commodity pattern of Hungarian export goods. Among potential fields of Dutch–Hungarian cooperation it is mainly the development of agricultural and food industrial systems, and of complete health service systems that may come into consideration. A trade stimulative effect may be exerted by Hungarian

intellectual exports, joint appearance on third markets (in the third world), and by a change in the Dutch credit- and guarantee system in relation to Hungary.

From the introductory lecture of Mihály *Simai,* Deputy Director of the Research Institute for World Economics discussing the main development tendencies of world economy, it was the section dealing with the expectable development of Common Market – CMEA relations that aroused the greatest interest. According to Professor Simai's prognostication, "it is improbable that before 1986 a comprehensive agreement influencing essential economic processes should be signed between the CMEA and the Common Market."

In the opinion of the deputy rector of the Karl Marx University of Economics, Tibor *Palánkai,* first both the political and the economic relations must be settled, and a really stimulative and comprehensive agreement may be signed only thereafter. As regards the economic aspect, the Common Market appears to be rather indifferent – certainly because of asymmetry of economic interests – and Common Market restrictions are the strongest exactly where Eastern Europe is competitive. Another hindering factor is the question of debts, and in order to make a step forward a mutual structural adjustment is by all means necessary.

Leader of the Dutch delegation, Professor A. *von Geusau* raised the question whether, with a view to promoting intensive cooperation, the two organizations ought not to be transformed later on.

The Hungarian answer to all that may be summed up in that agreement between the two economic blocks can be in fact but a "hood" and under this hood agreements between countries must be concluded individually. For normalization also artificial obstacles must be eliminated. And even before institutional agreements are signed, cooperation is possible and is even a must, also because that may give a further impulse and may exert even a pressure for concluding institutional agreements. The Dutch delegation recommended flexible relations between the two integration systems – as long as an institutional agreement was not concluded.

In József *Bognár's* lecture held under the title "Situation of the Hungarian economy at the beginning of a new era in world economy" the greatest interest was aroused by the part treating the future development of Hungarian imports from non-socialist countries. Academician Bognár said that if an average yearly 5 per cent economic growth is planned in Hungary for the next decade, it will entail an approximately 10 per cent growth of imports from non-socialist countries. And in order to maintain the Hungarian balance of trade with such growth rate of imports an export growth rate of 12–14 per cent is necessary. It is, however, not without difficulty to keep up this 12–14 per cent growth rate of exports if one of the most important Hungarian export markets i.e. Western Europe reaches only a 3–4 per cent economic growth rate, since that is concomitant with only a 7–8 per cent growth rate of West European imports. Therefore, with a view to Hungarian export objectives, we must avail ourselves of every opportunity for cooperation, whether bilateral or trilateral cooperation or joint venture or any other form.

Professor H. W. J. *Bosman* held Hungarian expectations related to exports for optimistic. On the one side be considered the 10 per cent import growth rate (from non-socialist countries) as exaggerated, on the other side he was of the opinion that the Hungarian party laid too much stress on cooperation. In this relation Academician Bognár indicated that the level of Hungarian foreign debts was tolerable in his opinion, and further, through these debts we could develop our export capacities which would enable larger mutual trade.

Professor Bosman's remark, according to which Hungary assigned a more important role to foreign relations as source of growth than justified or possible was commented upon by Béla *Kádár,* senior fellow of the Research Institute for World Economics in the following. In Hungary the three largest sources of growth present difficulties: first, there is labour shortage, second, the country is among the poorest in raw materials in Europe, third, there is shortage of capital. This drives Hungary toward making foreign economic relations her source of growth, and all that is further aggravated by the small size of the country, as is the case also with Holland. Thus increased foreign economic orientation is almost a predestination. One vital question is, how this high export orientation can be reconciled with stabilization objectives i.e. with equilibrium requirements. The other vital question is, in which way this necessary foreign economic cooperation will develop in the 1980s, since e.g. the European Economic Community gives preference to developing countries which are our competitors in many cases, and thus impair Hungarian possibilities. Thus only a very limited scope is left for the necessary cooperation, and that is the field of intellectual products, joint ventures, knowledge-intensive exports, and cooperations.

The value of Hungarian–Dutch trade reached $200 million by the end of 1977 (Hungarian exports amounted to $120 million). As it was remarked by J. P. van der *Reyden,* First Secretary of Dutch Wholesale Dealers: the gap between the value of Hungarian exports and imports – and even more the increase of this gap – was a cause for concern.

The structure of trade between the two countries still presents difficulties: in Hungarian exports the ratio of machinery still reaches only a few per cent, just as ten years ago. Another difficulty is presented by the fact that the two countries have rather a similar export structure and thus the lack of complementarity is also an obstacle to future cooperation. Although the similar export structures may be theoretically advantageous for cooperation on third markets (and mainly in the third world), van der Reyden held even that for much more difficult than it would have been five years ago. In his opinion, today it is not easy for the Dutch, either, to get themselves established on the market of developing countries.

Cooperation is made difficult also by the lack of tradition and of large Dutch state-owned enterprises. Van der Reyden voiced quite a pessimistic opinion about the possibility of Hungarian–Dutch economic relations becoming more intensive. In his opinion Hungarian production is not well adjusted to the world market, and Hungarian enterprises usually do not find the suitable channels of distribution. And, though

Hungarian products are excellent in many cases, their packaging is poor and marketing activity is missing.

According to Van der Reyden it is also hindering cooperation that the Dutch, by their nature, are not particularly inclined to cooperation, and the Government has just made 2,5 million guilders available with a view to develop inclination to cooperation. (In consideration of this fact the number of Hungarian–Dutch cooperations is rather high: 50, as for their contents, however, they are more like commercial transactions.) It is to be mentioned, however, that a separate Section is functioning within the Dutch Chamber of Commerce for the development of economic cooperation among small countries i.e. a separate amount of money is assigned for this purpose. This funds may perhaps be utilized for the promotion of Hungarian–Dutch economic relations.

F. PECZE

THE LABOUR RESEARCH INSTITUTE OF THE MINISTRY OF LABOUR

The demand for comprehensive and institutional research work into labour sciences has become more and more evident in Hungary since the late 60's. The different specific problems of this complex discipline were, however, studied only sporadically in detached organizations. Some problems of the labour sciences were treated by Universities mainly with the purpose of application in higher education. Partial researches were carried out in this field by the University of Economics, the Political and Law Faculties, and by different departments in the Polytechnical and Agricultural Universities. Occasional research work pertaining to the subject was performed also by some institutions of the Hungarian Academy of Sciences. These researches were but loosely coordinated or not at all and no research work whatever was done on a number of important problems.

In the beginning of the 1970s direct measures were taken for the establishment of an independent research organization of labour sciences. Namely, with the exhaustion of free labour resources the labour questions have become more and more accentuated, raising ever growing requirements towards well-founded labour management. The organizing of an independent labour research institute was justified by the need to satisfy growing demands towards labour research especially from the economic and humane points of view, in a coordinated manner and with the systematic study of the theoretical and methodological problems of the various branches of this discipline. It has been therefore then aim from the beginning to do complex research in the fields of economics of labour, work organization, labour law, work psychology and work sociology.

Following the resolution of the Council of Ministers of July 25, 1973, the Ministry of Labour, with the effect of September 1 1973, set up a Labour Research Institute. According to the provisions of the founder, the Institute is supposed to work "in the

interest of improving the standard of activities related to labour on the state and enterprise levels and of developing the labour sciences, the basis of those activities." In this framework a definite amount of basic and applied research work has been envisaged. The statutes and the foundation deed qualified the new organization as a *national research institute.* Beside its own research work the Institute also has to do science organization, an activity incarnated in the research program sponsored by the Ministry of Labour "social and economic problems of labour", of which it is the parent institute.

The Institute participates in the stream of international scientific life by maintaining bilateral and multilateral relations with its foreign counterparts. It carries on regular cooperation with the institutes for labour science of the socialist countries, and under the framework of the CMEA it also contributes to the fulfilment of the tasks that fall on the Ministries of Labour. In interdisciplinary research it keeps contacts with the corresponding research institutes and faculties of higher education. Assistance to the teaching of the subject belongs to its partial tasks.

Research began at the turn of 1974 and 1975 and is carried on in the framework of a hierarchy of scientific sections and in organizationally informal teams. These two forms overlap with respect to staff and themes. Outside collaborators also participate in the research work of the Institute. The tasks of the scientific sections are shown in general by their names: sections for employment policy and labour management; for labour income and social policy; for work and plant organization and work psychology; also a scientific team has been set up recently to study labour law.

Since its establishment the Institute has done research work in the following four groups of themes:

– demand on labour force and labour resources, the changes in and the expectable development of the qualitative composition of the labour force;

– perfection of plant and work organization;

– analysis and prognostication of level and pattern of personal incomes;

– a model of labour psychology of the efficient and humanized utilization of labour under Hungarian conditions.

In the framework of this group of themes the programmes of several priority research projects of the Institute are under implementation. These are:

– labour management under a selective and intensive development policy,

– long-term trends of demand on labour force; changes in the pattern of labour force and the tasks of vocational guidance,

– updating the wage scale system.

According to the annual research program specifying the medium-term plan, the following subjects are now studied in a breakdown by the said categories:

– changes in and predictable development of demand on labour force

– theoretical and methodological problems of scientific work and plant organization,

– methods of measurement in scientific work organization,

– elaboration of norms and normative time data systems,

– analysis of the level and pattern of personal incomes and the factors affecting them by strata, with special respect to the labour class;

– the basic function of social policy under the Hungarian circumstances, its economic and income policy aspects;

– analysis of the work psychological factors of labour management,

– interactions of job and enterprise characteristics and individual and team characteristics.

According to the requirements of research into these subjects, due to their interdisciplinary nature, the research programs will be soon complemented with the research of their labour law and administrative aspects (in order to comply with the provisions of the founder and to lay the scientific grounds for labour management activities on governmental and ministerial levels).

The results of the scientific work of the Institute are released in part in learned periodicals and in part in its own publications. The findings of its research work, i.e. the various papers and treatises, are often utilized by the Ministry of Labour. It is among the Institute's intentions to make the results of its research work directly available also to producing enterprises. This is organized and implemented in the framework of lasting cooperations (contractual relations). The Institute has two (quarterly) publications: *Munkaügyi Tanulmányok* ("Studies on Labour Affairs") and *Munkaügyi Kutatási Közlemények* ("Labour Research Bulletin"). In the first periodical the general results are published while the latter comprise partial studies. The publications occasionally carry results of joint research work done with fellow institutions of the CMEA countries.

The Institute also edits a quarterly information bulletin presenting *the literature of CMEA countries on labour affairs,* also for the purpose of other scientific institutes and those of higher education. Reports on the *Hungarian literature* translated into Russian are regularly mailed to foreign partner institutes. The Institute also publishes other information materials in Hungarian and in foreign languages, covering the literature of labour sciences and cognate sciences, and publications by members of the Institute as well as its current research programs.

The research workers of the Institute actively participate in Hungarian and international scientific life. Many of them are members of scientific bodies, or hold posts there (mostly in the Committee for Labour Sciences of the HAS).

The *international relations* of the Institute were partly introduced above. The Institute is regularly the organizer of, or participant to, scientific conferences of the CMEA on labour. It also supports some foreign partner institutions by the guidance and training of researchers received from those countries and by handing over instruments and other materials required for research work.

The Institute maintains relations with the International Labour Office and the International Institute for Labour Studies. Moreover, it is collective member of the Association Methods – Time Measurement in Switzerland. The research workers of the Institute often participate in study visits to foreign institutions with scholarships for various terms.

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BOOK REVIEWS

CSIZMADIA, E.: *Socialist agriculture in Hungary.* Budapest, 1977. Akadémiai Kiadó. 179 p.

Hungarian agriculture has undergone changes of historical importance during the last thirty years. Dimensions of these changes are illustrated by the author in *Chapter One,* presenting the development of Hungarian agriculture from the end of the last century until the end of World War II and then comparing it with changes taking place after 1945.

The system of landed properties burdened with feudal survivals (vast latifundia on the one hand and extremely subdivided dwarf holdings and masses of landless people on the other) was definitely eliminated by the land reform in 1945. The socialist reorganization of agriculture began in the early 1950s, but, because of the mistakes made, proceeded only slowly, and then considerably fell back in 1956. The reconstruction of cooperatives (1957–1961) was realized with full success as a result of more elastic organizational methods and the application of adequate economic and political incentives. Consolidation of the cooperatives took place in the course of the following 5–6 years, and then, as a result of the new economic mechanism introduced in 1968, an up-to-date, large-scale agriculture has developed.

Chapter Two examines major indicators characteristic of the development of agriculture and the food industry. They eloquently prove that the food economy is fulfilling its main task at an ever rising level, namely the supplying of food to the population. Thus, for example, per capita meat consumption nearly doubled by 1973 as compared with the 1930s, while also exports considerably increased.

After having briefly reviewed the development of social relations the author deals with the sectoral structure of production and the important changes taking place there in *Chapter Four.* For his analyses he chooses a very expressive method when he examines individual branches of production in their entire vertical setup. In this way major connections between and within the main branches of the food economy – plant growing, animal husbandry and food industry – are easily perceptible. Beside mentioning positive results the author also points to such shortcomings causing serious national economic losses as, for example, inadequate storing and processing capacities (storing of maize, deep freezing of fruits, meat processing, etc.).

In animal husbandry cattle-breeding (for domestic milk consumption and meat export), pig-breeding (giving half of the domestic meat consumption, but whose processed products can also be well exported) and poultry raising are of special importance. With the wide-range spreading of large-scale farming mainly the latter has developed to an extraordinary great extent, but considerable development can be observed also in pig-breeding. The basis of animal husbandry is supply with fodder which may be judged as satisfactory in Hungarian agriculture from the viewpoint of quantity. Problems in this field are mostly of qualitative nature: supply with proteins of high nutritive value is not yet ensured and there is a lot to do also in the field of supply with mixed fodder and nutriments.

In *Chapter Five* dealing with the problems of land ownership, labour situation, investments and productivity interesting data, characteristic of the development of the entire Hungarian agriculture

in the last decades, are presented. Thus, for example, already 94 per cent of the total area were in socialist (state or cooperative) ownership in 1973. At the same time, – as a result of migration to industrial working places – the proportion of those working in agriculture decreased between 1950 and 1973 from 51.9 to 21.9 per cent of the total number of gainfully employed.

Despite this fact agricultural production has not decreased during the one and a half decades since 1961, because productivity has much improved. In the period mentioned the quantity of gross product per gainfully employed nearly doubled, while the net product increased by 70 per cent. The almost exclusive source of this considerable productivity increase was the ever increasing amount of investments. Mechanization as well as the supply of agriculture with fertilizers and other chemicals increased several times.

One of the most important, but also most extensive chapters of the book is *Chapter Six* presenting the system of economic control and management. After reviewing some general characteristics valid for the entire national economy (planned economy, instruments of economic control, etc.) the author analyses the tools of the control and regulation, briefly presenting also the situation prior to 1957. However, his attention is concentrated first of all on the effects on the food economy of the mechanism of economic control and management introduced in 1968. There have been very considerable changes in the procurement system of agricultural products with the introduction of the so-called multi-channel sales system. With the elimination of the monopolistic situation of purchasing agencies new possibilities were opened for a more diversified supply with food products of the population. Considerable modifications were introduced in the agricultural price- and wage-system, a credit system stimulating for more economical production was developed. In 1968 a progressive land tax was introduced and also the system of income tax was basically changed. By means of tax-revenues farms working under unfavourable conditions (about one third of all cooperatives) are given state subvention.

In *Chapter Seven* the author reviews in detail the organization, legal status, operational order as well as the economic development and production results of state enterprises and farms.

Chapter Eight is devoted to agricultural cooperatives. By means of a rich data collection the author demonstrates among others the contribution of cooperatives to total agricultural production (more than 70 per cent in 1972). He discusses the numerical development of cooperatives and the organizations for safeguarding the interests of the cooperative movement in Hungary.

The last chapter deals with a relatively new phenomenon, namely, the vertical extension of the economic activity of cooperatives and state farms. In the last ten years or so agricultural plants were granted the possibility of engaging in certain kinds of supplementary activity of an industrial character. First of all the processing of own-produced agricultural products (canned food, dairy products, etc.) may be regarded as advantageous, but certain circumstances may justify also other activities not closely connected with agriculture.

A. TÓTHFALUSI

SIMAI, M. – GARAM, K. (eds): *Economic integration: concepts, theories and problems.* Budapest, 1977. Akadémiai Kiadó. 424 p.

The book is a selection of some of the papers contributed to the *Fourth World Congress of Economists,* held in Budapest, August 19–24, 1974, which was organized jointly by the International Economic Association and the Hungarian Economic Association. The selection contains 38 papers of 43 authors. Integration selected for the theme of the Fourth World Congress, has became particularly topical for the seventies. In the last two decades, we have witnessed increasing international economic interdependence which, as consequence of integration efforts, was very rapid in both parts of Europe. In 1971 the EEC launched an ambitious plan for monetary and economic union, which was to attain by 1980 a complex integration of economic policies and connected with a sort of political and institutional unification. The same year, the CMEA approved its Comprehensive Programme, which opened a new phase in cooperation among the

member countries, and outlined their plans on integration for the next 10–15 years. The forces working toward integration (the need for concentration of production and for wider markets, requirements of new technologies, rational allocation of resources, security of supply of raw materials and energy, increase of efficiency and of growth rates of national economies) have been very similar in both integration groupings. The EEC and CMEA, however, represent basically two different approaches and two strategies of integration. The concrete political and economic motivations, the institutional solutions, the functioning of economic mechanisms, the principles of cooperation, the characteristics and consequences of integration processes all show essential differences, which are rooted in the laws and working of the two economic and social systems. Another source of differences is the level of development of the participating countries and also their different size, economic structure and economic history. The problems of integration among the developing countries, and the effects and consequences of European integration on them are also dealt in the volume, particularly by the authors coming from these countries. Many papers analyze the crisis of the capitalist world economy which, particularly after 1973, had wide negative effects on the integration processes.

The volume is composed of seven parts, each dealing with major theoretical or methodological problems of international economic integration. The views, presented in the papers differ in many important respects, they are based on different theoretical and ideological grounds, and represent all of the main schools of contemporary economic thought. The scope of interest and the level of analysis are also different. The authors, however, are not bogged down only in the problems of their peculiar areas, they strive for wide and analytical approaches. The diverging and sometimes contradictory views all strive after a better understanding of the complicated nature of integration processes and to promote international economic cooperation among the different regions in the interest of peace and economic progress.

Part one: Concepts and measurement of economic integration. The seven papers basically deal with some methodological problems of measuring the process and state of integration, and raise several important conceptual problems of implementing integration. Arun *Majumder* (India) calls attention to the fact, that the interdependence between regions and countries might lead to highly different consequences. It is possible, that the integration brings no improvement in the economic situation of the area, and throws seeds of conflict and contradiction. Therefore, perhaps the most important question political economy raises is associated with the purpose of integration among the given countries. For the small-sized less-developed countries, at present constituting the majority of the world's nations, economic integration is the way, through which they can make rapid progress towards economic development at lower costs than otherwise. This integration has to be based on a supply-determined interdependence, which is also the condition of optimization of benefits from their external economic relations with the developed countries. Prof. Marialuisa *Manfredini* (Italy) raises the necessity of dynamization of the theory of comparative costs. In a long-term policy this involves a specialization and diversification following the changes in productive structures. The dynamic scheme can be applied to the developing countries, for them the potential comparative advantages can be transformed into real ones through the mechanism of external aid to development. According to her "the integration represents a possible remedy in the difficult forcedly selfsufficient period of exigous differences of the comparative costs, preparing in a most wast and protected ambit in the interior of the common frontier the creation of a solid economic base. This common frontier will resolve itself in competition and conquest of new exterior markets of the common frontier, if the sectoral choices will have respected the principle of potential comparative advantage." (75 p.) Marian *Ostrowski* and Zdislaw *Sadowski* (Poland) define economic integration with national sovereignty as a form of multilateral cooperation where, within a certain defined scope, all macroeconomic decisions concerning development programmes, methods of their implementation, as well as decisions concerning some general rules of cooperation are to be multilaterally discussed and accepted. Thus

the benefits of integration can be seen as a broadening of "areas of relative certainty" in planning, in determining structural changes in stability and acceleration of growth processes in increasing the internal power of the planning authority, *vis à vis* the sectoral interests. On the other hand certain costs arise out of integration, which can be considered as a set of constraints. The main costs stem from the process of more difficult and cumbersome decision-making and also from reduced flexibility in adjustment to rapid changes and to new conditions of economic situation. Finally, the integration may add directly to the costs of administration. Yuri *Shishkow* (USSR) conceives regional economic integration as an objective process of forming international economic complexes comprising two or several states with identical socio-economic systems and consciously regulated in the interests of those states, ruling classes. As a result of this process, the national economies gradually merge into a single international economy in the long run, while the reproduction processes, previously confined to national limits, eventually merge into a single reproduction process on the scale of that economy." (p. 86) He stresses the complex and many-sided character of regional integration, comprising numerous factors and processes. Each of these factors and processes is an independent phenomenon and can, therefore, be measured separately. He shows in a schematic diagram, how the territorial zones of "partial" integration (flow of commodities, capital, manpower etc.) can overlap, and form a "central zone", where all the "partial" integrations coincide, where the process of a merger of all the elements of social reproduction takes place i.e. an integration in the full sense of the word. This complex is not a simple sum-total of the separate processes, but they are organically interconnected, and lead to a qualitatively new and more comprehensive system on the scale of the given integration region.

Part two: General and sectoral theoretical issues. The first two papers written by authors from the Soviet Union (L. Babushkin, Y. Kormnov, M. Mironov, N. Shein, and S. S. Dzarasov) mainly concentrate on comparing the general features of socialist and capitalist integration. *Dzarasov* stresses that the two integrations can be compared only in terms of their results and not in terms of their respective principles. What is important is the final result, i.e. the rate of economic development and the higher living standard as its direct outcome. Dr. On *Prakash* and Sushil *Prakash* (India) analyze in their papers the role of multinational corporations in the integration processes and the world economy. The multinational corporations bring about a high level of international technico-economic integration, which nations as independent political entities may find difficult to achieve. The type of integration achieved through the multinational firms, however, is associated with much economic, political and social friction. The multinational firms follow their own interests and have vast economic power and political influence, through which they may interfere in the domestic policies of the host countries and cause tensions among the nations. The oil crisis, supported by the multinational oil companies, for example, had a very negative effect on the process of integration in world economy.

Part three: Socialist economic integration. The accelerated development of technology in our age is one of the main factors compelling socialist countries to increased international specialization and integration. Bohuslav Maly (Czechoslovakia) emphasizes however, that, considering the distribution of productive forces in CMEA, the ownership relations cannot be overlooked. Socialist world production could be developed internationally within the framework of the socialist community but based only on national ownership is not a formally proclaimed concept of integration, but has a real content. Its reality consists in the fact that the national productive capacities on the territory of the given state create a product appropriated entirely within the national economy in which it originated. Through international integration there occurs only a structural rearrangement of the social product. Dr. Jana *Sereghiova* (Czechoslovakia) also points out that the joint ventures of CMEA countries do not provide a basis for joint ownership of the new enterprise. The different versions of international investment participation among the socialist countries make possible to realize investment projects of a size otherwise unattainable and they also represent an effective means of relieving certain tensions in their fuel,

energy and raw material supply. The Comprehensive Programme of socialist integration devotes special attention to the accelerated development of less developed members and to the equalization of levels of development in the framework of CMEA. Tsedevsurengiin *Davadorj* (Mongolia) analyses and shows all the advantages brought about through integration in CMEA from the point of view of rapid economic development and industrialization in Mongolia.

Part four: Integration in Western Europe. In a very comprehensive study Prof. Pierre *Maillet* (France) widely analyses the main achievements of the common market in EEC, particularly from the aspect of structural changes in the sphere of production. He concludes that the mere elimination of trade barriers basically failed to bring about any deep structural transformation in the economy of the Community. Concerning trade, the increase was very spectacular, but that was only partly due to increased specialization of the producers. In various cases the manufacturers offer for sale closely related products, and as far as increased competition is concerned in certain fields, it was to the advantage of the consumer, who could choose from a wider range of products on the market. The essential results of the common market, however, were obtained mainly in fairly conventional industries. Concerning the more recently established industries, however, which to a fairly large extent are dependent on government support for their growth, very little progress can be recorded. The simple opening of frontiers does not solve the predominant problem of the European economy, i.e. to fit in a world undergoing rapid technological transformation, substantially influenced by large multinational companies and large countries. Full awareness of these problems is quite recent. In his paper the author of this survey analyses the plans of economic and monetary union in EEC, and also the measures and the reasons of their failure. Dr. Maria *Scvortov* (Romania) gives a wide review, how the capitalist integration was reflected in the economic literature in different periods. Dorothea Strömberg (Sweden) deals with attempts at "fiscal integration" in Western Europe, particularly the achievements and problems of tax harmonization in certain fields.

, *Part five: Problems of integration in developing countries.* For many political and economic reasons, the role played by regional groupings aimed at integration in the developing world has been mostly limited and negligible so far in the economic development and life of the participating countries. According Dr. Gert *Kück* (GDR), their influence on economic development in Asia. Africa and Latin America will be certainly growing, and integration is an objective necessity in the long run also for that region. As many others, he also stresses that liberalization of trade for that end is insufficient. In order to achieve positive results expected from integration, the integrating countries must create effective cooperation in the field of production and coordinate their development plans, strategies and projects. Three Cuban authors (Osvaldo Martinez Martinez, Armand *Méndez* Gruz and Oneida Alvarez Figueroa) add, that integration can only be successful, if it is connected with profound structural transformations in economy and society (real agrarian reform, nationalization of key sectors, control of national resources, redistribution of national income to the advantage of the masses, access to education and culture, etc.) Evaluating the role of monetary policy in integration in Central America, Raul *Moncarz-Percal* comes to the same conclusion, that in order to achieve the goals of economic policy outside the monetary sphere, a better distribution of incomes, land reform and an end to the present process of growing social "marginalization" is needed. Several authors also emphasize that the transnational companies have been the largest beneficiaries of the elimination of tariff barriers and the establishment of wider markets among the developing countries. As Bingu Wa *Mutharika* (Kenya) points out that the multinational companies pursue a policy of "divide and rule" which frustrates regional integration schemes, undermine national commitments by not identifying themselves with the African development objectives etc. As a countervailing force against the multinationals he proposes the creation of African Intergovernmental Corporations, which can mobilize their own resources and support the aspirations of these countries. Of course the role of public sector firms in integra-

tion is connected with a great many problems. As Prof. William *Glade* (USA) proves for the case of Latin American Integration, The reluctance of public corporations to enter into cooperation agreements has been no less, than in case of private companies, and in this respect the Andean Group hardly has any better records. Dr. Gert *Kück* draws also attention to the growing importance of economic relations between CMEA and the developing countries.

Part six: Impact of integration on national economies. The three papers deal with some of the aspects of integration and the external and domestic problems of national economies. Dr. Ádám *Marton* (Hungary) shows how the relative price stability due to the pricing principles applied within the CMEA has effected the Hungarian foreign trade and the economic development of the country. Dr. Cedomir *Veselinovic* (Yugoslavia) analyses the problems of integration of industrial complexes in the Yugoslav economy. Prof. Dr. Kurt *Wessely* (Austria) gives a wide account of the experience of Austria in its cooperation with European economic integration groupings.

Part seven: Relations between integration organizations. The planned character of socialist economic integration offers many advantages for developing countries in their relation with the CMEA countries. Dr. Gerhard *Grote* (GDR) points out that the stable and crisis-free development of the socialist community helps developing countries to plan on a long-term basis and attain greater stability in building up their national economies. Planned cooperation can involve the transfer of technologies, increased specialization in extracting and processing raw materials and also in the manufacturing industries on a long-term basis. The practice of socialist integration can be considered also as a model for the efforts at integration of developing countries. Jaroslav *Foltyn* (Czechoslovakia) sorts out those fields where both the theory and practical implementation of socialist integration might be of relevance to the integration of developing countries: gradual elimination of differences in economic level, close relation between economic and extra-economic conditions, choice of instruments and mechanism of integration, methodological aspects of planning, etc. Taisa *Belous* (USSR) discusses the different problems connected with the role and place of multinational corporations in East–West relations. Analysing and comparing the state and level of integration in Western and Eastern Europe Prof. Ferenc *Kozma* (Hungary) concludes that neither the EEC nor the CMEA have passed as yet from the "pre-integration" stage to the integration stage of perfection. In spite of a very dynamic recent development relations between the CMEA and the EEC have remained up to now of secondary importance. The obstacles to expanding relations are to a great extent structural, and the pattern of trade between the two groups is rather unfavourable for the CMEA countries. Their export is dominated by foodstuffs, with a low degree of processing, by industrial products which also face protectionism and discrimination, while in many fields they are not competitive as regards quality and costs. The socialist countries as buyers are highly attractive for the Common Market firms, while as sellers they have to face a great many obstacles, including artificial discriminatory and political ones. This situation has led to a strange asymmetry of interests which, despite a number of attempts, could not be surmounted so far. The rigid attitude of the Brussels Commission concerning the common commercial policy has not helped to solve these problems. In the long run, however, both sides are interested in expanding cooperation and Prof. Kozma is of the opinion that the two organizations sooner or later will find ways for normalizinng their relations.

T. PALÁNKAI

LEVCIK F. (ed.): *International economics – comparisons and interdependences.* Wien–New York, 1978. Springer–Verlag. (Studien über Wirtschafts- und Systemvergleiche. Wiener Institut für Internationale Wirtschaftsvergleiche, Band 9).

This volume dedicated to the internationally known Austrian economist Professor Franz *Nemschak,* former director of the editing Institute, contains 31 studies on current international economic topics, especially on East–West economic relations by a number of well-known European and American economists.

Starting with some contributions to the international comparison of selected areas of economic activity and countries (Part One), the book deals with several aspects of the interdependence of national economies (Part Two) in general, followed by specific domains of interdependence in East–West economic relations. The articles dedicated to the latter are divided into two main chapters: international cooperation (Part Three) and East–West payment problems (Part Four). The last section brings studies on planning and growth in socialist economies (Part Five). Due to the character of the contributions, some of them could have been grouped in other chapters in order to maintain the organic structure of the volume. The reader sometimes feels he holds in the hands a book of 31 studies with very different approaches. Exactly because the authors come partly from socialist, partly from Western countries and, naturally, they are expressing differing point of views, the reader could have been helped by some ordering principles assuring a common line of thinking.

In the field of international comparisons J. *Sláma*'s article covers the widest aspects. It points out the development trends of the economic and industrial structures in different countries, groups of countries and economic systems, and makes some interesting remarks on how certain factors and time influence structural changes. He finds that there is a common structural development path, and differences can be observed only in the development level and velocity of changes among the countries investigated. Practical experiences in the last years have shown, that this common path is not an obligatory way every country has to go through, and observance of the common development line can be detrimental to certain countries (especially small countries poor in raw materials primary energy and capital). At the same time, microeconomic structural changes appear to play a major role in today's world economy than in the past, where macroeconomic transformations were the characteristic features of development. Two studies are dedicated to country comparisons: D. *Granick* investigates the Soviet and GDR research and development implementation in products and finds that the differences can be explained by the very differing managerial incentive systems used to guide the productive enterprises in the two countries. H. J. *Wagener* examines industrial labour productivity in Austria and the FRG.

A sectoral comparison has been attempted by É. *Ehrlich* regarding infrastructural development and by Th. *Wolf* concerning the effects of imported inflation in market and centrally planned economies.

The next main topic, interdependence of national economies, contains four groups of studies. Most of them deal with world economic problems and try to outline scenarios for the future of international economics. J. *Bognár* analyzes the interaction between East–West trade and *détente*. He emphasizes that our world is facing two major dangers in the coming period: the possibilities of the scientific-technical revolution and the limits of the established security system are increasingly becoming contradictory; while the recent dramatic changes in world economy can not be reconciled with the institutionalized world economic order. Both processes introduce destabilizing factors into the international relations, we must find therefore some countervailing elements to prevent crises. A major stabilizing factor could be increased cooperation between East and West. In order to fulfil this task, both sides have to take several measures (in the trade links and on governmental level, as well as regarding the Third World countries).

It is surprising that other scenarios do not pay much attention to the East–West relations. J. *Skolka* examines in detail the role of developing countries in the restructuring of world economy, dividing this group into three sections. The partly industrialized and the OPEC-countries will be intensively integrated in the world economy, while in the third group of the poorest countries some very difficult problems will arise in the years ahead. A major difficulty – indirectly influencing East–West economic relations – has to be faced by the industrialized Western countries in the eighties, if and when investment needs will be apparent. It is doubtful whether the financial resources can be obtained. Ch. *Saunders* expresses a rather pessimistic view concerning the future of the international division of labour through free trade. He argues that the free trade principle is supported every time by countries with competitive economies. Today's experiences

show that non-competitive economies hardly become competitive through protectionistic measures, which tend to increase the gap between them and the structurally developed and competitive countries. The author believes that further liberalization of trade should be coupled with more effective government policies for promoting and guiding the necessary structural changes. It is, however, not quite clear whether government policies can direct the present form of structural changes taking place in the microeconomic sphere (i.e. on enterprise level). There will probably be two apparently contradictory processes: the strengthening of cooperation on governmental level aiming at the harmonization of national strategies, and a wider field of activity for the private enterprises to solve structural problems with the elasticity required.

The world-wide harmonization of international relations, the reformulation of the "rules of the game" is the basic statement of W. *Trzeciakowski.* An interesting scenario for the EEC and France is outlined by B. *Cazes* making the choice depend partly on the international power relations of France. OECD-wide interdependence seems to have the best chances against other possibilities of selective interdependence, an inward-looking EEC and national self-reliance. Every choice has an evident implication for relations with developing countries, but – surprisingly enough – the impacts on East–West economic relations are not elaborated.

A deeper view on East–West relations is presented by A. *Nussbaumer.* He states that especially the smaller European economies are interested in intensive contacts, apart from Western and Socialist integration impacts or in certain cases even balancing them. The increasing importance of East–West economic ties could help in reducing the overwhelming role multinational enterprises are playing in some small Western European countries. At the same time, we have to be aware of the fact, that the multinationals are probably much more in East–West business, than in the economy of Western European countries. One major field of multinational activity in East–West relations is the transfer of technology discussed by P. *Hanson.* The author believes a Western coordinated technology transfer policy is useful, but at the same time he is aware of the difficulties of such a coordination. C. *McMillan* examines the possible impact of socialist integration on East–West economic relations. He finds that large-scale regional investment projects, mostly linked to the development of Soviet raw materials, enhance Western participation, too. He believes that the inflow of capital and technology from the West gives impetus to industrial production specialization within the region. However, we have to bear in mind that almost all common investment programs belong to the raw material sector and, therefore, they have very limited if any effect on the industrial intra-branch specialization of the CMEA countries.

The author is probably right in stating that East–West economic contacts and development of socialist integration are by far not competing targets, but sometimes fostering each other. It is true, that the Western recession and transitional raw material problems reinforced the trend towards regional cohesion and during a short period contributed to the strengthening of inward-looking behaviour. But today most of the socialist countries know that not all remedies for the present problems can be found in regional autarky or repeated import substitution on a regional level. In consequence, socialist integration has to elaborate common export targets instead of the primary objectives of traditional integration theories and practices of common import policies.

Two case studies, one on Austria by H. *Igler,* the other on the foreign trade of the People's Republic of China by J. *Kosta* are completing the broader environment of East–West economic prospects. The article by G. *Fink* and J. *Stankovsky* projecting the Austrian trade with socialist countries fits well in this series of contributions. The authors of the latter argue that the trade of Austria with socialist countries might considerably increase by 1980 if Austria can sell more in the Soviet and Czechoslovak markets, and will be willing to give more possibilities to Hungarian and Polish products to enter the Austrian market and solve in this way the present disequilibrium in the trade balance hindering a rapid increase of Austrian exports.

On international cooperation the volume brings four contributions, three of them from socialist authors. O. T. *Bogomolov* emphasizes

the large-scale joint investment projects in the Soviet Union, which secure orders of several hundred millions of dollars, and tend to consolidate economic relations due to the long-term character of the cooperation. J. *Nykryn* from Czechoslovakia and E. *Tabaczynski* from Poland, as well as H. *Radicé*'s paper on the Hungarian cooperation practice point to the importance of industrial cooperation between socialist and Western enterprises for the development of the respective national economies. In each case special emphasis is put on the machine-building industry, as one of the main possible export-generating sectors.

The reader gets acquainted with Western views on East–West payments problems in the fourth main part of the volume. B. *Askanas*, H. *Askanas* and F. *Levcik* evaluate the trends in East–West trade and CMEA indebtedness up to 1980. They set up three variants (unchanged trade elasticities; strongly reduced CMEA imports and slightly reduced exports; stabilized foreign trade deficits at the 1977 level). It is probable that the indebtedness of CMEA countries will increase between 1976 and 1980 at a much lower rate of growth than in the first half of the seventies, due mostly to reduced imports and only in some cases to a successful export drive. Convertibility of the socialist currencies is not to be expected, because there are some systemic hindrances as N. *Kloten* points out. Nevertheless, the increased business activity of socialist banks in the West and the extended role of the transferable rouble could be a step forward in monetary cooperation between East and West. Another domain of cooperation would be opened up if the Soviet Union entered the International Monetary Fund. The respective Soviet behaviour and plans are analyzed in detail by M. *Lavigne*.

P. *Marer*'s instructive paper on the "mirror statistics puzzle" points out that the CMEA imports from the main OECD countries are much larger than the figures reported by the same OECD countries in their export statistics. The difference between 7 and 13 per cent concerning the individual countries, cannot be explained by transport cost differentials. A major role might be attributed to OECD-middleman-financed imports that originate outside the OECD region.

The last main part brings seven contributions on special problems of the European socialist economies. J. *Boguszewski* discusses questions of promoting technological progress in the socialist economy relying on Polish experiences. J. *Kleer* investigates the relationship between growth and integration and finds that there is a short- and medium-term contradiction between the two goals. In the short run a considerable contribution to the integration can decelerate the growth of the national economy, but in the long run it is the integration process which allows faster economic progress. This topic is tackled by G. *Kohlmey* in the field of joint socialist investments in the raw material sector, mainly in the territory of the Soviet Union. The author points out that investments in the socialist countries in the next decade will be more expensive due to additional costs (pollution, infrastructure, social goals, increased investments in energy and raw materials). At the same time the efficiency of investments can significantly be enhanced by restructuring some sectors of the national economy.

Socialist foreign economic policy is analyzed by R. *Lang* through the Yugoslav example, and by K. *Laski* concerning the capital import policy of the socialist economies. The latter believes that capital import in itself is unable to free the socialist economy from problems derived from the economic mechanism applied. The export capacity of the socialist countries can only be increased, if Western capital and technology imports will be accompanied by internal changes in the planning, control and incentive systems. It cannot be excluded that in some cases the Western credits have enhanced the economic difficulties by conceding short periods of respite and, in consequence, disuading the socialist countries of the necessity of radical structural changes. The volume is concluded by two papers summing up Polish experiences in the central control of income flows (by J. *Mujzel*) and in establishing a system of national plans (by J. *Pajestka*).

A. INOTAI

LEVCIK, F. – STANKOVSKY, J.: *Industrielle Kooperation zwischen Ost und West.* Wien–New–York, 1977. Springer Verlag 308 p. Wiener Institut für Internationale Wirtschaftsvergleiche, Band 8.

Relatively many articles dealing with the topic of industrial cooperation between East and West are published in periodicals and even more news in the daily papers, but only very few comprehensive books and summarizing studies can be found. The book of F. Levcik and J. Stankovsky is a welcome venture aimed at a comprehensive evaluation of this form of international economic relationships. Beside theoretical evaluation the authors try to quantify the results of international industrial cooperation and to determine its place in the trade between East and West.

The authors had no easy task, since the notion of industrial cooperation is often interpreted in different ways not only in East–West relations, but different viewpoints can be often met even in the practice of both socialist and capitalist countries. Accordingly, the notion of cooperation is interpreted in a wider or narrower sense by the individual countries or scientists or the Secretariat of the Economic Commission for Europe – in accordance with their practical economic interests and goals. It may be said that this activity entered the "official" arsenal of international economic relations after the adaption of the final document of the Helsinki Conference. The authors divided their book in this sense regarding both the form and the essence of the issue. Historically they start from the situation of 1975–76, neglecting the discussions in the initial period of cooperation in production.

Section One of the book deals with theoretical and general questions of industrial cooperation. The authors state that cooperation in production developed earlier in capitalist economy with the internationalization of production and has really become international after World War II. In connection with East–West cooperation the authors correctly state, not dealing with various definitions in detail, that industrial cooperation agreements may be concluded a) between enterprises; b) at interstate level; c) between research institutes for technological-scientific cooperation.

In *Section Two* the authors emphasize that industrial and technological-scientific cooperation between Eastern and Western partners is essentially a historical category. Supported by date they show that concentration and specialization taking place in the capitalist world and concomitant changes in structure clear favourable ways for the division of labour. This objective trend meets with the processes taking place also in the socialist countries. Cooperation in production is such a form of cooperation which enables the international integration of production to take the conditions of both socio-economic systems into consideration.

I would mention here that later on, in Section Nine of the book even the authors point out that cooperation activity is subject to the business cycles of capitalist markets to a certain extent. Also this activity suffers under the recently experienced series of protectionistic measures taken by developed Western countries. The authors state that the available data are not sufficient yet to draw conclusions, but also the brief section dealing with this question may indicate that even cooperation relations in production cannot provide any guaranty against changes in business trends, therefore, a cooperation business may be regarded stable e. g. on the Hungarian part if the interest of the Western partner persists even in the case of a worsening economic situation. Thus we have to expect that a greater number of cooperation possibilities resulting from a shortage in productive capacity of Western partners or from their intention to save investment can be found only in a period of boom. In the present situation, however, the cooperations established practically on the basis of international comparativity are already determinant.

In *Section Three* of the book the definitions and forms of East–West cooperation are examined. In this section the authors unambiguously rely on the well-known reliant data of the Economic Commission for Europe. The message is supplemented by several interesting tables which, however, are not based on very reliable quantiative data. I should like to mention here one question, the relationship between cooperation and compensation (subsection 3. 3). In their whole book F. Levcik and J. Stankovsky adopt the viewpoint definitely represented also by Hun-

garian authors that cooperation and compensation have to be definitely separated from each other, In the first case there are mutual or joint deliveries based on common interests and organically related to the expanding reproduction of both contractings partners, while in the case of compensation sales of products uncompetitive by themselves are often promoted at the price of certain sacrifices. Naturally, this statement is not absolutely unambiguously applicable either, since there are also greater frame agreements which necessitate beside cooperation elements occasionally, especially in the period of introduction, also the application of certain compensations. Nevertheless it may be regarded as a positive fact, that the authors did not join those, who declare compensation to be the main hindrance to the entire East–West trade. This is natural, since by means of such tactics the neoprotectionist measures aimed at limiting the penetration of socialist products, which are becoming more and more competitive on certain markets, might be concealed.

In *Section Four* the authors try to examine the interests promoting cooperation. Their statement is interesting according to which inter-state interests in politics and commercial policy are almost of the same importance in East and West. However, their statement that micro-economic interests are weaker on the socialist than on the western side can be disputed. The authors doubt the overall interest of socialist enterprises in joining the international trade. This thesis of theirs is not correct, especially not as regards Hungarian enterprises.

The authors see the following elements of interestedness in the enterprises of socialist countries: a) expansion of production, improvement of quality and technology; increase of productivity; b) strengthening the marketing activity in developed capitalist countries; in general, increasing the part of cooperation related to exports for convertible currency. When assessing this activity of socialist enterprises they show that there is often a counter-interest, too. Major reasons for this are the following: fear from the introduction of new technology, more rigorous control resulting from higher technological requirements, greater time input needed etc. The authors also discuss that authorities of socialist countries are often more interested in establishing cooperation for national economic considerations, than the leaders of enterprises. When evaluating Hungarian cooperation activity, these actually existing problems are ocassionally met, too.

On the part of capitalist enterprises the following factors of interestedness are enumerated: a) first of all the acquisition of new markets, establishing good market position in the country of cooperation partners and in other CMEA-countries, respectively; b) expansion or maintenance of production capacity under favourable conditions for the Western partner (wage-level, savings in investment etc.); c) possibilities resulting from technological and research cooperation (in our opinion this might be true first of all regarding the Soviet Union); d) export of licences with the related cooperation possibilities. They admit that in practice not always the most up-to-date technology is handed over in such cases.

Section Five of the book reviews the legal and institutional frameworks of industrical cooperation in socialist countries. Here foreign trade monopoly, organization and settlement methods are dealt with and the special arrangements are shown by countries.

Section Six dealing with joint ventures is connected with the former one and reviews in detail the Romanian, Hungarian and Yugoslav legal regulations. The authors state that serious joint ventures can be met actually only in Yugoslavia and Roumania, although detailed production data are not available even for these. The authors avoid the analysis why and on the basis of what interests Western countries take part in the establishment of joint ventures in some socialist countries. At the same time the analysis in subsection 6.7 of the problem why the establishment of joint ventures with socialist countries is relatively difficult and what the reasons are that western partners are more interested in the cooperation form is remarkable indeed.

Section Seven deals even more extensively than it would be worthwhile with the economic policy projections of East–West cooperation and with the problems caused by the discriminative attitude of the Common Market towards the socialist countries in this field and in others, too. The authors examine in this section whether

there is any contradiction between CMEA-integration and cooperation with western firms. The authors come to the conclusion, even if they do not say it explicitly, that there is no such contradiction, what is more, if interfirm or technological-scientific cooperation contributes to technological development and specialization, this even promotes the division of labour within the CMEA under adequate industrial policy and external economic control. Naturally, this process is realized by means of different control methods and with different economic and politic goals in the individual socialist countries. In Hungary the cooperation in production with Western firms is regarded unambiguously as an enterprise competitiveness and structural transformation. The results obtained with this method can be judged as useful even if it could not be properly used up to now (first of all because of problems of inner organization and industrial management).

The political projections of cooperation, cooperation relations between the USSR and the USA, as well as the development of cooperation relations with developing countries are presented in this section. It is mentioned that the so-called tripartite-cooperation is, as a matter of fact, already going on, although too great achievements cannot be reported on in this field, either. On our part we can regard it as natural since cooperation with a Western firm or group on a third market postulates previous bilateral cooperation and direct relations developed within its framework. We consider also some related financing problems as unsettled since some West-European countries granting credit impose internal unpublished restrictions on their utilization. For socialist countries this tripartite-cooperation is interesting only if it can make use of the advantages of credit granting in the given developed capitalist country. The possibilities for this are not unambiguously given at present. It must be stated, however, that the enterprises of socialist countries do not utilize even those limited possibilities in this field which would be available either because of the lack of goods or of enterprising spirit.

Section Eight gives a good, objective review of inter-state cooperation agreements concluded. their role and contents.

Section Ten contains the quantification of cooperation activity by relying on several ECE and national statistics. Statistics relate also here rather to the number of contracts concluded than to the quantification of deliveries. Polish data on cooperation are interesting although the last ones refer to 1971. In this section the authors analyse the sectoral structure of cooperation agreements concluded and what is regarded by the socialist countries as cooperation, as well as the development of cooperation relations between the USSR and the USA.

In *Section Eleven* of the book the authors deal with practical experiences of East–West cooperation. In this section they state, among others, that the interest of Hungarian enterprises in cooperation with Western firms can be regarded as a real incentive. They mention correctly that later cooperation contants can be established only on the basis of adequate previous lasting commercial relations. Thus they emphasize the importance of further developing economic relations between traditional partners. This section contains also some statements resulting from inadequate information, so for example, that in Hungary an equilibrium between export and import required at enterprise level (which *de facto* does not exist in our thinking) may cause difficulties. Unfortunately, we have to agree with the authors that the conclusion of cooperation contracts is a rather lengthy process and the collaboration between Hungarian enterprises and economic control agencies is not always elastic enough. The authors blame rather the authorities in this respect. It should be admitted as well, that too many persons take part in the preparation and realization of a cooperative deal, therefore, the decision often suffers delay. In this section it is also analysed whether smaller, medium or big Western firms are participating in the establishment of cooperation relations. This analysis is performed for individual socialist countries. In the case of Hungary the actual situaton is shown according to which our partners belong to all the three categories. On the other hand, for example, in Polish cooperation activity international and big enterprises are predominant.

Subsection 11.5 is remarkable where factors impeding the realization of East–West cooperation from the socialist side are mentioned in

detail: non-observance of contractual delivery terms; lack of background industry; problems of quality and packing; questions connected with delayed payments; frequent changes in technical staff and workers participating in the realization of cooperation; occasional inflexibility of the authorities of some socialist countries, delayed decision on some questions; lack of such auxiliary instruments as leasing, possibility of fast import deliveries, etc.

On the other hand, however, the authors fail to enumerate the problems in this field which, for example, Hungarian enterprises encounter in the course of their cooperation with western partners, namely: sensitiveness to business cycles; more and more commercial policy obstacles; resistance of business representation organs in Western countries; occasionally higher quality requirements than in local production, etc.

Section Twelve summarizes the message of the book. As a new element it is stated that industrial cooperation should not, of course, be examined separated from traditional trade, but in the entire context of East–West economic relations. The development of cooperation relations can be reckoned with only in the entire network of East–West relations and with the increase of East–West trade. In this sense the development of East–West cooperation is a function of the expansion of the whole world economy. Accordingly, our cooperation contacts are strongly depending on political relations between East and West, too, their improvement might give a further impulse to the development of cooperation relations.

For specialists working in the field of international economic relations the book contains several other factual data and case-studies beside those already mentioned. It may be a useful reading. The bibliography is especially abundant and useful for further research and practical work, containing – in my opinion – all available sources relating to the topic.

R. GEIST

LAVIGNE, M. (ed.): *Economie politique de la planification en système socialiste.* Paris, 1978. Economica. 327 p.

The treatise contains 12 studies on the economic problems of East-European socialist countries written by thirteen members of a research group of the *Centre d'Economie Internationale des Pays Socialistes* set up in 1975 under the auspices of University 1, Paris.

The Introduction of the book specifies the analysis of problems pertaining to socialist planning as a common main line of the studies. Is the subject of the study more restricted in this approach than in ours? Does therefore the book as a whole qualify as part of the ever more specialized literature dealing with the economies of the East-European socialist countries? We shall see, even though it is *a priori* not obvious, that the answer is no. Planning has a determinative role in the entire operation of the East-European socialist economies; even in Hungary which has gone the farthest in eliminating the economic control system through plan directives, and also in Yugoslavia; its role is qualitatively greater and different even from a capitalist economy working with the most intensive interference of the state. Nothing important, good or bad, happens in the economies of the East-European socialist countries outside or independently of planning and of planned state control; therefore the said main line of the treatise is not a *specific* but the *correct* approach to the subject under study.

Another common feature of the studies is the painstaking processing of the literature on the discussed problems; this, coupled with the endeavour to derive theoretical conclusions, raises most of the studies to a high standard and makes the whole book a useful reading for the researchers of the socialist economy and for those interested in the results of such research.

The twelve studies are divided into three groups (parts) of themes. The problems treated in studies belonging to the same part are, however, not identical but only similar, and sometimes very different methods of analysis are used. This is naturally not a fault, but the task of the reviewer is made more difficult because he has to discuss the studies one by one, moreover, in lack of space and professional knowledge of each subject under discussion, he is unable to weigh them properly either in his review or in his critique.

Part One is entitled *Optimum and growth in a socialist system.* On basis of her paper "Economic policy and the objective function of the plan; the notion of practicable optimality in a

model of national economic planning", Laure *Després* establishes, relying on a theorem of K. J. *Arrow* and on the findings of French and Dutch economists' empirical studies, that it is not possible to construct a social utility function, neither by some summing up of the individual preferences of nembers of the community nor in a "dictatorical" way, in which latter case the preferences of the plan makers would be considered as society's preferences. Some economists in the socialist countries are apt to mistify some sort of an "optimality" that could be eventually attained in the future in planning and management. Exactly on the above basis Després *notes the relativity of* the optimum criteria and advocates the purely instrumental, operative conception of the objective function. The objective function is not completely arbitrary but its selection is motivated by convenience considerations, moreover, also by the outcomes its application is expected to result in. The paper presents two practical examples for the computation of optimum on the level of national economies with alternative objective functions and for the comparative analysis of the results obtained with different objective functions.

The other three studies in Part One deal with the quantitative instruments of economic analysis and planning and with the interdependences between the social and economic conditions and practical economic control. The paper of Francois *Seurot* investigates the question whether it is possible to construct a social utility function. Like Després, finally he too gives a negative answer, but derives it through the criticism of a number of positive replies given by economic mathematicians of socialist countries, and also studies the ways of constructing this function by circunventing individual preferences, on the basis of the prevailing values of the society which affect these preferences.

Is it a necessity under the conditions of expanded reproduction that the production of means of production (Department I) should grow at a higher rate than the production of consumer goods? It is known that for a long time the economists of socialist countries answered with an unanimous yes. In his study "Patterns of reproduction and industrialization policies" Robert *Tartarin*, after thorough analyses carried out with the help of the Marxian schemes of reproduction, arrives at the conclusion that it is not: it is only one of the possibilities and its fulfilment is in the short run a function of the relative proportions between the surplus product turned out in Department I and the part of it used for accumulation, while in the long run it depends on the growth, at an accelerating rate, of the organic composition of capital. Tartarin uses the reproduction schemes especially successfully for the analysis of the Soviet disputes about economic development in the 1920's. He shows what advantages could have ensued from the primary development of agriculture, and also those advantages which resulted from the accelerated industrial development actually implemented. Finally he also gives an analysis of some socio-economic factors which set limits to accelerated industrial development.

The paper by Gérard *Duchêne* treats the barriers to current pursuits of efficiency in the socialist economies, namely, why the socialist countries use the input-output tables and the production functions so reluctantly in resolving their real economic problems. It is known that some economic mathematicians in the socialist countries should like to raise the use of said methods to a qualitatively higher level. Duchêne points to a common feature of the two methods of analysis: both are applied to "technological facts", starting from a technicist and rational conception of economic relationships, and resorting to the corresponding abstractions (perfect sectoral complementarity, and perfect substitutability of factors). The interplay of social factors (value, conflicting interests), however, ruins this reasoning and removes the constructed ideal picture of the real conditions. In the given socio-economic circumstances (where for example the activities of sectoral ministries, supposed in principle to be specialized, show sometimes powerful diversification, and these same ministries enjoy a certain independence from their superior authorities), other means should be used for increasing efficiency than those mentioned.

"Regulation in the socialist economies: interaction of plan and economic policy" is the heading of Part Two. The first study in this part "The process of planning and regulation of the socialist economy" by Xavier *Richet*, analyses

the evolution of the Hungarian economic mechanism.

The author sets out from the three types of systems for the organization of economic activities under socialist conditions as distinguished by András *Hegedűs*. He correctly states that in this country the first type, namely, "physical administrative regulation", was prevailing from 1949 to 1956, and that between 1957 and 1967 the second so-called "khozraschot" system giving more recognition to money and to synthetic indicators of value, gained much ground. The third type, the system of "socialist enterprise" which really offers considerable autonomy to the companies appeared in the Hungarian economy in 1968 – without becoming the absolute or even the predominant type over the first two ones. Indeed, nobody wanted it to be exclusive for there exist important fields of the economy where the application of this system does not seem to be reasonable. The author quotes the assumptions of M. Tardos about the changes in the institutional system that should be carried out in the Hungarian economy in the interest of increased activation of the commodity and monetary relations, in the terms so far used by us, for the introduction of the system of the third type in a much broader range. Richet explains with rational arguments (e.g. endeavour towards the realization of income policy objectives etc.) why such changes have not taken place. It should be noted in this context, however, that several Hungarian economists believe that the realization of a part of the rational objectives in question would not be risked if the said changes were carried out in the institutional system or – and this is more generally agreed – if the enterprises were freed from the supervision of sectoral ministries which has been inherited from the previous directive system of management. But other objectives, e.g. prevention of the flow of social capital into the most efficient sectors, are rational only from the point of view of too narrow interests, namely, interests rooted precisely in the current institutional system: the preservation of the current institutional system is to a certain extent *causa sui.*

The study "Rationality of the 'two-channel' prices" by Jean–Charles *Asselain* and Jean *Boncoeur* is, correctly; not based on the conception of the two-channel price according to which the price component representing the net social income realized proportionally to wages has to cover the inputs related to the reproduction of labour, while the component realized proportionally to capital must cover the investment inputs. Discarding this idea the authors attach the desirable relative proportions of factor costs to their opportunity cost. A proper regulation of the two channels of net income realization can be a guarantee for correct decisions on the substitution of capital for labour on the level of economic organizations. More accurately, (here the study refers to a book by Béla *Csikós–Nagy*) from this point of view only the volume of the capital-proportional part of the net income is important, the amount of the wage-proportional part is neutral (except for the case when it is changed without a simultaneous and coordinated alteration of prices). How can the concept of the two-channel prices apply in practice? The opinion of the authors is hinted already by their using the term capital tax instead of "capital-proportionally realized net social income". Their practical example is the Hungarian price and tax policy between 1968 and 1976 which, in their opinion wrongly, set too low taxes on capital (lower than the normative efficiency criteria of investments) and then further reduced the tax on capital instead of raising it. Let us add: since that time abolition of the tax on capital has been seriously considered in Hungary; on our part we endorse this idea and deem that it is in accordance with another interpretation of the notion of the two-channel prices, comprising capital-proportional enterprise income instead of a tax on capital. What is the reason for discarding the capital tax recommended by the authors? The invested capitals, especially in an economy as strongly dependent on foreign trade as the Hungarian one, yield necessarily very different volumes of net social income, but in the socialist economy there is no mechanism and there cannot be one like the stock market where capitals could be regularly revalued according to their actual returns. The only way is to let the state do this revaluation, but the capital tax system that could be developed this way would be merely an individual taxation of the enterprises which is disapproved also by the authors for other

reasons. But if a capital tax is paid on the purchase value of the fixed assets (or, as proposed by the authors on their purchase value less depreciation allowance, which is really somewhat less wrong) then, the higher the rate the greater part of enterprises will go hopelessly unbalanced and regular "subscribers" to state subventions, and this would be in fact the end of their autonomy. This is not desirable, and a lower rate only reduces but does not eliminate this deficiency of the capital tax – and, on the other hand, the lower the rate of tax on capital the less it fulfils its original purpose, and the less sense the maintaining of this tax makes. Therefore, the problems of the Hungarian economy which Asselain and Boncoeur believe to solve at one stroke simply by introducing a high capital tax rate (e.g. the creation of a financial system stimulating investment efficiency better) remain to be difficult topics still waiting for solution.

The role of monetary and credit policy in the socialist economy is analyzed by Hélène *Mescheriakoff*'s study titled "Monetary policy, plan implementation". The author points out that contrary to many economists' opinion, the role of banks is not passive in the economies of the East-European socialist countries: although, according to the known slogan, credit and money are only supposed to follow the planned flow of the material goods; in reality the credit policy does have a bearing on the functioning of the economy and on plan implementation. The author is right in her criticism of the concept that in these economies credit cannot have inflatory effects. In this context she points to the impatient chase after rapid industrial growth and to the shortcomings of the "financial guarantees" allegedly always ensuring that credits will be repaid; in reality, however, the range of acceptable "financial guarantees" is sometimes interpreted too broadly, and what is more, credits are always granted, even without any "financial guarantee". This "classic" East-European principle of credit policy was substituted or complemented with restrictions in several countries for various lengths of time; the profitability of the transactions to be financed has different importance in credit policy depending on country and time. The author reviews the credit system of the Hungarian new mechanism in greater detail. Restriction is strongly typical and so is, at the same time, the endeavour to support profitable transactions – that is, two, in some sense contrasting principles.

The two last studies of the second part of the book analyse the function of two important fields of the economic system in Poland. The subject of Barbara *Rogulska* is income policy and its instruments, incomes related to work and the regulation of the so-called common consumption fund distributed equally or according to needs, irrespectively of work performances. The author analyses the development of wage differentials and the system of wage control (the factors which determine basic and variable wages etc.). She comes to the conclusion that a standardized system setting wages on the basis of a detailed analysis of the different jobs; setting high norms with high wage rates and sanctioning nonfulfilment of the norms by transferring the worker into a lower wage category, would be better instruments for the purposes of stimulation through remuneration than the present compensation type system allowing strong fluctuations of wages as a function of the actual fulfilment of the norms as well as strong fluctuations of fulfilment. In connection with the common consumption fund, on basis of the available statistical data, the author also raises the question, often discussed in the East-European economic literature, to what extent social benefits act towards the levelling of wage differentials.

The paper of Krystyna *Szymkiewicz* analyses the conceptions of Polish economists about the reform of the foreign trade system, the partial implementation of these concepts before 1970, and their deeper and broader implementation between 1971 and 1973, together with a certain decentralization of decisions concerning foreign trade adopted during that period. For an explanation why the reform was abandoned after 1973 she refers to the foreign trade balance problems of the country – this is also the official argument – and explains the equilibrium problems in part with the depression in foreign markets and in part with an endogenous factor, about which she quotes Kalecki: acceleration of economic growth requires openings in foreign trade; the latter require a certain decentralization; while the dynamic development, strengthened by the openings too,

induces strains which stimulate centralization efforts.

Part Three of the book is entitled *The socialist economic system.* The study by Veselin *Djurdjevac* "An essay on state ownership and social ownership" analyses the theory of the state-owned and the self-management type of socialist economic models, and in connection with the latter the experiences in Yugoslavia. He points to the inevitable internal contradictions of the state model, as well as to the unsolved theoretical and practical problems of the self-management model. About the latter be makes the very significant statement that at present self-management does not exceed the boundaries of enterprises. This is a rather general point of view of Yugoslav economists whereas sociologists in Yugoslavia are usually very dissatisfied even with the development of self-management inside the enterprises. The reviewer is not in a position to decide between the two points of view.

The book ends with a study of the editor Marie *Lavigne,* on "The advanced socialist society". The authoress studies why and how the notion and theory of advanced socialism put forward first by Lenin was further developed in the socialist countries between 1960 and 1970. Lavigne reviews the most important discussions held in this respect in the socialist countries. Her work is of doubtless significance and is in a certain sense pioneering; even if contestable, her conclusions are noteworthy. The most important conclusion is that the theory and ideology of advanced socialism expresses an endeavour towards a certain stability, towards the development of the social and economic conditions through smaller partial modifications as against the earlier big changes: a conviction that in our days socialist society and economy have assumed a concrete form which will survive in its essential features for a long time, and it is not something transient that should be quickly liquidated with radical changes.

K. A. SOÓS

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Béla CSIKÓS-NAGY, see Vol. 19, Nos 3–4

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IN MEMORIAM ISTVÁN FRISS

István *Friss*, outstanding personality in Hungarian public life, renowned economist passed away in October 1978, at the age of 76. He was member of the Presidium of the Hungarian Academy of Sciences, had been director of its Institute of Economics, later scientific adviser to the same, and he was member of the Board of Editors of this periodical.

István *Friss* was born in Nagyvárad (in today's Romania) in 1903. Son of a well-to-do family, he did not take the road leading to a smooth career offered by his social position. Already in his grammar school years he turned with interest to socio-economic problems and began to read the works of Marx, Engels, and other socialist authors. He participated in the Budapest mass movements of 1918–1919 and, the time of the Hungarian Soviet Republic, in the Socialist students' organization. In the early 1920s he studied economics in London and Berlin. There again he found contact with the communist movements. From the mid1920s to the mid1930s he lived in Hungary again. He took part in the work of the illegal Communist Party and edited semi-legal and illegal periodicals. The police was after him and he was sentenced to imprisonment. The next ten years of his life he spent in Czechoslovakia and the Soviet Union. As a prominent personality among the communists in emigration, during the war he was in charge of the broadcasts of the antifascist Kossuth Radio.

He returned to Hungary in 1945. Very soon he became Head of the State Economic Department of the Central Committee of the Hungarian Communist Party. As a leading economic policy maker, he played an important role in preparing the currency stabilization of 1946 (which ended an inflation breaking world records), in nationalizations, and in the creation and development of the planned economy. True, he had a certain part also in the grave economic policy errors made by Hungarian political leadership between 1949 and 1953. He formulated his self-criticism very informally in the way he drafted the programme of the Institute of Economics organized in 1954, which he then led through twenty years: objective research of the facts and interdependencies of economic life, an analysis of objective reality not influenced by any respect for authority. This seems entirely obvious today, yet after the long period of dogmatism and the personality cult this programme opened up new possibilities for research workers participating in it. Between 1956 and 1961 he worked again mainly as economic policy maker: he was head of the Economic Policy Department of the Central Committee of the Hungarian Socialist Workers' Party. Characteristic for this period were: fast emergence from the disastrous economic situation of 1956, mitigation of overcentralization in

economic control, an increasing role of material incentives, and the successful collectivization of agriculture.

Although from 1961 on his activity was centred on economic research and scientific policy, he still remained an active participant of public life who often voiced his opinion in economic policy discussions. István Friss had a great part in advancing Hungarian economics, especially through his important share in the efforts at creating favourable conditions for economic research. He had a part in almost every important development: foundation of research institutes and scientific periodicals, organization of the new Department of Economics and Law within the Hungarian Academy of Sciences, reorganization of the Hungarian Economic Association, but first of all the development of an atmosphere propitious for research. Even in the last years of his life he was an active participant of scientific and advisory bodies.

In his research work and publications he was intensively engaged in the theoretical and practical problems of economic policy and planning. He was member of the committee preparing the economic reform of 1968 and participated in the work of long-term planning and in the preparation of the economic policy decision of the Hungarian Socialist Workers' Party approved in October 1977. He was deeply convinced that the participation of economics and economists was an important condition of a sound economic policy.

The scientist István Friss was a prominent representative of Marxist political economy, yet not simply as guardian and follower of traditions. He was critical toward simplified theoretization and it was his constant effort to confront abstract theories with everyday practice. This effort of his was expressed in a number of fresh-thinking studies based on Marxist traditions. His studies on the economic reform helped to clarify its several aspects in the period of preparation and threw light upon the main features of the reform put into practice. One of his last works about experiences of the economic reform has been published in this periodical. Numerous studies of his dealt with what he called the "scientific foundation" of planning or economic policy. He suggested that plans should be elaborated by relying upon scientific achievements and in several variants so as to enable decision-makers to make a genuine and responsible choice. He fought for an economic policy which in its decisions would take into account the full complexity of preconditions, effects and consequences and would not be restricted to aspects directly connected with the subject of the decision. His book "Economic laws, policy, planning" published in English in 1973 reflects his ideas truly and comprehensively.

He was a representative of Hungarian economic science highly esteemed and well known also abroad. As a Marxist theoretician, he was renowned in socialist countries, and established particularly close relationships with his Soviet colleagues in the past years also as the co-chairman of the Joint Commission for Social Sciences of the Soviet and Hungarian Academies of Sciences. In debates he was a respected opponent. He was one of the initiators of cooperation in economic research within the CMEA. In the late 1950s and early 1960s he already participated at a number of scientific conferences of the International Economic Association, which were forerunners

of today's much more extensive relationships. He often was host to world-famous non-Marxist economists invited to Hungary.

István Friss had outstanding talents, possessed thorough theoretical knowledge, wide experience in economic policy, and he spoke several languages fluently. He was a wise man, a very modest, almost shy personality with an ability to couple subtile means with firm determination. He was of an exceptional industry, and with wide interest for social and economic problems of the world, who did not miss a day to enrich his knowledge on new developments. First of all, however, he was a humanist, a decent and honest colleague and friend.

His connection with this periodical is older than some would think. Before 1977 he had not been member of the Editorial Board yet in his capacity as Secretary of the Department of Economics and Law of the Hungarian Academy of Sciences it was he who practically initiated and carried into effect the decision of the Academy on the foundation of this periodical. As director of the Institute of Economics, he gave rooms to the editorial office and provided for an editorial staff. The launching of this journal coincided with his most fruitful years and his writings had often appeared on these columns. His passing away is a painful loss to Hungarian economists as well to our periodical.

Acta Oeconomica Vol. 21 (4), pp. 299–311 (1978)

A. KÖVES

SOCIALIST ECONOMY AND WORLD ECONOMY

Increased participation in the world-wide division of labour, i.e. opening to the world-economy, was put on the agenda in every CMEA country in the 1970s. The study analyses the causes and conditions of the opening and the present foreign economic political aternatives of the CMEA countries. It comes to the conclusion that their economic-social development makes it necessary to give preference to export orientation at the expense of regional import substitution.

In different stages of the development socialist economy theory and practice gave different answers to the question whether economic development in the socialist countries takes place on the sole basis of intrinsic laws or it is also dependent on those of world economy and on economic relations established with other countries of the world. Should the socialist countries pursuit lasting and active participation in the world-wide division of labour or should they refrain and isolate themselves from the world economy?

The latter concept prevailed in the socialist countries for a long time. They thought they had to isolate themselves from the effects of world economy, since only unfavourable and even dangerous impacts could come from a hostile environment. The theory maintaining that after World War II, with the creation of the people's democracies, the united world market became dissolved and a socialist world market independent of the capitalist world market come into existence, and that the rapid economic and technological development of the socialist countries needed no more than an intensive division of labour between themselves, was a product of this conception. The strategy they chose in this context for economic development considered the highest possible degree of self-sufficiency of the individual countries and of the entire community through the maximum mobilization of resources to be the ultimate goal.

According to this conception trade with the outside world – mainly with the advanced capitalist countries – had only marginal importance: from there, only such commodities have to be imported which the socialist countries are partially and/or temporarily short of. Thus, with a low import level, balancing was also hoped to have no obstacles: it was sufficient to export to the capitalist countries what was left over after satisfaction of domestic needs. This was naturally far less smooth in reality: import requirements often proved to be higher than expected, and the exportable commodities had to be created not from some excesses but by trimming domestic consumption. The essence of the conception was nevertheless fully asserted: self-sufficiency was the creed of economic policy and the opportunity for division of labour that could be established with non-socialist countries was disregarded in determining the goals and trends of economic development.

However, this standpoint was not dominating all the time. For example, the beginning of Soviet industrialization, the first five-year plan period showed an extremely active import policy which played a not negligible role in the development of up-to-date industrial branches and in the determination of the standards of technology in the Soviet Union. Wide-ranging economic relations were established between the allies during World War II mainly in the form of the American lend-lease deliveries. Explorations of chances for maintaining intensive economic relations continued also after the war. But since the difficulties of producing the exportable commodities emerged in such an international and internal constellation which was not favourable for joining the international division of labour, these stages of active foreign trade policy came to an end. Economic relations with the West dropped to a minimum level. [1], [2]

Then it might have seemed: more intensive participation in the world-wide division of labour was not that badly needed, the price to be paid for non-trading was not really so high. The world economy of the thirties was anyway characterized by disintegration, slow technological and economic development, moreover, by the jeopardized existence of the capitalist system. At the end of the 1940s when post-war consolidation just began in Western Europe and Japan, it was, of course, too early to recognize the main characteristics of the new world economic period that brought about durable dynamic growth. Though autarkic development was extremely costly it could be still rightfully expected that the Soviet Union, and the other socialist countries, possessed all the internal conditions first of all the apparently boundless opportunities to increase the volume of investment and employment for dynamic economic growth, or at least for implementing the concept of (heavy) industrial development disregarding efficiency considerations and the raising of living standards as it evolved in the Soviet Union in the 1930s and in the people's democracies at the turn of the fourties and fifties.

This assumption attached to the political situation and to the economic development trend of these times soon proved to be unrealistic. As early as the worst stage of the cold war was over, when it was realized that no political reasons existed which would for ever and irreversibly keep the trade with the West on a low level, it became clear too that the import requirements of socialist countries were growing and their trade with capitalist countries had to be strongly expanded. The fact in itself that the economic development lines laid down in Stalin's time were revised and the development of a more modern structure of industry, and of agriculture and the raising of the standard of living were put forward, released this process. A good illustration is the boom of Soviet chemical machinery imports from the West following the resolutions taken in the late fifties on the development of the chemical industry.

In the 1960s mainly the smaller CMEA countries, more dependent on foreign trade, increased their trade with the West markedly. Accelerated Western technological and economic development made them realize that they could maintain the dynamism of growth and could keep pace with the scientific and technological revolution only provided that they encourage the development of trade also with non-socialist countries. Not only imports grew strongly, but under the conditions of the prosperity free from

major disturbances also the sales markets of their export items expanded rapidly. Also the terms of trade of CMEA countries exporting foodstuffs and finished products developed favourably. With relatively stable (slowly growing) prices and fixed rates of exchange Western sales could be planned almost as safely as intra–CMEA or domestic turnover. Because of these favourable circumstances it was never raised that it might be a source of problems for development policy that while imports from the capitalist countries attained an important role in economic development and in the functioning of the economy, the aspects of increasing exports to the West were still neglected when the fundamental trends of economic development were determined. Though products of such sectors as agriculture, food industry, light industry played big roles in the Western exports of smaller CMEA countries, receiving greater attention than before, they belonged to the lagging low productivity branches. The sectors that enjoyed priorities in development policy (and whose development was mainly promoted by imports originating from the West) manufactured products primarily not for Western exports but for domestic use or for exports to CMEA countries. This situation revenged itself in the next decade.

Opening to the world economy

The conditions of East–West trade changed profoundly in the 1970s. In the first half of the decade the turnover became extremely dynamic. The dynamizing factor was the import of CMEA countries. The rapid growth of imports had several reasons closely associated with the new stage of economic growth in the CMEA countries. In the stage of intensive development when the limits to the volume of investment and to increasing employment are clearly discernible in every European CMEA country, the role of technological progress, of higher productivity, of modernizing the economic structure and, along with these, of Western imports for the purpose of modernization, increase among the sources of growth. It is less and less possible to rely only on the sources available at home or in the CMEA region for increasing efficiency, in investment policy, in the supply of materials and parts to the ever growing volume and ever more modern and diversified production, in supplying the population with industrial consumer goods and chiefly with foodstuffs, moreover even in the trade between the CMEA countries and in the realization of their cooperation plans. In other words, increased participation in the international division of labour, *opening towards the world economy, was put on each CMEA country's agenda by the requirements of domestic social and economic development.**

Opening is an intricate long process demanding difficult economic policy decisions even under ideal conditions. A country opening towards the world economy (unless it has an especially favourable position as crude oil exporters have now) will sooner or later face the barrier of increasing discrepancy between import requirements and export oppor-

*For reasons of growing import requirements from outside the CMEA see details in [3].

tunities. Because of her scarce exportable commodities she will develop a durable foreign trade deficit and balance-of-payments troubles becoming acute might even render the continuing of the opening uncertain. It is a basic condition for continuing it that the growth of imports should directly or indirectly induce a similar rate growth of exports as well. (In the case of the CMEA countries this means that the growth of imports from capitalist countries is supposed to trigger the growth of exports directed thereto.) However obvious this requirement may seem, basic economic policy decisions are required for its satisfaction. This is the crux of a consistent implementation of world economic opening.

The objective of economic policy prior to the opening was to satisfy the internal needs of the individual CMEA countries and the community from indigenous production as far as possible. Paradoxically, external imports have to be increased first of all because on a certain level of socio-economic development this policy striving for internal self-sufficiency and import substitution can be accomplished only with the use of machines and equipment, basic materials and intermediary products etc. which are not available in the member countries on the necessary level of up-to-dateness and/or in the required quantity and quality. However, exactly this fact indicates that national and regional import substitution overlived themselves and became obstactes to economic development. As long as requirements can be on the whole satisfied from domestic resources this policy is consistent in itself (irrespectively of its pros and cons). As soon as this condition ceases to exist it is not consistent any longer but unavoidably results in upsetting the balance of foreign trade. That is, the objective process of development demands that *economic policy should give preference to export orientation at the expense of import substitution.*

The world economic opening of the socialist countries took place in the 1970s in a political situation, though much more favourable than earlier, yet much more intricate too, and in a world economic medium far worse than ideal. The most drastic manifestation of the new situation – which is considered the beginning of a new era in world economy by many Hungarian and foreign economists [4], [5], [6] – was the oil price explosion at the end of 1973 and the beginning of 1974 which put an end to the era of cheap raw materials and mainly of cheap energy. Rocketing inflation, prevalence of floating rates of exchange have introduced the elements of growing uncertainty into international economic relations which were already under the ever tighter control of multinational companies and international state-monopolistic institutions (the expanded Common Market). Agrarian protectionism has strengthened, mainly in Western Europe. The structural changes of industry and world trade have accelerated and so has the removal of the lagging behind industries from the advanced capitalist countries to semi-developed and developing countries. Industrial exports of the latter to advanced capitalist countries have become one of the most dynamically expanding sectors of international trade.

International economic intertwining has increased. Therefore, processes taking place in any sector or region of the world economy can immediately and significantly affect other sectors or the economic situation of countries located in other regions.

Flexible adaptation to changing external conditions and devising of mechanisms allowing, and at the same time forcing, adaptation are vital everywhere.

These apparently lasting world economic changes were accompanied in 1974–1975 by the worst Western economic recession since World War II, and were followed in the second half of the 1970s by a procrastinating fragile recovery laden with high rate unemployment, along with inflation. All these affected the equilibrium position of the CMEA countries' national economies. Due to inflation their imports grew at a still higher rate and the growth of exports was even less able to keep pace. It turned out that with the given composition, given quality and assortment of exportable commodities it was impossible to avert the increase of foreign trade tensions and indebtedness.

Also the conditions of intra-CMEA cooperation were modified by the world economic changes. The shift to the system of annually determining prices introduced the uncertainties of the world market, even if in a strongly damped form, into the conditions of trade within the CMEA when economic planning was already made complicated because the member countries can now satisfy their raw material requirements from sources within the community only to a smaller extent than earlier. However, the most striking thing is the rearrangement of the terms of trade within the CMEA in favour of raw material exporters and at the expense of finished product exporters, in a situation when the system of investment contributions already added much to the burdens of raw material purchases inside the CMEA region. Deterioration of the terms of trade within the CMEA has made it even harder for several countries to counterbalance their growing imports from the West.

Active credit raising policy

The main problem of the world economic opening, namely, the continuing discrepancy between imports and exports, is known well from economic history. Not the CMEA countries are the first to get into a strained foreign trade balance position when trying to accelerate their technological and economic development through imports of up-to-date technology. This is typical of the world economy of yesterday and today alike. A classical example is the United States which used to be a capital importer for a long period to become the major capital exporter of the world. When a country starts development with the involvement of external resources first her import requirements will emerge necessarily (capital imports included), and growing imports can result in a dynamic growth of exports only after a certain time.

In another approach: as long as a country (or a group of countries) does not feel the need for intensive world economic relations or, for political or other reasons, deliberately renounces the benefits she could have access to through participation in the world-wide division of labour, she will not have any particular reason to make her monetary and credit relations closer with the outside world either. But as soon as she cannot or will not carry the burden of isolation any further and puts the modernization

of the economy, the raising of the standard of living etc. on the agenda, she will inevitably have to modify the attitude which – judging mutual economic dependence with the outside world as unfavourable – contests the purposefulness and advantage of drawing foreign credits or allows for it only within narrow limits.

Thus, understandably, every CMEA country launched a *policy of active credit raising* in the first half of the 1970s. Even though it is hard to separate ulteriorly the conscious and planned elements of this policy from the ex-post acknowledgement of the deficit emerging in foreign trade, yet this is such a remarkable change of approach and an important innovation in economic policy without which the development of East–West trade would have got stuck on a lower level.

The importance of this innovation is not mitigated by the obvious fact that activation of the policy of credit raising is not the only and sufficient condition of world economic opening. With foreign credits, time can be gained for carrying the opening through. But if credits are not used for increasing economic efficiency, for remodelling the product pattern, for starting an export offensive, then the policy of credit raising only delays the appearance of economic strains. That is, the launching of an active credit raising policy has to be evaluated primarily from the point of view of producing the financial preconditions for the opening.

But this is not little. Namely, the possibility for an active credit raising policy was not at all self-evident in the preceding period. Before the 1970s it was hardly remembered that such a policy had had antecedents fourty years earlier. What was remembered was the later credit ban and its outcomes: for a long time it used to be exceptional to receive bigger credits for longer term in the West and – even though from 1963–65 international modes of financing were applied in the trade between Eastern and Western Europe – it hardly fitted into the picture the CMEA countries had formed themselves about the desirable development of East–West relations. In many opinions this was believed to be incompatible with the preservation of political and economic independence. In Hungary, even in the early 1970s, a liability level that later on became to be considered as quite fair had been thought to be intolerable for the country's economic load bearing capacity.

The active credit raising policy of the CMEA countries is thus one of the most important features of East–West economic relations in the 1970s. Unlike earlier times, no doubts are raised any longer in practice about the purposefulness and advantageousness of this policy from the aspect of socialist development.* This is only natural because it is an internationally established practice. The credits served growing imports and (in countries for which the terms of trade deteriorated) the financing of price losses, and promoted the solution of important problems of the economy.

*But the same arguments that used to qualify the active credit raising policy undesirable in general, are still heard in connection with the participation of CMEA countries in some international economic organizations. There is actually no reason for studying the two problems in different approaches. In the same manner as we now consider the credits useful or harmful, desirable or

Intraregional and extraregional trade

There was a change of approach in the 1970s, of no less importance, in the judgement of the desirable proportions of CMEA countries' trade with each other and with external countries. Earlier it used to be quite widely held that in the total trade turnover the share of mutual trade should be, even if not always increasing, but by all means maintained at a very high level. In the early 60s this level was considered to be set at 80 per cent of the total turnover. This was naturally a logical outcome and organic part of the economic development concept, with the ultimate target of regional self-sufficiency, which only wanted to accord a marginal role to trade with the West in the accomplishment of the economic political objectives.

The special historical circumstances which caused an extremely steep increase in the trade between the European socialist countries (at the expense of trade with external – capitalist – countries) in the late 40s and early 50s are well known. It was not the outcome of but the precedent to economic integration.* It was a given condition for the CMEA countries to transact the lion's share of their trade among each other, a course determined by the international situation which did not depend on the methods, intensity and content of cooperation. But this was a special feature of the CMEA not resembling any other integrational organization, neither the Common Market. Therefore, even if in the case of other regional organizations a conception measuring the success of integration by whether the growth rate of intraregional trade exceeds that of extraregional trade (that is, by the increase of the share of intraregional trade) could be – even only for a short while – justified, in the case of the CMEA such a yardstick cannot be used. The decrease of trade with each other is also perfectly compatible with the deepening of integration. What is more: according to experiences of recent years the process of integration is directly and very closely connected with the development of the member countries' economic relations with external, first of all advanced capitalist, countries.** Thus, such statements represented by some economists are unfounded that the decreasing share of intraregional trade in the foreign trade of the CMEA countries

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unwanted according to the concrete terms of raising them, we have to decide on the opportunities and forms of participation in international economic organizations, and on credit raising in their frameworks also according to the real "merits", that is, according to the concrete conditions. I.e., it is hardly possible to show any difference in principle between drawing credits for the purpose of economic development from the Export–Import Bank of the United States or, say, the World Bank, moreover, the political qualification of the Eximbank, as a U. S. governmental institution is even more unequivocal than the World Bank's.

*"The sudden change in the *directions* of foreign trade, when its *volume* remained small, could not be considered as a genuine regional integration; it was but one feature of integration which, in the course of later development, should have been complemented by other features of modern-type integration". [7]

**This isn't any special CMEA trait. For example though the growth of internal trade in the EEC exceeded the rate of expansion of total trade in the 1960s (but no longer in the 70s), yet the world-wide flow of production factors helped to carry out the objectives of integration. The flow of

shows a lower integrational performance and lower efficiency of the CMEA in comparison with the Common Market.*

It reveals itself more and more convincingly that there isn't any norm or index whatsoever – valid for all CMEA countries and for all times – that would determine the quota by which the various groups of countries should share from our total foreign trade: how big the part of intraregional and the part of extraregional trade should be. This depends on the most different factors: ranging from the level of development through the supply with raw materials and the pattern of exportable commodities of the different countries to their balance of payments position. If political conditions improve in the trade with non-CMEA countries this, too, will offer better opportunities for increasing their share than if the political conditions are unfavourable. However, the fact that the *trends* coincided in the different countries in the past longer period shows that there is a number of common characteristics in their present economic situation and economic development holding for every CMEA country – or most of them – which determine their foreign economic needs and opportunities alike.

The data of Table 1 show the coincidence of these trends.**

Although the shares of Western countries in the foreign trade of CMEA countries are different, the general picture is quite unambiguous. Except for the mixed picture of the beginning of the sixties (under the political conditions of those times the majority of CMEA countries did not yet aim at developing their foreign trade with the capitalist countries dinamically), as from 1965 it is clearly shown *that the share of trade with the West grew in general also in the total trade of the CMEA countries.* Only the time series of Bulgaria differs markedly from the general trend, where in the past ten-old years both the import and the export shares of the capitalist countries decreased. In 1965 the share

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mostly American capital and technology and of South European and North African labour balanced the introverting trade and provided for the required level of international openness. Consequently, in the case of the EEC it cannot be said that integration resulted in the deflection of the factors of production. That is, in the sixties too, and despite its regional protectionism, the EEC developed in the sign of increasing participation in the international division of labour. [8]

**Szita* correctly states: "It would be a wrong interpretation of the development trends. . . . of socialist integration to believe that this must be asserted in the steady growth of the proportion of turnover between each other. This would ultimately lead to autarky on the level of the community which would involve decreased efficiency. . . . the progress of socialist integration is not at all indicated by the proportion of trade between themselves but mostly by the way in which the manifold process of integration contributes to the entire development of the individual national economies and of the whole of the socialist countries united in the CMEA, to the improvement of the efficiency of economic management, to the success of the activity pursued in the world market." [9]

**These rates are based on the official data on foreign trade turnover calculated in transferable roubles. Unlike the case of Hungary – where the share of the different groups of countries in foreign trade can be computed on the basis of data given in current Forints – this is namely the only way to state the composition of the total turnover by countries. Though the rates should be treated with a certain reservation because of special features of the rates of exchange, the trends of trade with the advanced capitalist countries are well shown by the time series.

Table 1
Share of the advanced capitalist countries in the foreign trade of European CMEA countries

Country	Imports (total imports = 100)							Exports (total exports = 100)						
	1960	1965	1970	1974	1975	1976	1977	1960	1965	1970	1974	1975	1976	1977
Bulgaria	13.7	22.3	19.1	22.5	23.1	18.5	15.6	12.5	15.8	14.2	11.7	9.4	10.5	9.6
Czechoslovakia	18.9	18.8	24.5	27.7	24.6	24.9	23.6	16.7	17.1	20.4	24.0	19.8	18.2	18.4
Poland	29.7	24.5	25.8	50.8	49.5	48.9	43.3	29.9	28.7	28.4	36.3	31.6	32.0	31.3
Hungary	24.7	25.5	28.8	34.6	27.0	36.0	36.9	21.9	22.3	28.0	26.1	21.4	30.8	29.0
German Democratic Republic	22.0	22.7	26.7	34.1	29.0	31.8	26.4	20.2	20.7	21.9	27.4	22.4	24.3	20.6
Romania	23.4	33.3	39.5	48.6	43.4	n.d.	n.d.	21.2	24.9	31.9	42.1	34.6	n.d.	n.d.
Soviet Union	19.8	20.3	24.0	32.6	36.4	37.6	33.0	18.2	18.3	18.7	30.2	25.6	28.0	26.5

Sources: Rocznik Statystyczny Handlu Zagranicznego 1975. Warsaw.
Статистический ежегодник стран-членов Совета Экономической Взаимопомощи, 1976, 1977, 1978.

of the advanced capitalist countries was above 30 per cent only in the case of a single CMEA country, a proportion of 20 to 25 per cent was more typical. However, in the mid-seventies, the import share of Western countries was – except for two countries (Poland and Romania) where the share of advanced capitalist countries in total imports reached or approximated 50 per cent – about one-third also in the case of countries belonging to the "strong middle" (Soviet Union, GDR and Hungary).

It is clear from the above that the export shares of the Western countries increased more slowly than their import shares (for some countries much more slowly) and have remained appreciably lower. According to 1975–76 data the export shares of the Western countries were behind their import shares by about 18 per cent in case of Poland, by 10–11 per cent in the case of the Soviet Union, and by 8 to 14 per cent in the case of Bulgaria.

The data show that both the import and the export shares of the Western countries peaked in most CMEA countries in 1974 and somewhat decreased thereafter. This indicates the growing complexity of the conditions under which foreign trade is transacted. The decline is in part explained by the fact that, owing to the cumulating disequilibria, the socialist countries had to curb the growth of Western imports while their export aspirations scored only limited success. But the main reason was the rapid rise in world market prices between 1970 and 1974 while the contractual prices of trade within the CMEA remained unchanged. This raised the share of the capitalist countries in trade to higher than the realistic value. The new system of pricing introduced in 1975 (first the raising of the export price of Soviet crude oil), on the other hand, brought about a rapid increase in the internal CMEA prices: for the same volume of goods more had to be paid, and this in itself reduced the *share* of imports originating from outside the CMEA.

Moreover, because of the growing import expenditure, they had to use a bigger part of their exportable commodities, in CMEA relations and this confined the *volume* of exports directed outside the region.

Imports from socialist countries – exports to capitalist countries

Whatever important changes in approach have accompanied the process of world economic opening not even the most important problems can be considered to be clearly solved. This is natural too: the steady lagging of exports behind imports, the acumulating disequilibria indicate first of all the real difficulties of realizing the world economic opening. This is why it is sometimes pondered in the CMEA countries that the difficulties should be solved by controlling imports from capitalist countries (in other terms, by decreasing the capitalist countries' share in trade). This idea is based on the assumption that a significant part of the commodities which the CMEA countries now purchase in the West could be substituted by increased domestic production or by increased imports from the CMEA zone.

But this assumption is wrong. Shortage of commodities makes it difficult to increase imports from the socialist countries: the increase of Western imports has come to the fore precisely because the member countries can satisfy their growing and ever more diverse needs from internal CMEA sources to a smaller extent, as regards both quality and quantity, than earlier. The Western imports to CMEA countries comprise mainly such commodities which are not produced domestically or in other member countries, or are produced in insufficient volumes or perhaps in unsuitable assortment and quality. The machine import opportunities from socialist countries have not been really expanded by the rather unique import market research introduced in Hungarian foreign trade. Even if the growth of machine imports originating from CMEA countries could be speeded up, this would not replace Western machine imports, as the composition of the machine supply in the CMEA is markedly different from that of machine imports originating from the West: while the latter consist overwhelmingly of machines for technological use, i.e., for industrial production, about half of the machines exported by the CMEA countries are not designed for industrial purposes. [10] The difficulties of increasing imports of material and energy are known. Also the growth of grain imports from the West is related to shortage within the community.

Let us nevertheless assume that the growth of imports originating from the socialist countries could be appreciably accelerated in some way, and in a suitable composition with respect to quality, assortment etc. What would follow? More rapidly growing imports should be balanced with more dynamically expanding exports, since the CMEA countries would increase deliveries to us exactly with this in mind. But even in the case if bigger imports from the socialist countries would be transacted in the framework of some sort of credit construction, it would be hard to withstand the two-sided pressure – of the

foreign partner and of the Hungarian producing companies – which would be exerted towards increasing exports to CMEA countries at a higher rate than planned. Therefore, if exports to CMEA countries were increased, we would unavoidably have to increase also Western imports, because of the ever growing Western import content of those exports. But then it is also natural that the boosting of imports originating from the CMEA necessitates the increasing of exports to the West.

We do not mean that no efforts are required for increasing imports from socialist countries. The relationship presented above holds also conversely: it would enhance a faster growth of Western exports if imports from socialist countries could be increased faster. We only mean that the two cannot be separated, let alone confronted. *The different markets in foreign economic relations are closely connected.* But if the maximum efforts are not exerted for the real solution of the acutest problems, economic development will pay the bill. And in Hungary the acutest problems are those of Western exports.

Autarky or integration into the world economy?

Exports to the West or imports from socialist countries, increasing world economic integration or re-isolation are not alternative ways of carrying out the same strategy of economic development. The choice of the alternative has a far-reaching bearing upon the further course of economic development. If export-oriented development is discarded, we also have to give up the boosting of imports which has been characteristic of the CMEA countries' foreign trade with the West for long years now. Namely, if the volume of exportable commodities does not grow fast enough, it will be hardly practicable to involve additional financial means from the West in economic development still for some longer time. But if we renounce the faster development of Western machine imports, then the desire for reducing technological backwardness is hardly realistic. If we renounce food and fodder imports, the problems of internal supplies might increase. If we do not provide for the necessary material and machine imports, we also have to renounce the dynamic increase of internal CMEA trade and thus jeopardize implementation of the cooperation projects and the enhancing of specialization within the community.

In one word, the growing interweaving of the economy of socialist countries with the world economy is already a fact. The economic development of the socialist countries, of the CMEA, does not take place according to "intrinsic laws". Not a single socialist country can make herself independent from the world market requirements any more; each depends on the evolution of the world economy and also the development of their cooperation is closely connected with world economic conditions.

If we renounced export-oriented development then, sooner or later, the implementation of all the economic plans and tasks would be endangered in which Western imports play a considerable role. The consequences would be slow technological and economic development, stagnation of the standard of living, preservation or widening of the technological gap separating the CMEA countries from the more advanced countries, and the long-range reproduction of the current export pattern.

The probability of such a type of withdrawal cannot be completely precluded today if the world political conditions of East–West trade change unfavourably – especially if the deterioration in the international situation were accompanied by worsening balance-of-payments difficulties. But we must be aware that this would be a step backward, which, beside being unjustifiable from the point of view of economic development, would throw back the economic and social development of the CMEA countries enormously.

This alternative is countered by a consistent implementation of the world economic opening: an efficiency-oriented economic development intended to guarantee a dynamic growth of exports, favourable changes in the export structure, the raising of technological standards, efficiency and the standard of living in the CMEA countries through product specialization to be advanced on the basis of the consideration of world economic trends and the actual capacity of the countries. It would be irresponsible to state that this latter way – proposed by many economists and economic politicians of the CMEA countries – is a smooth one. It would be self-deception to think we only have to make up our minds and it will go like clockwork.

World economic opening is an objectively necessary process dictated by the requirements of socio-economic development. But its consistent accomplishment does not only depend on our having recognized this necessity, nor on taking a few decisions though correct and important in themselves, but, in addition, on the creation of a multitude of diverse conditions.

The difficulties of accomplishment follow in the first place from the need to reconsider a number of ingrained old ideas concerning the development of the socialist economy and to elaborate new solutions of strategic type, that is ones which provide the foundations for long-range development in a complicated foreign economic constellation. Not only the consistent implementation of decisions already taken must be provided for but further parallel changes must be carried out in the economic control system and in economic policy. The system of economic control must guarantee that the enterprises become really interested and compelled to pursue development, production and sales policies in accordance with the equilibrium requirements of the national economy. Sectors, branches and types of activities oriented towards world market demands which are suitable for joining the world-wide division of labour effectively and, at the same time, for improving the efficiency of domestic economic development must be given priority in long-range economic development policy and in investment decisions. In other words: the directions of economic development can be changed only if these sectors, branches and functions have access to more resources than before, at the expense of others. The aspects of increased integration with the world economy must be given greater consideration in devising the ways and methods of improving the CMEA cooperation. Moreover, though at this place only the economic conditions of a world economic opening could be tackled, it is also evident that intensive participation in the international division of labour imposes higher requirements in other fields of life too, for example in education, scientific research, and services. Even more important is to create a social

atmosphere favouring independent initiative, remuneration for outstanding performances (and real performance in general), realization of new ideas and inventions, and where every decision maker will have increased responsibility for the consequences of his decisions.

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СОЦИАЛИСТИЧЕСКАЯ ЭКОНОМИКА И МИРОВАЯ ЭКОНОМИКА

А. КЕВЕШ

Развивается ли экономика социалистических стран исключительно на основе внутренних закономерностей или ее развитие зависит также от мировой экономики и от экономических связей с другими странами мира? Следует ли социалистическим странам стремиться к тому, чтобы прочно и активно включиться во всемирное разделение труда или они должны оттородить и изолировать себя от мировой экономики?

Долгое время в социалистических странах господствовало последнее мнение. Однако требования внутреннего общественно-экономического развития поставили на повестку дня в семидесятые годы во всех странах СЭВ более интенсивное включение во всемирное разделение труда, и соответственно изменились и взгляды экономической науки. Вследствие возрастания в странах СЭВ потребностей в импорте с Запада сбалансированный экономический рост требует, чтобы экономическая политика стран СЭВ оказывала предпочтение ориентации на экспорт вместо национального и регионального замещения импорта. Только экспортная ориентация, то есть специализация на базе сопоставления тенденций развития мировой экономики и фактических возможностей отдельных стран, может обеспечить дальнейшее повышение технического уровня, эффективности и уровня жизни. Все это предъявляет новые требования к системе управления экономикой и экономической политике.

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I. TÖMPE

ON THE ECONOMIC NATURE OF INVESTMENT CONTRIBUTIONS BETWEEN CMEA-COUNTRIES

The main form of credit granting within the CMEA is contribution to investments. These are granted by the socialist countries to each other for the extraction of capital intensive raw materials. The author reaches the conclusion that in allocating the resources it is expedient to reckon also with the possibilities provided by the CMEA, on condition that they are more profitable than the domestic investment possibilities. He also discusses some debated problems emerging in the context of transacting the investment contributions, thus the price formation of articles delivered as amortization of credits, and the very low rate of interest charged on the socialist credits.

Experience shows that international economic development is accompanied by increasing capital flows. This flow can appear basically in two ways, namely, by the granting of credits and in the form of the export of working capital. (International crediting does not affect ownership, while the export of working capital will lead to the establishment of enterprises in foreign or joint ownership.) Capital flow has played an active role – independently of its types – in accelerating world market developments and in the evolution of regional and interregional integration processes.

The characteristics and economic consequences of the two main types of capital flows are different. In the case of capital loans (international credit granting) those involved are less dependent on each other. The creditor wishes to realize an income of interest payments, while the one obtaining credit intends to earn profits through the realization of its investment objectives. Of course, differences are not so definite in reality. For example, in case of indebted countries the principle of mutual independence asserts itself only with restrictions and endeavour for most favourable realization of the own capital will not be the exclusive driving force of international credit granting either.

Establishment of enterprises abroad or participation in the production of foreign enterprises are methods widely spread all over the world. Realization of this form of capital export and the way of functioning of enterprises in foreign ownership are differing by countries and groups of countries. Development level of the participants as well as the production line of the enterprise to be developed will also influence the realization of the forms of cooperation.

Demands for an international flow of investment funds have arisen for a long time *also within the CMEA.* Mainly following the proclamation of the Comprehensive Programme several attempts have been made to establish joint enterprises, first of all international economic associations. Besides, credit relations among the socialist countries expanded in the form of investment contributions in recent years. The extension of

international socialist credit granting might be explained first of all by the changed external economic situation, furthermore by the objective of credit granting, i.e. the demands for an increased development of raw material extraction.

Purpose of the investment contribution

Investment contribution is a way to finance investments of joint interests. In my opinion, its primary goal is to increase and maintain the *interestedness of suppliers.* The requirement towards buyers to contribute with credit granting to capital-intensive raw material-extracting and energetic investments has already long been raised within the CMEA. Recently also considerable Western credits have been raised for the expansion of raw material extraction and these will be paid back with products of the new capacities. Joint construction works were realized in the CMEA-countries on about 20 occasions until the 1970s: one country granted credit to another (in the form of financial credit, construction works or the delivery of equipment) which will be compensated by later deliveries. Subject to such agreements was almost exclusively some raw material-extracting investment. True, the volume of agreements was not particularly considerable; socialist countries (first of all Czechoslovakia and the GDR) took part abroad in the extraction of "shortage goods" in this way only when the creditor country could save capital through granting credit and *could simultaneously increase also the safety of deliveries.* But joint construction works had not spread even in raw material extraction which could be explained basically by the low raw material prices prevailing at that time. However, this situation has changed as a result of the rise in world market prices and with the gradual exhaustion of traditional extracting places. Buyers had to recognize more and more that deliveries could not be increased any more under the previous economic terms, and, in addition, even the level of procurements already attained became uncertain. The situation was further aggravated by the fact that raw materials had become export goods realizable at favourable prices and earning convertible foreign exchange. The convertibility of raw materials became almost unlimited. Their value was raised by the bilateralism of the CMEA in whose framework the surplus can be used only in the country of origin, i.e. the turning of price increments into import surplus often encounters difficulties.

Investment contributions were aimed, therefore, at re-establishing the supplier's interestedness. Buyers seem to be interested in the continuity and increase of deliveries even with rising rouble prices for the very reason that the carrying out of any material-saving structural transformation is risky, capital-intensive and occasionally casts doubt on a considerable part of investments decided upon still in the belief of the abundance of raw materials.

Each investment contribution has some surcharge character further increasing rising procurement prices (through increased burdens other than foreign trade prices). However, its real economic effect is much more diversified. The primary role of investment contribution is that the supplier will receive "hard" goods against its own "hard" ones.

(Credit granting may be regarded as a sign of "hardening" as well.) This "hardening" has a rational upper limit, namely, paying a price in convertible currency corresponding to the price level of competitive markets. Investment contribution means a relatively less hard mode of payment. Of course, stimulation for the expansion of the turnover in raw materials having become extraordinarily current could have been realized also by shifting to a clearing of accounts in convertible currency. However, this would have meant a very hard test for the solvency of smaller socialist countries.

"Hardening" and safety

The shortage in capital goods of the socialist countries had also an important part in that this process of "hardening" took precisely the form of investment contributions. Endeavours to shift the burdens of advance savings (i.e. to bring forward the possibility of amortization appearing in later returns from sales little by little) seem to be a determinant motive for credit demands anyway.

Investment contributions may be considered as long-term credits, though the individual agreements provide for the mode of participation in joint construction works in different ways, and the mode of accounting is not always a credit contract, either. Despite this, an important element of the major part of investment contributions is credit construction, and thus they are considered as credits, in general. In agreements on investment contributions the material form of cooperation may be varying. Thus we may speak about credits (of various types), delivery of goods and construction work.

Precisely because previous terms of delivery endangered the expansion of the turnover in raw materials among the CMEA-contries, while investment contributions mitigated the tensions in this field, also such a conclusion might be drawn that in investment contributions the socialist community has found the way for an efficient and dynamic expansion of the flow of investment capital. This conclusion would be true, however, only if investment contribution were not *par excellence credit on raw materials,* but a *mutually circulating* instrument for the development of sectors which are able to realize comparative advantages. The bases of *mutual interestedness* could be established even in this case only if present potentialities and future possibilities jointly influenced the direction of the flow of capital.

But individual development projects are by no means in equal positions in this field at present. Utilization of capital deriving from other socialist countries is possible mainly only in the production of special shortage goods. There is no possibility to obtain credit from other socialist countries *on the basis of economic considerations* for the development of a product less profitable at present, but eventually profitable in the future. In such cases risks and development costs have to be met within the national framework, which, of course, will not diminish the shortage in capital, nor will it increase the willingness to grant investment contributions, either. But, on the other hand, if the flow of capital remains one-sided and its intensification is stimulated by raw material shortage

also further on – i.e. it remains, as a matter of fact, a one-direction movement towards raw material suppliers – then the shortage of capital will become even more serious than at present in countries poor in raw materials.

Shortage of capital may be partly explained by the medium level of development, but the mechanism of control and management of national economies is at least of the same importance. Namely, within the CMEA-integration comparative advantages could be realized by means of investment cooperation. For this it would be necessary, however, that countries and producers should choose from among possible development alternatives in the region on the basis of economic criteria. As a result of such selective development – based on international comparisons – a significant capital surplus could be gained, simply by the fact that a part of development projects could be realized more economically and with less means abroad. For this, however, economic efficiency should not only be measured – and made measurable – but also become a determinant viewpoint when making development decision.

Of course, this is not merely – or not first of all – a question of international relations and the flow of capital. The role of economic considerations should be strengthened also in the domestic economy in order that a regional horizon of decisions should really develop. At present it still causes undoubtedly a problem, that an investment-intensive development process shows the way for the flow of capital only inwards but hardly outwards. On the other hand, controlling and directing instruments by means of which better and more efficient development proposals – precisely for their being more efficient! – could replace less favourable ones are not satisfactorily functioning even within the domestic mechanism. When facing the dilemma of either domestic or foreign investment, it is not the development alternatives qualified "better" or "not so good" which are – as it seems – competing at present, but such variants as answer to the question *"is there a continuous supply or not"*.

Flow of capital and economic efficiency

In one of her studies Katalin *Botos* summarizes her opinion as follows: "The possibility of planned deliveries to the enormous market of the integration enables the maximum utilization of capital flows *within the national economy.* Until not everything has been done in this field to develop a rational structure of assets, it is very likely that the *international flow of capital* is justified only within certain limits. Thus, the international flow of capital cannot be excluded from the armory of international investment policy in the CMEA, but its becoming predominant or a significant increase of its role might be queried." [1]

I agree with a part of Katalin Botos' statement (namely, that the flow of capital is not likely to obtain a dominating role in the CMEA in the nearest future), but the other part of it (practically its justification) has to be complemented by some comments. In general, it is not correct to divide "the flow of capital" into external and internal

directions, when analyzing its reasons and barriers. If investments in the competitive sphere are selected at national economic level by criteria of economic efficiency, then in an open economy the idea of foreign investments is spontaneously emerging, and if they are more economical, so is their realization. An analogy of this can be found also when choosing between domestic realization and export if the choice is based on economic efficiency. If therefore, decisions are made on developments and (if) it is weighed which choice will more increase national income, then there is no basis of principle to rank development projects only within the country. *An allocation of investments operating on the domestic principle* will necessarily bring about lower results than allocation within a region, even if countries are still forced to give up a part of integration advantages at present because of unsolved accounting, interestedness, monetary and other problems connected with foreign investments. As to the judgement of the present practice and the resulting conclusions for the future, I fully agree with Katalin Botos. True, the flow of capital among the CMEA-contries will not yet become prevailing for some time as against other, mainly direct forms of foreign trade, but first of all not because selection on the basis of economic efficiency would fulfil its task entirely also at home, but because the predominance of a ranking of such type cannot be reckoned with in the region as a whole for a long time yet.

Price reduction and rate of interest

Investment contribution is, therefore, a method for the solution of the problems of the region connected with raw materials (but in its given form it is presumably not a final and by no means an exclusive one). In this respect it has already been mentioned that in the long run demands for a mutual flow of capital have to be taken into consideration even with the development of trade in raw materials, which, of course, requires further improvements in the coordination of planning. Even if investment contribution is not regarded as a final form of solution in this sense, it has to be stated anyway that its development has largely been promoted by the common interest of suppliers and buyers. Interestedness of the former slackened with the previous terms of delivery, while that of the latter, as is proved by the contracts concluded, has not diminished under the new circumstances. However, according to experience gained from current practice, also some debated questions are raised under the conditions of mutual interestedness. Imre *Vincze* writes the following about it: "As regards the established practice, two factors deserve rethinking and pondering. One is the rate of interest on credits. In the light of the usual terms of international money market, maintenance of the present minimal – 2–3 per cent – rate of interest seems unjustified, its raising, perhaps even to its multiple, seems reasonable. The other problem is the pricing of commodities to be delivered against the loan. Under circumstances involving common efforts of the cooperating countries in realizing the production capacities the use of world market prices (prices on the main market) without correction is not justified." [2]

The 2–3 per cent rate of interest on the part of investment contributions granted in transferable roubles – being general in the CMEA – is indeed only about one third or one fourth of present (though inflationary) rates of interest on the money market. But it is worth examining why this low rate of interest causes problems even in the case of mutual credit granting. It seems, namely, that no trouble may arise if we grant credits at low rates of interest and, at the same time, receive them also at low rates of interest. However, the rate of interest is an important yardstick of profits, of net income. If we regularly raise credits on money markets of free currencies, at a rate of interest of, say, 8 per cent, then this rate cannot be but a minimum of the rate of profits with products produced by means of these credits. At the same time, credits merge when they are used, what is more, it would be difficult to determine even in the case of a considerable part of productive capacities how much should be the minimum of interest (profit) they have to realize in one or another relation (country). Since the possibilities of credit raising are rather limited and they include mainly free currencies, *the marginal approach has to be enforced when judging the rate of interest.* That is, the normative rate of interest is determined by more expansive credits (at higher rates of interest) which can be obtained in larger sums. This reasoning is justified also by the fact that if credits are used for expansion of capacities and the minimum profits to be earned through the operation of these capacities should be the interest on the credit raised (supposed it is a financial credit), *then after repayment* these interest returns will become profit rates. One minimum is 2–3 per cent and the other 8 per cent. This is a significant difference for the efficiency requirement of current production.

Therefore, it is expedient to choose the higher of the two rates of interest as the *general level of interest or, we can say, the minimum of profit. Therefore, the normative* rate of interest is determined by the interest conditions of *the relatively abundant credit market.*

At the same time, credits raised for investment are aimed first of all not at exceeding this minimum rate of interest, but at achieving the highest possible rate of income. At national economic level it is the better and the more economical that should be regularly chosen. On this basis investment with higher profitability should be chosen independently of the rate of interest concretely paid. (Though, of course, the income of the national economy is also increased if a development with high profit returns is financed from credits with a low rate of interest.)

The low rate of interest on credits granted in transferable roubles is irrational first of all not because the rate of interest is "only" so much, but because "outside", from where the overwhelming majority of credit supply comes, it is higher than that. The difference between the two rates of interest expresses the contradiction between "soft" and "hard", already mentioned in the foregoing.

A low rate of interest is irrational, in my opinion, first of all not because it is only a small part of the real marginal value. In economic efficiency computations it can even be an advantage as a low cost. However, the low rate of interest points first of all to the support character of credit and to the secondary nature of the direct profit aspects. The

harmful effect of low rates of interest can be seen first of all in that they separate the interestedness of creditors from that of those raising credits. That of the former becomes minimum (if it does not cease completely), while that of the latter irrationally increase. A low rate of interest is unable to play a balancing role between demand for and supply of credit, even in the case of obviously rational investment possibilities. Therefore, the role of a low interest level is harmful when evaluating the economic efficiency of investment contributions, since it results in a slackening "propensity to supply" of creditors. A low rate of interest will thus not only disturb a realistic economic efficiency computation (since what is saved when raising credit is lost when granting it), but – and that is what I consider more important – it also impedes an expansion of credit turnover on the basis of mutual interestedness, precisely when credit financing is spreading in connection with investment cooperation.

Economic aspects and results of investment contributions can be unambiguously and practically determined by the participants only if they may realistically forecast the components of the agreements, the terms of delivery, the commodity pattern delivered as compensation and many other factors. As is indicated also by Imre Vincze, no price corrections are applied in case of investment contributions, contractual prices are based on world market prices. Of course, the world market price basis is not identical with the world market price either in respect of its level, or its content. It is a fact, however, that in a considerable part of the total turnover the CMEA strives after approximating world market relative prices starting from the world market price basis. This points to the theoretical aspect of price formation when concluding contracts on investment contribution.

International practice usually verifies that price reductions are granted with the purpose of increasing the short- and long-term interestedness of creditors. Short-term interestedness should help to succeed in raising an adequate volume of credits in due time for extraordinarily capital-intensive investments. The *practice* of price reduction will make creditors interested, also in the longer run, in coming investments.

The *measure* of price reduction will, of course, depend on how those raising credits – being simultaneously those granting the price reduction – judge the improvement of liquidity resulting from credits granted on favourable terms. Of course, these viewpoints are taken into consideration only to a limited extent in the mutual credit relations of the socialist countries, first of all because, they, too, are net credit receivers. Nevertheless, price reduction is still significant, since it can also help in increasing the interestedness in credit granting.

Problems of settlement

The final money of account for the realization of agreements on investment contribution is the transferable rouble. Individual contributions – no matter whether they are originally credits, construction works or others – are summed up in this currency. The purchasing power content of the transferable rouble is, however, changing

depending on which currency is "turned" into which. This is an important issue when settling accounts of contributions in transferable roubles originally effected in Soviet roubles or dollars. If, for example, the dollar is converted into transferable rouble, and this converted value is then expressed in forints, there will be an about 50 per cent difference between this value and the original forint value of the dollar. The CMEA-currency undervalues convertible currencies if compared with the valuation expressed by the rate of exchange of the Hungarian forint. The difference in valuation is of an opposite direction when products favourably realizable on the world market for convertible currencies are sold for transferable rouble as repayment of credits. Consequences of these two undervaluations – conversion advantage and disadvantage, respectively, – might balance each other, what is more, on the basis of present practice a dominance of conversion advantage seems to be more likely. Finally, it might be said as well that the dominance of conversion advantage amounts to price reduction, and many are tacitly thinking so.*

When making an economic analysis of the agreements it will cause disturbances anyway that with the conversion of transferable rouble a part of incomes *will be regrouped according to daily rates of exchange.* From the viewpoint of credits granted the rates of exchange not proportionate to purchasing power lead to a specific conflict of interests. While the CMEA-community as a whole is interested in a realistic currency valuation (since multilateral settlements cannot develop without it), creditors are interested – in a limited field of cooperation – in maintaining the present irrational rates of exchange. If the interest which is more important for the entire functioning of the community is enforced, i.e. if we change over to realistic rates of exchange or approach them, then a part of incomes realized in purchases effected within the framework of credit repayment or above it will be automatically eliminated. To resolve the contradiction it would be expedient to approach to adequate exchange rates, on the one hand, and to protect the repayment value of investment contributions by some currency clause, on the other. Solution of the problem will become urgent sooner or later. Revision of the CMEA rates of exchange is stimulated by the ever widening East–West trade and credit turnover as well as by the fact that rates of exchange of the currencies of the individual socialist countries are relatively rapidly changing both to each other and to convertible currencies. The former – i.e. the rates of exchange of socialist countries – are mentioned as disturbing factors in the inner functioning of joint enterprises also by P. *Bozyk.* [3]

In my opinion the problem of currency valuation with investment contributions has a part not only in the economic efficiency of agreements**, but also in that in case of

*Judgement of the conversion advantage or disadvantage can be made perceptible also by means of an analysis of receipts-expenses type. Then also the time factor will have a part, i.e. later values will be worth less and less to the extent of a rational rate of discount.

**Not as if rates of exchange would have no part in the degree of economic efficiency. Their *changing* is the puzzling question that is very difficult to answer in view of the modifications of relative rates difficult to determine in advance.

irrealistic currency valuations an unambiguous survey is very difficult, inputs and incomes become conditional, that is, a particular information confusion sets in.

An important characteristic of agreements is the granting of the right of *preemption.* Deliveries are ensured by the agreements usually for 20 years inclusive of the duration of preemption. This element of investment contribution which may also be considered as a quota purchase has always been valuable for the planner from this aspect and has become especially so following the raw material crisis. Long-term reliable deliveries are understandably important for buyers. Of course, the value of safety is difficult to express numerically, but the fact that it has some value cannot be doubted. Purchasing from socialist countries is favourable, on the one hand, because prices are lower than those on the world market in case of several products (raw materials), and, on the other hand, because purchasing of raw materials against convertible currency raises requirements on the export side which can be met with difficulties.

This chain of thoughts is under no circumstances aimed at advocating *any one-sided importsubstituting or even autarkic view.* But, time is needed for the process of structural adaptation and for some reduction of risk, and this time is ensured by investment contributions within their sphere of action to some extent. It should be emphasized in this context that though the economic – and mainly the planning – value of the safety of deliveries is very high, *it still cannot be decisive alone for the economic efficiency of these agreements,* nor for the sources of purchasing. To be able to make decisions on these questions, the realistic alternatives and ways of participation (simple foreign trade, credit, etc.) should be analyzed each time. Only a joint and objective analysis of all these problems may provide some guidance for the decision. The question whether we should take part in some foreign investment or not has to be decided in the last resort by a single *economic* viewpoint: *economic efficiency.*

Firstly it should be decided whether the national economy needs the given product or not, i.e. whether the income consequences of using this product are favourable. This is a problem of the *internal realization* of comparative advantages and the answer to be given to it is by no means simple. It is possible, namely, that the agreement is very favourable, but domestic capacities are not yet prepared to accept the given product, perhaps a further processing of the product necessitates such investments which in their totality will impair the capital/output ratio of the national economy. Therefore, answers to interrelated efficiency questions of economic structure and foreign trade (investment) should be given in an iterative way.

In the course of investigating investment contributions several such partial fields can be found where a practice more rational than the present one could improve the efficiency of construction works and diminish expenditure. For example, in a part of agreements where really joint construction works are provided for, the *technical balancing of performances* is prescribed. Of course, this can be kept only with difficulty, since one country has more expertise in one type of work, while the other one in another. Neglect of these differences causes superfluous organization and surplus costs. It is an important

task as well that the technical supply of constructions should be built in into the plans of the building (owner) country. Fast and efficient building will surely not be promoted by a division of labour aimed at equalization.

This problem leads us to the question of participation in deliveries. The primacy of the requirement of economic efficiency has already been emphasized in the foregoing. In the interest of economic efficiency, the realization of constructions should be rationalized as much as possible in both the economic and the technical sense. This means not only that capacities have to be run efficiently, according to requirements of the construction going on, but that individual potentials of countries have to be increasingly utilized, too. Direct needs of the construction concerning technical supply and particularities of the capacities of individual countries may largely differ from each other. It may easily happen that building can be replaced by other delivery of the same value, whose degree of "hardness" is not worse, either. This combined solution is undoubtedly a more developed form than the one when individual countries are participating in construction works according to a mechanically standardized division of labour. This combined solution has already been applied in some cases and this practice carries actually the germs of a multilateral settling of accounts. Its importance lies, on the one hand, in that it enables a more efficient utilization of capacities already available, and, on the other hand, it may provide a tool for the coordination of investments. The essence of this combined solution lies, therefore, in that *credit needs* of builders are satisfied by such products which are favourable for both parties. In this way further development of international specialization and cooperation can be promoted even if only in a relatively narrow field.

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ОБ ЭКОНОМИЧЕСКОЙ ПРИРОДЕ УЧАСТИЯ В СОВМЕСТНОЙ ИНВЕСТИЦИОННОЙ ДЕЯТЕЛЬНОСТИ СТРАН СЭВ

И. ТЭМПЕ

Одним из направлений расширения международного разделения труда является перелив капитала. Характерной формой перелива капитала в связях между социалистическими странами стало участие в совместной инвестиционной деятельности. Сущностью этого участия автор считает долгосрочное кредитование. Установление системы участия в совместной инвестиционной деятельности совпадает по времени со »взрывом цен« 1973 г., а также, с посте-

пенным исчерпанием месторождений, полезных ископаемых находящихся на территории европейской части СССР. И до этого были случаи участия в совместных инвестициях, однако благодаря относительно богатым природным ресурсам, эта форма не получила пространения.

Экономической целью участия в совместной инвестиционной деятельности прежде всего является восстановление заинтересованности поставщиков, т. е. сохранение прежнего положения. Эту цель нельзя было достичь простым повышением цен, так как более высокая цена не обеспечивает автоматически желательное количество товара. Таким образом, в соответствии с логикой товарно-денежных процессов за более »твердые« (а в ряде случаев весьма твердые) по своей конвертируемости товары поставщики желают получить равноценные по содержанию товары. Поэтому предъявляемые к покупателям (к импортерам) условия стали более жесткими, хотя и в этом случае такие соглашения обычно более благоприятны для них, чем закупки на капиталистическом рынке.

Особые преимущества обеспечивает покупателям надежность, поставок, а значение этого в современных условиях может только возрастать.

В то же время в соглашениях также отражаются противоречия, затрудняющие прогресс сотрудничества в рамках СЭВ. Так, например, в то время как ряд стран (в том числе и Венгрия) заинтересованы в том, чтобы конверсия переводной рубль – форинт, форинт – доллар, а посредством этого переводной рубль – доллар отражала экономически приемлемые пропорции, в роли кредитора они заинтересованы в сохранении нынешних спорных курсов валют, иначе предоставляемый ими кредит будет обеспечен.

Часть расчетов содержит и кредиты в рублях, проценты на которые чрезвычайно низки. Статья стремится доказать, что нерационально низкий процент прямым образом затрудняет расширение кредитного оборота.

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B. KÁDÁR

INTERRELATIONS BETWEEN STRUCTURAL TRANSFORMATION AND SOCIO–ECONOMIC DEVELOPMENT

Acceleration of the structural transformation of world economy exerts an increasing influence on the character and balanced conditions of the growth process as well as on the socio-psychological and political characteristics of each country. The new type of growth process – giving priority to rationalization of uses and to structural transformation – weakens the economic grounds of the so-called welfare state the extent of state intervention into home economy in advanced market economies, while it strengthens state presence in foreign economic relations and creates new conditions for the development of nation-states and of the international system.

Dynamics, equilibrium, and structural change

As a heritage of accelerated growth following World War II the category of *dynamics* – and particularly the judgement of economic processes by their *quantitative development* – received marked attention in both economic theories and in economic policy conceptions.

The quantitative effect of structural transformation on growth is obvious, since the growing weight of high-productivity sectors, i.e. the regrouping of growth sources leading to it exert an effect augmenting national income. However, the quantification of this effect is hindered by the fact that a comparison of different productivity levels of individual sectors is not justifiable economically. In Hungarian economic literature Tibor *Erdős* made computations on the interdependencies between structural changes in production and the rate of growth. (1) According to his starting-point, the growth effect of structural changes derives from the fact that the possibility for increasing productivity is different in each sector, there are different possibilities for increasing the labour input, market demand for products of each sector is growing at different rates, and the capital-intensity of production also differs by sectors. According to computations covering the period between 1953–1966 a positive correlation of 0,849 was found between structural changes in the national economy and the growth rate. Tibor *Erdős'* computations showed that in the period under examination the indicator of changes of the share of the dynamic sectors int the GDP expressing the extent of structural change were particularly high in Greece (48) Japan (47), Italy (44), Austria (41) and the GFR (40), and it was somewhat lower in Belgium (29), France (26), Sweden (22), and England (10).

Since then, it has not been any more the development of large aggregates but that of subsectors that has had an influence on structural transformation. Because of the different character of trends within each sector, and owing to statistical constraints it is

very risky to quantify the growth effect of structural changes that has taken place in the second half of the last decade. It may be worth mentioning, with a view to giving an idea of a few rough proportions, that applying Tibor *Erdős'* method for the period of 1963–1974, the indicator expressing the extent of structural change was 177 for Spain, 148 for South–Korea, 144 for Brasil, 124 for Japan, 89 for Greece, 40 for the FRG, 45 for France, 27 for Belgium, 25 for Austria, 16 for England and 8 for the US. Thus there is a clear interdependence between structural change and growth rate in relatively less developed countries implementing accelerated industrialization, while in more advanced countries changes in the macro-structure are less indicative of growth dynamics, since the main streams of structural transformation remain within sectors and even subsectors. It is worth noting the fact that the speed of structural changes in the last decade has not been so much the result of deviating sectoral dynamics of productivity (acceleration of technological development of lagging behind sectors) or of sectoral differences in capital-intensity, but of the sectoral differences of market demand and first of all of market *supply.* It has been mentioned that the structural transformation of the last decade has received impulses not only from changes in demand but mainly from international excess supply evolving in certain branches. The extent of structural changes in the world market and of the production and foreign trade adjustment of each country influenced the development of the world market position, terms of trade – and within these also of the degree of openness – of each country, and that of the growth dynamics of national economies.

In a historical period and a world economic environment characterized by competition between the two different social systems, and by widening relations among countries on different development levels and with different growth potentials, as well as by sharpening economic competition resulting therefrom, quantitative and qualitative development objectives may clash with growing frequency. In international competition the question "by how much" is now more often replaced by the question "of what quality", since, in a period of intensifying international cooperation, the character of processes beyond national borders exerts a growing influence on the formation of the system of objectives and intruments of each country. It has been proved by experimental facts that, if results achieved in quantitative development did not harmonize with the universal development processes, they could not become "qualitative", either. Analysis of economic processes and growth achievements exclusively on a quantitative basis no longer allows the drawing up of authentic socio-economic diagnoses.

It may be stated without exaggeration that the transformation of economic structure belongs to the *qualitative features* of development: its dynamics says more about socio-economic processes than e.g. the growth rate of gross domestic product or of industrial output. The fading of the "growth-rate centric" economic approach is necessitated by qualitative factors coming to the foreground. We have seen that, in contrast to earlier assumptions, interdependencies between structural transformation and growth rate are rather loose: in several countries structural transformation accelerated exactly in the years of a decreasing growth rate. Experiences gathered so far already allow to formulate

the conclusion that in advanced countries qualitative changes are usually concomitant with a decreasing growth rate. In the period of structural economic transformation that begins with the service sector coming to predominance the growth rate is slowing down (at least with the present constraints on the mechanization of services), since the gestation period of "human" investments necessary for the development of "qualification-intensive" activities is much longer than the average, and the possibilities of raising productivity through mechanization are limited in the majority of services. In advanced capitalist countries e.g. beside several exceptional factors, the acceleration of structural transformation also plays a role in the approximately 1 per cent reduction of economic growth (for the period 1975–1985 an average 4 per cent yearly growth rate can be prognosticated for the developed market economies).

At the same time, the slowing down of the growth rate because of the service sector's gaining ground may be moderated by accelerating the transformation of industrial structure. In the case of industry it may be asserted with much greater certainty that in advanced countries more open to the world economy the growth rate becomes increasingly a function of structural change.

This statement can be proved also from the negative side. E.g. in the three decades following World War II there was quite a close interdependence between the lagging behind the British economy and the slowness – and eventual stops – in structural transformation.

Nicholas *Kaldor* – standing close to the Labour Party – deduces the origin of lags of the British economy from its ageing and, according to his explanation reflecting the logic of the so-called Verdoorn law, the growth of productivity of a national economy depends on the growth of production, while the latter depends on the expansion of industrial production i.e. on the size of labour reserves in agriculture. On the other side, according to conservative British economists the lagging behind Britain is a specific phenomenon of the insular country and its origin lies with the permanently wrong policy pursued by the Labour Party. World economic growth does not prove that the exhaustion of agricultural labour reserves unequivocally slows down the economic growth rate. The "English disease" of growth is no longer a specific national phenomenon, either: its first symptoms have appeared in Italy and France, and recently also in Sweden. This phenomenon may appear, therefore, equally in countries under conservative or social-democratic political leardership, and belonging to different waves of industrialization. In the causes of the disease national characteristics are reflected, a common symptom is, however, the slowness of structural transformation and a lack of harmony – to a smaller or larger extent – with world economic processes.

In developing countries possessing unused growth reserves a great part of structural transformation is taking place still in producing sectors, which is advantageous also for the growth rate. As a consequence of the growing world economic weight of developing and medium-developed countries attaining growth rates higher than the average the reduction of the growth rate is of a lesser extent all over the world. Therefore, it would be wrong to look for the specific features of the world economic changes of this decade

as well as of the new types of growth "in the wake of disappeared dynamics". On the one hand, the growth rate is not to be identified with development, on the other hand, the extent of its reduction is not so considerable as to allow to draw from it far-reaching socio-economic conclusions.

Interdependencies of structural economic transformation with national economic *equilibrium conditions* are much closer than those with dynamics: the most important changes in comparison with earlier historical periods are to be found therein. Most part of the economic growth of the 19th century, as well as that of the 25 years following World War II were characterized by a relative stability of both domestic economies and foreign trade. Since the end of the last decade signs of imbalance have multiplied on a world scale: inflation and indebtedness have become vital problems of economic policy for most countries. In the 1970s economic growth is of a new type also in that it is progressing amidst almost permanent disequilibrium, not experienced before.

The international markets of raw materials, primary energies, and foodstuffs was characterized by a decreasing or stagnating international relative price level during the 1950s and 1960s, through more than fifteen years. The protectionist economic development theory appearing in the framework of bourgeois reformism after World War II, as well as the so-called radical economic school of the early 1960s exerted their theoretical influence clearly in order that countries that had been producing raw materials and foodstuffs should regroup their growth energies from the primary sector carrying external dependence to the structurally more modern industrial sector. This theoretical position met with the power policy needs of the historical situation developed after World War II in a large number of underdeveloped or less industrialized countries and in the national development policy of some countries it was expressed by the permanent neglect of extractive sectors and of agriculture, and in certain cases by their decapitalization. Because of unfavourable sales conditions on the world market, fear from nationalization, and disadvantageous "economic policy environment" in a few countries also international capital assumed a reserved attitude mainly toward the primary sector of the third world. The dramatic reaction of world economy – sometimes in the form of price explosions – was caused partly by the accumulation and unsolved character of this disequlibrium and its intensity on a world scale, and partly by international power policy movements (the economic global of the US., increased international bargaining power of a few developing countries).

Beside a sudden rise of the relative price level of the primary sector, in advanced countries – at a higher stage of economic development – the price level of *services* was also rising parallel with the structural transformation of demand. The specific price-pushing factors in the services sector are partly due to differences in the production conditions of goods and services. In this sector, at a given technological level, live labour can be reduced or replaced only to a limited extent, in the majority of services: possibilities of mechanization or of improving productivity are limited. In formulating its economic policy each country considers first of all the producing sectors. Thus e.g. it is the most mechanized industrial branches that determine the extent of wage increases and

reduction of working hours. In the case of full employment the service sector is obliged to adjust its wages to those in producing sectors – if it does not want to lose its labour. There is ample proof that in advanced capitalist countries hourly wages and working hours have been developing on the whole parallel in industry and in the service sector. Therefore, the service sector is forced to pay such wages, to create such working conditions – and as a consequence, to undertake such additional costs – as are not adequately compensated by improving productivity. The primary means of making up for these additional costs is *to raise prices.*

Since services are usually of individual character, competition in this sector is less sharp than on commodity markets, and since the service sector is less controllable by means of economic policy measures than industry or agriculture, price increases of the service sector encounter less opposition. Under the joint effect of the above-mentioned factors the price level of services is rising generally at a higher rate than that of commodities, and without a corresponding rise in productivity. At a higher stage of development all that improves the terms of trade of the service sector as a function of modified demand and of technical progress, at the same time, however, it also operates price-pushing forces which can be subdued only by expanding the supply of the service sector and by its comprehensive development, and which represent simultaneously a further source of *structural inflation.*

While in the primary sector imbalances develop as a consequence of the limited character of natural resources at a given technological level and of neglect through a long period, in the service sector the same develop as a consequence of a lasting increase of demand. In the lagging behind branches of the *manufacturing industry* price-pushing forces may appear in spite of a low dynamism of demand. Similarly to the service sector, also the light industry is obliged to adjust its wage level – in the case of full employment – to that of dynamic sectors, though the improvement possibilities of its productivity are much more limited than those of the latter: intensification of mass production, and progressing concentration give less help to their increasing competitiveness. In the period between 1958 and 1972 per capita production grew by 5,4 per cent on a yearly average in West German manufacturing, and only by 3,6 per cent in the ready-to-wear clothing industry, while hourly wages rose from DM 2,35 to DM 8,60 in manufacturing and from DM 1,66 to DM 6,10 in the ready-to-wear clothes industry, i.e. they grew practically at the same rate, in spite of the fact that the rate of guest workers grew from 2,5 per cent to 11,6 per cent in that industry between 1961 and 1970. (2) Between 1963 and 1973 the Dutch average wage level grew by 208 per cent, the wage level of the textile industry by 217 per cent, and its productivity index only by 39 per cent. (3)

At the same time several specialized branches of the light industry meet with the competition of imported goods – as opposed to the service sector. The survival of certain branches of the light industry in the most advanced capitalist countries has been enabled in recent years mostly by open or concealed subventions and protectionist measures.

Wage increases exceeding the growth rate of productivity, high production cost level by international comparison, and the *increasing social costs of maintaining industrial*

branches lagging behind have been also *inflationary factors* in advanced capitalist countries for long.

Inflationary tendencies may be released also by changes in the structure of *investments.* In advanced capitalist countries, in developing countries, as well as in socialist countries the weight of investments with longer periods of gestation and rate of return (basic industrial sectors, infrastructure, research- and development-intensive industrial branches, human investments) has considerably grown. The prolonged period of returns causes additional inflationary effect.

The lagging behind of extractive industries and their rising cost level per unit of output, expansion of the service sector, transformation of the investment structure and maintenance of lagging branches are clearly inflationary factors. The intensification of *international economic cooperation* may strengthen inflationary forces, but also anti-inflationary ones. If inflation in the world economy is of a higher rate than within the national economy (as in 1973–74), foreign trade introduces price-pushing effects into the home economy. In the long run it is found that, as a consequence of a sharper competition, inflation on the world market is of a lower rate than it is in most national economies. Structural economic developments relying on the intensification of the international division of labour have anti-inflationary effects on the side of both exports and imports. In technically leading industrial branches, generally sensitive to economies of scale, exports promote the development of optimum scales of production and the reduction of per unit costs. At the same time, the suppression of earlier subsidized lagging behind branches and the substitution of cheaper imported goods for their production promote saving in national economic costs, and a direct weakening of price-pushing forces. Intensification of joining the international division of labour exerts also an indirect anti-inflationary effect. Allowing the effects of world market competition widely to assert themselves in national economies creates such interests as restrict – as a tendency – wasteful consumption and cost inflation, and encourage a more rational use of resources – particularly of materials that have become more expensive. Joining the international division of labour is concomitant in the long run with weakening inflationary forces, at least in countries implementing dynamic structural changes.

Intensification of international economic cooperation may, therefore, mitigate but cannot eliminate the inflationary effects arising from the structural transformation of particular national economies. The period of accelerating structural transformation triggers imbalances and inflationary effects – co-existence with these is a new long-term task of development policy in advanced countries.

A particularly critical field of imbalances is represented by *employment.* Owing to the human losses of World War II and to the acceleration of growth in world economy, the economic growth in the sixties has evolved practically with full employment in Western countries. Upon these grounds, full employment began to be considered as an everlasting possibility. Relative labour shortage in several countries led to an increasing capital-intensity of production, deteriorating efficiency of investments, labour-saving technological development, and even to direct labour imports: the employment of guest

workers. In the mid-1970s the gravest dilemma of development strategy in advanced capitalist countries was exactly whether to absorb the labour supply suddenly increased as a consequence of the "baby boom" following World War II, the 1974–75 recession, and the weakening of lagging behind industries by slowing down the rate of structural transformation and developing the labour-intensive but lagging behind branches, or to face unemployment of a size unusual in the past twenty-five years together with the resulting socio-political tensions. The fight about development policy under conditions of unemployment interwoven with political motives as well is still going on, yet a growing number of signs indicate that the new economic policy practice developing in Western countries has abandoned the fetish of full employment and has given priority to the requirements of technical-structural development and competitiveness.

The unchanged size of *unemployment* despite the upswing evolving since 1975 indicates that it has become a structural phenomenon: economic policy does not look for its solution any more in irrational employment or unemployment benefits but much rather in "structural" solutions (e.g. reduced working hours, retraining etc.).

It must not be left out of consideration, either, that the present unemployment is a consequence – beside market factors – of the difficulties the various production branches have to overcome in adjusting themselves to the changed world economic situation. In the 1980s employment difficulties will be further aggravated by the accelerating technological development of the service sector e.g. by the mechanization of office work which reduces the number of jobs.

The *structural character of unemployment* is supported also by the fact that in countries leading in structural transformation: the US., the FRG, Holland, and Switzerland the number of vacancies requiring higher qualification is growing parallel with unemployment. Therefore, in the present phase of world economic development, the importance of changes in specialized knowledge i.e. of the transformation of the vocational structure (occupations) is particular for the growth process. The most important problems of the increasingly export-orientated industrialization of developing countries are presented today by the inadequate skills (occupational) structure changing at a very slow rate. The driving forces of the world-wide structural transformation can be utilized primarily by those countries which have made efforts already in the last ten years at developing school training, continuous retraining and extension training systems, job structure, research and development activities, and management. Economic growth, structural transformation and the reduction of unemployment require a much closer adjustment also on the labour market, and, since that needs time, also unemployment may be considered as a permanent concomitant of structural transformation. Thus structural transformation marks the growth process with signs often contrary to the experiences of the last twenty-five years.

The world-wide structural rearrangement influences in a special way the growth model influenced by the "official" social development strategy advanced capitalist countries adopted after World War II, by the system of goals of the "welfare state". The world crisis, and social tensions accumulated during the years of World War II presented a

fundamental *internal* danger for the capitalist social system in a period when the socialist world system was developing and expanding. The system of goals of the "welfare state" is a defensive strategy, which intended on the one hand to ease earlier accumulated social tensions by extending the welfare activities of the state and by a permanent stimulation of consumption, and on the other hand, to provide for a high rate and continuity of economic growth. In the countries most consistently following the way of the so-called welfare society – mainly in Great Britain and in the Scandinavian countries – social policy intervention constrained at the same time the sphere of the various competition mechanisms. Intensification of international economic cooperation, acceleration of the technological and structural development, the emerging new role of developing and medium-developed countries in the international division of labour, and the growing number of world-wide changes and of imbalances in this decade have made the requirement of *competitiveness* and efficiency universally a vital question for each national economy. As a consequence of symptoms of lagging behind, which appeared in advanced capitalist countries preferring social policy aims to efficiency, the increasing of competitiveness and efficiency is coming to the foreground in the system of goals of a growing number of countries, and the elements of the "welfare strategy" constraining it are at present weakening. Thus in the period of sharpening international competition welfare economy has become a heavy load, stimulation of consumption by means of redistribution of national income plays a decreasing role in growth, and the social policy intervention of the state is weakening.

In the beginning decline of the welfare model a certain role is played also by the reinterpretation of strategic conceptions. The strategic conception of advanced capitalist countries does no longer believe, in this decade, that the *internal* danger for the capitalist social system is considerable; as a consequence of changed power relations, it feels the *external* threat stronger from the side of the socialist countries and, in the longer perspective, also from that of the developing countries. Accordingly, the strategic emphasis was shifted from the front of social policy to that of international relations, and economic instruments are used to integrate part of the developing countries and to isolate socialist countries and the other part of developing countries. It is clear that such a strategic conception gives preference to power relations and not to welfare considerations, and holds for desirable a growth model enabling a corresponding international cooperation and structural transformation. Therefore, strengthening of the tendencies showing only their dim outlines today undermine the economic model of the welfare society from two sides.

The socio-political aspects of structural transformation

The breeding ground of strengthening political conservatism is provided by the *social restratification* accompanying the change in employment structure. In the period of structural transformation of the economy whose main driving force was the flow of

agricultural labour into industry, the fall in the number of agricultural population usually with a conservative scale of values and political attitude, and the consciousness-forming effect of industrial environment and urbanization on the masses newly arrived in industry reduced, on a social scale, the mass base of political conservatism and strengthened bourgeois reformism and left-centrist political forces, and even more radical forces holding weaker positions. On the other side, in the phase of structural transformation when the wave of decreasing agricultural population is over, and labour starts to flow from industry to the service sector, when the white-collar workers constitute a high percentage of wage earners and when the number of population living in small settlements of the green belt and suburbs grows faster than city centres also the political consciousness-forming effects change and, as a tendency, the political base of centrist or right-centrist forces is expanding.

Of course, political changes concomitant with the transformation of the economic and social structure are not to be considered as an inevitable objective process, yet they present a new situation for the left-wing parties, and require the consideration of changed conditions in the formulation of their programme and tactics. The present special problems of West–European communist parties and other left-wing forces are not at all incidental but are closely related to deeper socio-economic processes.

The phenomena of social development and of control systems comes also from the fact that structural transformation accelerates the *concentration process of economic power* on a world scale. Technological and scientific development and specialization strengthen large organizations, hierarchies and the executive power. In the transnational sphere the weight in world economy of the 500 largest firms has almost doubled during the past 20 years. Concentration of the currently most important factor of international power i.e. of technological power into the leading capitalist countries is observable also on the level of national states. The growing weight of large enterprises as well as of state-owned enterprises is observed also within the national economies. In the service sector state positions are traditionally dominant in most Western countries, so that the coming to the fore of the service sector clearly implies a strengthening economic power of the state. The example of Japan, Spain, France, Greece, Italy, Portugal, and of a large number of developing countries prove that the building up of new industrial branches carrying technological-structural transformation has been accomplished in the last twenty-five years with state cooperation, by state-owned enterprises on government participation, as well as by a conscious preparation and management work (research and development, training of specialists, financing, building up of a market organization, etc.). In most developing countries, because of the weakness of the domestic enterpreneurs' stratum, it is increasingly the state-owned and the transnational companies that assume the two leading parts in economic life. Thus, the growing weight of research and development, and of capital-intensive industrial branches increases, as a tendency, the ratio of the *state sector* and it becomes predominating in an increasing number of countries.

Development of a strategic balance of powers, and the limited possibility of settling conflicting interests by war push the economic sphere to the foreground of international

power policy. The developments on an international scale in the control systems of a number of countries and the changes in the system of social goals produce the same effect. Also in the US., to be considered as today's international stronghold of market economy " . . . issues heretofore handled either by the private sector or through private-government negotiations, largely on the basis of business criteria, are tending to become injected with political content. The effect is to reinforce and in some cases to make dominant the role of political motives and of political criteria in international economics." [4] As a result of an increasing intertwining of economy and politics, international economic relations have became the scene of strategic-political novements, particularly in the case of countries less dependent on the international division of labour. Special double novements develop in the home- and foreign economic sphere of advanced capitalist countries.

In the sphere of domestic economy the efforts at constraning the welfare society, and the gaining ground of conservative powers dissatisfied with state intervention and its success *may involve a halt or weakening – but certainly the transformation – of the economic role of the state in the home economy of several countries.* At the same time, as a result of intensifying international economic cooperation and the shift in the centre of competition between the two systems to the sphere of economic operations abroad, *a strengthening presence of the state in the sphere of activites abroad* is a universal phenomenon.

The fast concentration of economic power and the increasing intertwining of economic and political powers raise the question, how the concentrating economic power influences *political* structures i.e. the character of the political power and of the control system. Because of the century-old immobility of constitutional law of the political systems of the most advanced Western countries Eucken's question is asked ever more frequently: whether the high degree of concentration of economic power in advanced capitalist countries is in harmony with the political institutional system and structures reflecting the economic and political power relations of the 18th and 19th centuries. The parallel existence of economic monopolies, large-scale enterprises and political democracy, of the mechanism of economic concentration and political decentralization represent the gravest functional dilemma and anachromism of advanced capitalist societies in this decade and particularly in the period of world economic interdependences and global strategies.

It is well known from the history of Western countries that the ruling class could develop refined mechanisms for asserting its political intentions. This mechanism could so far ensure – though with lessening efficiency – the combination of economic and political interests without considerable shocks. In developing and medium-developed countries the suddenly accelerating growth and modernization could not be supported by historically developed and proved sophisticated mechanisms. Therefore, the programmes of accelerated growth and structural transformation swept away political structures borrowed from advanced capitalist countries and representing a foreign body anyway in a different socio-economic environment. Elimination of earlier political structures is self-evident in developing countries stepping onto the road of socialism, it is, however, not so at all in the case of countries taking the course of accelerated latecomer capitalist

development. It will do no harm to examine more closely, how the structural transformation of the economy within a given social system influences the political institutional system.

It is a historical fact that the accelerated growth after World War II in Southern Europe (with the exception of Italy and partially also Greece up to the 1970s) as well as in South–Korea, Taiwan, Indonesia, the Philippines, Thailand, Nigeria, Iran, Saudi Arabia, Morocco, Mexico, Brazil (since 1964), etc. took place in the framework of strongly *centralized political structures:* monarchies, one-party rule, personal or military dictatorships. In the case of developing and medium-developed countries an undeniably close correlation shows between economic growth and structural transformation, as well as between the rate of development of export orientation and centralization of the political control system. Closeness of the correlation and frequency of the phenomenon indicate that development taking place in a capitalist framework in backward or medium-developed countries cannot yet widely rely on economic incentives (as in more advanced countries), nor can it operate with moral incentives (as a power created in the revolutionary way, at least in a medium-term perspective). Thus, the main motive power of capitalist modernization is represented by coercive mechanisms in a number of countries.

In the above-mentioned countries it is a specific feature of political structures that *centralization of the political power coincides with opening to world economy* and with structural transformation relying on the international division of labour. In earlier politological views military intervention and political centralization were usually closely connected with protectionist conceptions of economic growth, while the liberalization and decentralization of political-economic control were considered as preconditions of joining the international division of labour. The development of the new situation different from earlier theoretical assumptions and due to power centralization is explained by the demands which export-oriented development strategies raise towards competitiveness, accumulation, wage and income level.

It is well known that in less developed countries having a small home market and scarce resources adjustment to the requirements of the international division of labour and of structural transformation is not to be expected from market mechanisms. In the so-called late-comer industrializing countries the heritage of development history as well as limited home demand required the governing role of the state in the development of foreign trade orientation.

A similar requirement was raised also by the fact of being a small country. When stepping out from isolation, small countries had to take it into account that unequal powers meet on the international scene, and the general feature of such "meetings" is the striving of the stronger party to export power advantages. Export-oriented firms growing out of the narrow national economic dimensions of small countries are often small themselves: they have weak negotiating power with international large-scale companies. Protection of interests against international large-scale companies may be granted best by concentration of the power instruments of the state.

The traditional isolation of Eastern societies was also due partly to the historical experience that extensive international relations may easily become carriers of external

influence. Great powers and large enterprises exerting economic pressure usually try to overthrow undesirable governments by causing crisis situations, and by using the opposition forces of the small country. In a small country more open to world economy the existence of parallel decision paths and centres, and of countervailing power is a restrictive factor not only from the aspect of fast decision-making and flexibility but also from that of decision independence. Small countries cannot react by isolation on risks related to maintaining international relations: for them it is the considerable extension of the role of the state and centralization of political power that represents the compromise between aspects of national security and of economic development.

A new task for the state is presented not only by the development of foreign trade orientation but also by its *maintenance* on the import side, i.e. by the protection of structural transformation. Lagging behind branches affected by increasing external competition make an attempt in every case at extorting protectionist measures through political pressure. The relatively small number of producers are able to vindicate their claim – being well organized – usually with much greater force than the large – yet disorganized – number of consumers favourably affected by the cost-reducing influence of import competition. Unequal power relations due to the different state of organization of producers and consumers may hinder structural transformation in states with week political leadership and relying on a weak economic basis. A growing number of political leaders in capitalist countries recognize the fact today that structural transformation i.e. specialization according to national economic potentials may push farther the "limits of growth", it may reduce imbalances, and that protectionism providing only a temporary remedy is no alternative for the long-term requirements. In lack of a firm central economic power, however, national economic interests usually cannot be asserted at all, or are expressed only in a distorted form.

Expansion of the role of the state, observable even in the case of foreign trade oriented development, does not explain in itself the fact that the growing role of the state has often been connected with the application of oppressive mechanisms.

There are ample historical examples to prove that acceleration of belated capitalist development in less developed countries may be financed partly by capital imports and partly by forced accumulation. Forced accumulation, i.e. restriction of consumption, necessarily breeds additional political tensions which the ruling class of less developed countries burdened with fundamental social conflicts tries to curb by extending the oppressive mechanisms. In the case of countries poor in natural resources the main source of competitiveness is the low price of labour by international comparison. The larger the difference between the wage-level of advanced capitalist countries dictating the terms of trade and that of the exporter country stepping on to the road of foreign trade oriented development, the wider the zone in which, theoretically, the international industrial division of labour may evolve, naturally, in the function of productivity differences. Therefore, keeping low the price of labour is a basic requirement of belated capitalist development not only as a consequence of maximization of surplus value and accumulation but also of opening toward the world economy. Lasting pressure on wages,

elimination of strikes and labour conflicts reducing competitiveness, and the suppression of trade unions also require the active intervention of repressive forces.

The role of oppressive mechanisms is no smaller in handling the income distribution problems of foreign trade orientation, either. Belated capitalist development taking place in our days takes no notice at all of the social aspects of income distribution in pursuing a maximum and artificial enhancing of competitiveness, but tries to concentrate it on efficiency as opposed to social justice (of course, along with the parasitic consumption of a small group). Of course, the fast development of successful foreign trade orientation requires income distribution in proportion to efficiency, and this starts a strong differentiation to the benefit of sectors, enterprises and individuals more efficient than the average. Growing income inequalities create further social tensions (particularly if the educational system borrowed from advanced countries or the propaganda system conveys egalitarian effects), which the power concentration again tries to curb.

Well observable interrelations appear between the objective requirement of structural transformation and of the time factor. Transformation of the economic structure and realization of the long-term foreign economic concept necessitates not only political stability but also political *continuity.* It is, of course, difficult for a political power based on parliamentary "rotating system" and on political cycles of a few years, changing at that rate, to implement a strategy necessitating a 10–15 year time horizon. Positive and negative examples for this can be drawn not only from the group of developing countries but also from that of advanced capitalist ones. Beginnings of the British, French and Italian structural lagging behind coincide closely with political stability diminishing since the end of the past decade and with certain breaks in political continuity.

In advanced capitalist countries implementing structural transformation with better continuity and success, the coincidence of structural transformation and social tensions is not unequivocal and not at all necessary. In his examination of components of the size of profit Tibor Erdős points out that in advanced capitalist countries on the one side the export surplus, and on the other side low import prices promoting them play an important role in augmenting the total profit. [5] Acceleration of structural transformation influences advantageously both sides of the process. Increasing the weight of modern branches in production and exports does not only create structurally competitive commodity stocks but also allows the assertion of monopolistic prices and technological rent, as well as of economies of scale. On the other hand, it increases total profit through imports cheaper than home production. Therefore, in countries leading in structural transformation foreign economic relations have in the last resort a profit-increasing effect and may temporarily ease class antagonism due to inequalities of income distribution, insofar as the transformation is of an expedient direction.

Acceleration of structural transformation and international economic cooperation has thrown new light upon the linkages of the *national state* – particularly of small countries – with the international system. In the course of the last century not only the conservative Metternichian concept but also that of the "Europe of Nations" reflecting the standpoint of bourgeois revolutions wished to form the international system from

medium-sized and large states – with references to the viability certain countries. Accordingly, it tried to suppress the separation of small nations and to develop large state units. Balkanization emerging from the disintegration of the Ottoman Empire, and experiences gained regardind the viability of small states established after the peace treaties concluding World War I strenghtened the picture formed about the international system of relations of the 19th century from a negative aspect. And the various systems-theoretical and structuralist approaches after World War II interpret the present world system as a kind of structural unity coordinated by great powers and maybe also by regional subsystems, in which nations, classes and political interest exist but as elements of subordinate importance.

As in so many other fields outlined, also in the international system of relations real processes influencing its development emerged much faster than theoretical concepts: illustrating the lasting validity of Clausewitz's analogy about "preparation for the past war". Political and economic development after World War II radically transformed, among other things, also the concept and contents of the viability of nations. Disintegration of the colonial system added at least a hundred such member countries to the community of nations as count – from the world economic aspect – as small or outright dwarf units. In the international situation developed as a result of changed power relations small countries newly obtaining independence could not be assembled any more in larger units or federations. (It is true though, that common interests in warding off international conflicts prevented the disintegration of ethnically mixed large countries, such as Nigeria and Ethiopia.) East–West détente has also played a role in that the feeling of the West–European bourgeoisie that they were threatened by socialist countries has diminished, which has led to reduced interest in West–European political integration.

On the economic side the interrelations of economies of scale with the technical-scientific revolution, internationalization of the development of productive forces, and the appearance of transnational firms have modified the criteria of economic viability of individual countries. In the first half of this century – in the period of development in national economic frameworks – the dimensions of economies often impeded modern and rational economic growth and unfavourably influenced the socio-economic development of several small countries. The narrow dimensions of national economy can be enlarged in proportion with their joining the international division of labour and with increasing outward-oriented activities. Thus, in the period of intensifying international cooperation conditions are more favourable – with an adequate development strategy – for the socio-economic development of small countries. In contrast to experiences of the period between the two world wars the viability of small countries is not to be queried, and not only in Europe. We do not see such signs in the case of developing countries, either, as would show that the economies of small Panama, Costa Rica, Singapore, or the Ivory Coast would be less viable than those of large India, Argentina, or Egypt. The importance of national economic dimensions weakens, of course, only in a given situation of world economy and world politics, and in case of a given development strategy.

For small countries, beside uncertainties of the international situation, an additional risk is presented by the strategy of transnational enterprises felt in an ever widening sphere. For this strategy the optimum state of affairs is if there is a maximum number of sovereign states whose economic and political dimensions and powers are minimum. Transnational companies like to settle in small countries, which may indeed favourably influence economic life for a time, but in the long run this leads to uncertainty and dependence on the decisions of the large enterprise. Since for small countries there is no retreat from the international division of labour, in order to guarantee their national development in some cases they must make sacrifices in the form of increasing dependence. Creation of a "mutuality" of dependence, i.e. interdependence, requires, however, beside a development strategy and specialization founding strong international bargaining positions, exactly the strengthening of the institutional carriers of sovereignty, since without firm state power enabling the exercising of sovereignty small countries would become free hunting areas in the world economy.

Thus world economic adjustment does not necessitate at all that the national state should be declared obsolete, or that historically developed national institutions, system of values and objectives, should be abandoned. On the contrary, at present they should be exactly strengthened. In case of balanced international power relations and a more differentiated power field such efforts are realistic, as was shown by the extension of economic sovereignty in a large number of developing countries after 1973. Thus the international system of the current period is not characterized by any abstract supranational structure or by mutual relationships of a few great powers or regional blocks, but it is constituted by the coexistence of a large number of countries with varying national and class interests, strengthening their sovereignty and emphasizing their role more strongly. The deepening of mutual economic dependence does not only weaken but – if seemingly paradoxically – also strengthens the functions of the nation-state.

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ВЗАИМОСВЯЗИ СТРУКТУРНЫХ ПРЕОБРАЗОВАНИЙ И ОБЩЕСТВЕННО-ЭКОНОМИЧЕСКОГО РАЗВИТИЯ

Б. КАДАР

В последнее десятилетие ускорение процесса структурного преобразования мировой экономики во многих аспектах оказывает влияние на направления международного общественно-экономического развития. В индустриально-развитых рыночных экономиках направление и интенсивность структурного преобразования затрагивает темпы экономического роста, его характер и сбалансированность. Складывается все более тесная взаимосвязь между темпами структурного преобразования в различных странах и общего экономического развития. Расслабляются связи в том отношении, что в противовес взгляду, отдающему предпочтение количественному росту производства и самим темпам все более на передний план выдвигаются требования по рационализации потребления, роста, в основе которого стоят эффективность и качество.

Увеличение времени освоения капитальных вложений, вытекающее из структурного преобразования приводит к росту сил, стимулирующих повешение цен, что лишь отчасти смягчается в результате расширения международного разделения труда и поэтому в период ускорения структурного преобразования в качестве тенденции усугубляется недостаточность равновесия, постоянным спутником становится структурная безработица, возростает значение праобразования структуры профессий в аспекте стратегии развития. Сдиги структуры международных экономических связей, обострение внешнеторяовой конкуренции превращают во все более тяжкий исторический багаж систему целей и институтов хозяйствования в аспекте т. н. благоденствия и во все меньшей мере действуют стимулирущая роль потребления по линии бюджетного перераспределения национального дохода, вмешательство государства в отношении соуиальной политики.

Преобразование структуры производства и занятости связано с общественной переслойкой, изменения в сознании и социальной психологии. Складывающееся преобладание сферы обслуживания приводит к усиление тенденций политического консерватывизма. До настоящего времени лишь в средних по своему развитию странах структурное преобразование, концентрирование экономической власти указывало на более тесную связь с централизацией политической власти и сопутствующие этому требования и в развитых странах все более обостряются, а государственное вмешательство, становящееся меньшим в сфере внутренней экономики становится все более сильныл по линии внешнеэкономических связей.

Мировое научно-техническое развитие, экономическое сотрудничество, взаимосвязи этого структурного преобразования приводят к изменению функций национальных государств, критериев их жизнеспособности и международная система характеризуется не наднациональными структурами, взаймным воздействием нескольких великих держав или региональных блоков, а сосуществованием большого количества стран, придерживовающихся различных национальных и классовых интересов, суверенитет которых усиливается и которые все более резко подчеркивают свою роль.

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L. SZAMUELY

INDUSTRIAL DEMOCRACY IN WESTERN EUROPE: EFFECTS AND CONTRADICTIONS

In Western Europe, the reforms aimed at introducing or extending industrial democracy – although rather careful not to upset socio-economic relations taken in the wider sense – brought about some changes in the role and mutual power relations of owners, management and workers in the industrial enterprises. These changes, however, corresponded but partially to the original aims of the reform. While having created a more or less successful mechanism for settling conflicts within the enterprise, they conjured up a dangerous professionalization of those called upon to represent the workers and, through this, the selection of a narrow élite within the working class.

The expert has hardly erred much who introduced his conclusions derived from the discussions of an international colloquium held on this subject with the following words: "Trying to circumscribe the term 'industrial democracy' is like trying to pick up a jellyfish . . . and has about as much sense." [1]. In fact, the complications begin already with the use of terms. Namely, in the various Western countries and in the publications of various authors, the terms like "workers' participation", "joint consultation", "co-determination", "co-decision", "shop-floor democracy", "humanization of work", "quality of working life" and several others are being used as equivalents and synonyms.

All these various terms serve, however, to denote a host of heterogenous phenomena, some of which may be found in some industrially advanced countries, but have not yet occured simultaneously. The various authors (see, for instance [2]) define these phenomena – more or less in agreement with one another – in the following ways: 1. the inclusion of the workers' representatives on corporate policy-making boards; 2. the integration of works councils or similar bodies into managerial decision-making procedures at plant and shop-floor levels; 3. the appointment of persons designated by the trade unions or other workers' organizations to handle labour relations; 4. changing the organization and the conditions of work in order to improve the general atmosphere of the workplace; 5. introduction of sharing in the stocks or profits of the enterprise to the benefit of employees.

It is conspicuous at the first sight that the phenomena ranked under the common name of "industrial democracy" have, in spite of their heterogeneity, at least two common features. First, they represent such processes, diverging from the traditional forms and institutions evolved in the course of the economic struggle fought by the working class, as have the aim to modify, within the capitalist enterprise, the mutual power relations between managers and employees, and to improve the behaviour of workers towards their jobs and work. Second, since they represent processes taking place within the traditional framework of the capitalist enterprise, they can be carried out more

or less independently of the modification of the ownership relations, or of the socio-economic conditions taken in the wider sense.

This independence, however, is rather "less" than "more". It would be a mistake to consider these phenomena merely as some new tricks of the "management science", aimed simply at the improvement of the relations between employer and employee, or at creating a more efficient work organization. The reforms introducing or extending industrial democracy – when carried steadfastly – bring about real changes in the roles and mutual power relations of the owners, managers and workers of the enterprise, and thereby they modify also the production relations. This is why these reforms became, in our time, an important subject of the struggle fought by the major social forces and their political parties; in other words, they emerge as a topical question of *political power.*

In the present study we try to sketch these social and political effects. In view of the limits of this article, we are going to deal with only one of the various phenomena belonging to the concept of industrial democracy, namely the workers' participation on the decision-making company boards, and subsequently with the processes and consequences induced by the practice of co-determination as a whole.

Participation on the company boards

The requirement that the representatives of the workers should have a voice in enterprise decisions beyond the traditional way of collective bargaining, and even beyond the channels ensured for them by the works councils almost generally introduced in continental Western Europe after World War II in other words, that they should be given an institutional place on the decision-making boards of the company – released in the last decade quite a storm of passions all over Western Europe. The torrent of press campaignes, parliament battles and scientific treatises seemed to wash away the simple fact that this form of participation was by far not the unique, not even the most important, and still less the most widespread solution of the problem.

In fact, this solution occurs as yet but in a few Western European countries, and it is only in the Federal Republic of Germany that it may look back to a longer past, over more than 25 years. In the Netherlands, Norway, Sweden and Denmark it was legally established between 1971 and 1974; in Britain its introduction began to be discussed in 1973, and at the time of writing, it is still in the phase of propositions. In Belgium, France and Italy, the comparable conceptions have been definitively rejected by the trade unions. Thus, West Germany is the only Western European country where an adequately long practical experience can be analysed.

In order to examine the purpose, effects and, in general, the sense of workers' participation in management, two questions have to be answered: 1. in which control bodies of the enterprise do the workers' representatives take part, and what is the function performed by them; 2. what is the extent or proportion of their participation.

As regards the *structure of the management in the capitalist enterprise,* the rights of property were separated from the management functions a long time ago. The form of joint stock company can be considered as general, – at least in the case of the large enterprise. Now the direction and control of the joint stock company is performed by its board of directors. This board is formally elected by the general assembly of the shareholders; in practice, however, the election depends on the holders of the "controlling" packet of shares.

The company board is homogenous in the Anglo–Saxon and in some Scandinavian countries, whereas in most Western European countries it has a two-tier structure, consisting of the supervisory board and the board of directors proper. (In the FRG they are called "Aufsichtsrat" and "Vorstand", respectively.)

The *supervisory board* – as it is shown by its name – supervises and checks the activities performed by the board of directors. This body is elected wholly or in most part by the assembly of shareholders. As a rule, it has two main functions: it hears the reports made by the board of directors, and is entitled to hire and fire the members of the latter. On the grounds of the reports submitted by the board of directors, the supervisory board makes decisions on the questions of long-term (strategic) enterprise policy. At the same time, the *board of directors* is responsible for all current decisions concerning the whole sphere of enterprise activities.

Without any further inquiry it is evident which of these two bodies is playing the more important role in the life of the enterprise, which exercises the actual power. The literature dealing with the role of the managers in modern capitalism, with the "managerial revolution" or the role of the "technostructure" could fill quite a library. All these works start from the fact that, in the "democracy" of shareholders, the actual power is exercised by the machinery controlling the firm, which is being led personally by the actual owner of the capital – if such a person exists – or directly controlled by him with the assistance of the minor shareholders and the supervisory committee elected by the latter.

When looking at the third column of Table 1, it may be seen that in the Western European countries where a legal regulation allows the representatives of the employees to participate or be present on the boards of the enterprise, the board means, with three exceptions (Sweden, Norway and Ireland) the *supervisory board.* The same solution was recommended by the Commission to the member countries of the European Economic Community [3], and clearly it was not by chance that in Britain the Callaghan government modified the propositions of the Bullock Committee, suggesting the substitution of a two-tier board for the present uniform company board; this modification was made in order that the "worker directors" should occupy a place on the supervisory board rather than on the board of directors [4], whereas the original form of the Bullock Report recommended their participation in the traditional company board [5].

As regards the three exceptional cases of Ireland, Sweden and Norway, they hardly modify the general tendency. In *Ireland,* for instance, it is only on the board of directors of the state-owned enterprises that the representation of employees (essentially of the

Table 1

Participation of workers in the company boards in Western Europe

Country and date of regulation	Size of enterprise (by employment)	Company board	Proportion of participation	Election of workers' representatives
FRG 1951	coal, iron and steel industries, more than 1000	supervisory board	parity (5 employees and 5 shareholders, and a neutral chairman)	3 are delegated by the trade union, 2 by the works council
1952	all but family-owned enterprises, more than 500	supervisory board	one-third	proposed by the works council, elected by the employees
1976	more than 2000 (excl. coal, iron and steel industries)	supervisory board	parity (10 employees, one of whom is a leading executive; 10 shareholders incl. the chairman; the latter can have also a tie-breaking vote)	6 are elected by the employees, 3 are sent by the trade union, and 1 by the leading executives (with consent of the workers)
AUSTRIA 1974	more than 300	supervisory board	one-third	
NORWAY 1972	more than 50 more than 200 joint-stock companies	board of dir. works assembly (Bedriftsforsamling)	one-third (at least 2 persons) one-third (at least 4 persons)	elected by the workers (if they care to)
DENMARK 1974	ltd-liab. companies, more than 50	supervisory board	2 persons	elected by the employees, if they decide for participation
SWEDEN 1972	more than 25	board of dir.	2 persons	as in Norway
NETHERLANDS 1971	100 and more	supervisory board	*no direct participation:* the shareholders and the works council can appoint (and mutually veto) the members of the three-member supervisory board; they must be extraneous persons	

Table 1 (continued)
Participation of workers in the company boards in Western Europe

Country and date of regulation	Size of enterprise (by employment)	Company board	Proportion of participation	Election of workers' representatives
IRELAND 1977	all state-owned enterp.	board of directors	one-third	candidates of the trade union elected by secret ballot
GREAT BRITAIN proposal of the Labour Government, 1978 (The White paper)	500 to 2000 (if wished by the brd of dir. and by the joint representation committee) 2000 and more (if wished by majority of employees)	policy (= supervisory) board	one-third as a first step, parity as a final aim	designated by the trade union and in some way by the non-unionized employees
EEC COUNTRIES revised proposal of the Commission, 1975	limits vary	supervisory board	at least one-third, or the employees should be entitled to veto an appointment (as in the Netherlands)	

trade unions) was introduced, and even this was no real innovation since the post-war Labour government of the U. K. also appointed several trade-union officials as directors of the nationalized enterprises, although at the time there was on question of workers' participation; and this practice is known also in the nationalized sectors of other Western countries. In *Norway,* where the law of 1972 introduced a one-third participation of the employees, this measure was characteristically torpedoed through splitting into two the boards of the enterprises. Thus, for the joint-stock companies employing more than 200 persons, a "Bedriftsforsamling" (company assembly) was established, two-thirds of the members of which are elected by the shareholders and one-third by the employees. This body is situated between the assembly of the shareholders and the board of directors. Its functions are essentialy similar to those of the supervisory boards in other countries: it elects and controls the board of directors and decides on the major investment and other problems. One of its special features consists in that its decisions are final both for the assembly of shareholders and for the board of directors, i.e. they can be changed only by an arbitration court or by a civil law suit. As regards *Sweden,* the participation of the two or four persons representing the employees does not mean by itself a right, as it is shown by experience, to have a say on merits of the matter. True, *Olof Palme,* the leader of the Social Democratic Party, at present in

opposition, promises the trade unions that when his party regains the power, the workers' representatives will obtain nearly half of the places on the board of directors, but this means also that, even then, the supremacy of the shareholders would be ensured by the chairman's vote [6], presumably by following the present West German pattern.

2. The *numerical representation of the workers on the boards of the enterprise* cannot be considered as decisive regarding the efficiency of participation, although this is frequently stated by both the advocates and the adversaries of participation. (It does not follow from a participation of 50 or even 51 per cent that the enterprise is possessed and controlled by the workers; unfortunately, the phenomena of social life cannot be reduced to transparent numerical relations.) For the representation of the employees, in the first line for its consistent assertion and continuity, however, proportions are not indifferent either. Thus it is no mere chance, either, that *in all Western European countries* figuring in the table – with the only exception of the Federal Republic of Germany – *the employees' representatives are in minority;* and even in the FRG where the owners and the employees are formally represented on a parity basis, this basis cannot fully assert itself.

Namely, in that country until as late as July 1, 1978, two categories were distinguished as regards the employees' participation on the supervisory boards.

a) In *coal iron and steeel industries representation relies essentially on a parity basis.* The supervisory board has usually 11 members, of which 5 represent the shareholders, 5 the employees, whereas the chairman must be an independent person who cannot be either a shareholder or an employee of the enterprise, nor can he belong to a trade union. As a rule, he becomes formally elected after an informal agreement between the shareholders and the trade union. These big enterprises of the coal, iron and steel industries are also called – after the Co-determination Act (Mitbestimmungsgesetz) of 1951 – *"co-determination industries".*

b) In another sphere of the big enterprises *the employees representation is in a minority on the supervisory board.* According to a law of 1952, in all joint-stock and limited-liability companies not belonging to the "co-determination industries" and employing more than 500 persons, *one-third of the members of the supervisory board represent the workers.* Since this system was introduced by a law of 1952 called "The act on works constitution" (Betriebsverfassungsgesetz), the enterprises subject to this law are often named *"works constitution industries".*

The new regulation of the Act of May 4, 1976, which entered into force by July 1, 1978, could be considered only formally as an extension of the parity representation, but in reality rather that of the "works constitution". This regulation extended the rules of co-determination to *the 500 largest enterprises of the country employing more than 2000 persons.* The law was passed, after long discussions, in 1976 but, since two "years of grace" were left, entered into power only by July, 1978.

According to original concept of the Brandt–Schmidt governments, the scheme of participation already introduced for the coal, iron and steel industries was planned to include all other large enterprises of the country. This plan, although strongly supported

by the trade unions, was essentially turned down because of the resistance by the big capital. The weakening position of the Social Democratic Party (SDP) forced it to make concessions to its coalition partner, the Free Democratic Party (FDP), which opposed the proposition; so that only a rather watered-down variant of the original proposition could be made accepted by the legislature.

According to this 1976 law, the 20 seats of the supervisory board must be equally distributed among the representatives of shareholders and workers. However, this formal parity is reduced to a minority of the employees' representation since (1) the chairman has always to be a representative of the shareholders (although he must be elected by at least two-thirds of the supervisory board), when votes are equal, the chairman has two votes in order to decide the stalemate situation; (2) one of the employees' representatives must be a "leading executive" of the enterprise, i.e., a person who may be expected to vote with the shareholders rather than with the works council and the trade union. In view of all this, one may consent to the analysis of the American *Los Angeles Times* saying that "the new law . . . is really only an extension of an earlier one that gave a third of the seats on boards of supervision to worker-directors, and it is not a basic shift of corporate power". [7]

But even this compromising law aroused an exacerbated resistance on part of the big capital. On the one hand, it tried to circumvent the regulations in various ways. For instance, big enterprises were split up into smaller units in order to remain under the prescribed limit of 2000 employees (e.g., the catering network "Wienerwald"); or the seat of the enterprise was transferred to abroad, so that only small "affiliates" were left within the boundaries of the country (e.g., the coffee-importing and roasting enterprise Jacobs, the center of which migrated to Switzerland) [8]. True, such subterfuges were resorted to only by a few dozens of enterprises. Much greater political importance had the complaints submitted to the Federal Constitutional Court by the shareholders of some big enterprises and by the federations of employers, questioning the constitutionality of the law, by referring to the fact that the constitution of the country defends private property, including the right of disposition over one's property, and the freedom of collective bargaining. The Federal Constitutional Court, after temporizing for one-and-a half year, rejected the complaints; but the fact itself strongly bouleversed the atmosphere of the "social *Treuga Dei*". The federation of the West German trade unions saw in it a declaration of war on the part of the employers, and called off, in July 1977, the tripartite agreement (of employers, trade unions and government) regarding the "concerted actions" aimed at the realization of a coordinated economic policy.

An outside observer may see a striking contradiction between the red-hot political struggle around the employees' participation on the company boards, on the one hand (not only in the FRG but in every country where this question was raised), and the moderate practical effect of the measures proposed or introduced on the real power relations within the enterprise or its external business policy, on the other. Namely, practical experience up to now shows that the minority representation, and only on the supervisory boards, *does not yet mean a real power position in itself.*

Thus, for instance, an expert of the *Danish* trade unions said that the workers of the enterprise could exercise a real influence on corporate decisions only when they submitted the problem to the works council functioning on a parity basis. The positive result of participation on the supervisory board consisted only in that the flow of informations was made easier in both directions [9]. Similar conclusions were drawn by a British group of experts having visited the *FRG.* For instance, in a "works constitution" enterprise of the chemical industry, i.e. where employees have minority representation, the closing-down of a shop could be prevented only by a campaigne led in common by the works council and the employees' representatives on the supervisory board. The closing-down could be avoided in spite of the fact that the workers' representatives were in minority; but "this could not have been attained solely through the supervisory board", says the report [10]. The situation is much similar when the minority representation of the workers occurs on the board of directors rather than on the supervisory board. For instance, an analysis commissioned by the *Swedish* Ministry of Industry, the report on which was published in January, 1976, gave a generally positive evaluation, but also mentioned some facts hindering the participation of workers. Such were, e.g., that in 11 per cent of the enterprises investigated the proceedings of the board of directors were led not in Swedish but in a foreign language; that in 18 per cent of the enterprises there existed "working committees" within the board of directors and in 70 per cent of these subcommittees the employees were *not* represented; and that nearly half of the employee representatives found that informations received by them were either incomplete or were received only late, just before the meeting [11].

However, more convincing than these scattered remarks is the widely accepted evaluation given by the so-called *Biedenkopf Commission* on the experiences obtained in the coal, iron and steel industries of the FRG. The report was elaborated following an 1967 decision of the Bundestag, appointing a commission to evaluate the 15-year experience with the system of co-determination. The report was published in 1970 [12]. Here is what Professor *Fürstenberg,* an internationally renowned expert of West German and Austrian participation, emphasized from its conclusions: "The report . . . found that parity on supervisory boards had not led to revolutionary changes in company policy. Moreover, the boards functioned smoothly, and unanimity in decision making was the rule. The favourable result has been fostered by the . . . fact that decisions in the supervisory boards very often amount to no more than an endorsement of plans already discussed in detail at management board levels. Therefore, decisions by actual voting are less important than informal consultations beforehand. Such consultations usually take place between the works council members and union officials represented on the supervisory boards, on the one hand, and shareholder representatives and members of the management board, on the other hand. The neutral member on the supervisory board usually does not cast the deciding vote. Instead, his role is that of a mediator.

"The decisive problem for supervisory boards is setting long-term goals for company policy. Under West German co-determination, profit orientation as a guide to policy has not really been questioned. No major projects planned by management have

been prevented by employee representatives, as shown by analyses of corporate merger proposals and the controversial issue of pit closing in coal mining. However, employee representatives have often been able to obtain proper consideration of the social and labour aspects of such situations. Thus, supervisory boards have become more involved not only in the technical and financial, but also in the social planning of company operations . . . The Biedenkopf Commission did not find any evidence that there had ever been a severe breach of confidence or a deliberate act directed against the well-being of the enterprise by employee representatives. On the contrary, the rather difficult re-structuring of the West German coal mining industry proceeded without any major strikes, due largely to worker participation in all major decisions." [13]

The question arises, then: If not even the oldest and most widespread of the Western European regulations based on a parity representation could bring about revolutionary changes in corporate activity, and it has rather helped firms "smoothly" to survive the periods of tensions connected with restructuring – and this is asserted not only by the report made the Bonn Parliament but also by all experts dealing with the matter – then how can we explain the fierce resistance of the capitalists to this reform, an attitude endangering even the established framework of the cooperation of classes?

Also the behaviour of the other party needs some explanation. If participation on the supervisory board (or in some countries on the boards of directors) was not able significantly to extend the influence of working collectives, trade unions, social democratic parties, etc. on the corporate decisions in comparison to the older or more recent solutions (e.g., collective bargaining and works councils), – then how could have this demand obtained such an importance in the social and political struggles fought in Western Europe in the seventies?

Or, formulating the question in another manner: why does the creation of the works councils and the extension of their sphere of activity not run against any visible resistance, although these councils often really influence the proceedings and contents of decision-making; while the not infrequently merely formal participation on the company boards aroused such hot passions?

The most probable answer is likely to be found in the motivation of the complaints submitted by the West German employers to the Federal Constitutional against the extended participation of workers on the company supervisory boards, namely, that such a step *violated the sanctity of private ownership.* Not as if any capitalist's material interests would be infringed upon, since there was no question of nationalization or expropriation; nor was the capitalist's right to dispose over his enterprise restricted, as it was asserted by the West German industrialists. (As a matter of fact, such a restriction was long ago performed by capitalism itself, when it created the joint stock companies eliminating thus the *person* of the private owner from capitalist production. This is aptly expressed by the very name of such companies used in French and other Latin languages: they are "anonymous", in other words "depersonalized", i.e., independent of the person of the owner.) Professor Fürstenberg has a more exact formulation. He says that "the

authority of management decisions has not been questioned by this system of representation, but the basis for its legitimacy has changed." [14]

In fact, though the splitting up of the functions of ownership and management has long since been characteristic of capitalism, and even the shareholders are entitled only to share in the profits of the company: yet the managers obtain, in spite of their actual or apparent independence, the right of running the enterprise, of managing the means of production and live labour, directly from the real or nominal owner(s) of the enterprise. This right is derived, directly or through transmissions, from the ownership of capital. The claim of the employees for – even a partial – management of the enterprise constitutes *a flagrant violation of the monopoly to run the enterprise* that belonged so far to the owner(s) of the capital. This claim introduces a new element into the texture of capitalist production relations, *without disturbing* – at least for the time being – *the ownership and power relations.* This ambiguity helps to explain the "mystery".

But this same ambiguity serves to explain also why the demand for participation, for co-determination in the management of the enterprise has become in the last decades the main tenet in the ideology and political strategy of the social democratic parties in Western Europe. It seems justified to draw a parallel between this phenomenon and another one about the last turn of century, i.e., the struggle for universal suffrage or the role played in the 1940s and 1950s by the slogan of the "welfare state". Both were, in their time, temporary solutions of the "squaring of the circle": namely the "transcending" of capitalism in a non-revolutionary, not even in a radical way.

This is clearly evident, for instance, from the letters of theoretical importance exchanged in 1972–1975 by three leading personalities of Western European social democracy: *Bruno Kreisky, Willy Brandt* and *Olof Palme.* Kreisky, for instance, looking back to the dawn of the labour movement, stated that "at that time the right to have a say in politics depended on property and education, and by this in the first line the nascent class of wage workers was deprived from parlamentary influence. The historic achievement of the labour movement consists in that it overthrew these restrictions by having won the universal suffrage . . . We know that previously the private ownership of the means of production was in the centre of efforts aimed at controlling political power, this being the main requirements among the given circumstances. Meanwhile, however, these conditions basically changed in several countries. Certain sectors of the national economy – like the heavy industry – were nationalized or placed under collective control, so that the classical model of the private ownership of the means of production became partially outdated, and new forms of dominance have taken its place. It is also evident that we can no more resort to the Marxian concept of 'expropriating the exproptiators' . . . But how could we . . . effectively control the new forms of dominance within the contemporary industrial society? In my opinion, we should deal in the first line with the forms of co-determination to be applied in the enterprises and institutions" [15].

However, the spheres of politics and ideology take us rather far from the practical problems raised by the participation of workers in company decisions.

What results has the present system of participation attained in Western Europe?

It is almost impossible to answer this simple question unambiguously. The cause is well known to those engaged in the social sciences: only some partial elements of the processes involving different spheres of social life can be observed and measured. Even from Hungarian experience we know that no unequivocal operational criteria can be found for such phenomena as "democratization of control" or "the integration of workers into decision-making". The numerical data reflect but superficially these phenomena (the number of "actions", or measures initiated; the number of meetings convened or the number of persons concerned or participating; the interviews made with interested persons as well as the opinion polls performed). They allow us to draw rather dubious conclusions. This is even more so in the case of capitalist societies, torn asunder by open conflicts and antagonistic interests. In such societies it also seems more rewarding for politicians, for the actors of economic life and for research workers to use their energies in formulating theoretical declarations of principle, in analysing various organizational schemes or legal constructions. It was no mere chance that *B. Wilpert* (of the International Institute of Management in West Berlin) was able to fish out, from the ocean of literature dealing with the oldest and most developed West German participation, only 16 publications based on empirical investigations of the West German *practice* (one of the 16 was the Biedenkopf report already mentioned) [16].

Thus, we cannot give unequivocal answer to the question how far the participation of workers in corporate decisions is formal or informal, to what extent it is efficient or democratic, and how far the workers were able to seize the "levers of power" controlling the capitalist enterprise. Nevertheless, certain *substantial changes* have to be mentioned, as having more or less resulted from its introduction.

1. *The participation systems,* in their present state of development, *have been more or less successful in settling conflicts occurring within the capitalist enterprise;* by far not in the sense of harmonizing the contradictory interest of proprietors, managers and wage workers, but only in the sense that – according to the formulation of the Professor *Sturmthal* – "co-determination . . . is an additional method of managing the inevitable conflicts between labour and management" [17]. *Fürstenberg* says even that "the greatest achievement in industrial relations attributable to the works councils is the establishment of a reasonably well-functioning grievance and negotiation machinery within the individual plant and the larger corporation" [8].

The functioning of the workers' representation on the company boards and the works councils prevents, on the one hand, the accumulation and eruption of conflicts. (In connection with this, e.g., one may refer to one of the few empirical research works done in the FRG. In this one, performed by *Otto Blume* in the "works constitution industries" as early as at the beginning of the 1960s, it was stated that, out of the 330 enterprises examined, 90 per cent had legal disputes before the labour court in 1951, i.e. prior to the Act on the works constitution of 1952; this proportion was reduced to two-thirds by 1959 [19]).

On the other hand, the participation system has made it possible that decisions, more favourable to the workers, should be taken on wages, labour and social problems. We could see already from the Biedenkopf report – and also from sources obtained from other countries allow us to conclude – that in corporate decision-making a certain partition of the sphere of interests asserts itself: workers' representatives hardly, if ever, interfere with the general and important strategic decisions regarding the business policy of management, provided that the interests connected with employment, wages or social well-being are not violated, or when management is inclined adequately to compensate for the adverse effects; and even less when corporate decisions can be also expected to improve the situation of the employees in some way or another. In such functions, expressly defending labour's interests the works councils can well utilize the influence of those representing the workers on the supervisory boards or – as the case may be – on the boards of directors.

This partition of interest spheres, leads, however, to a *particular division of labour in corporate management:* the representatives of labour, while surrendering to the capitalist entrepreneurs (or to the management representing them) the whole terrain of the issues concerning business policy, production and technology, stick to co-determination on all questions of labour and wages (of course, in most countries, the sphere of authority of the works council includes little more than that). And participation in such decisions means here shouldering part of the responsibility or, what is more, *for enforcing the decisions which may seem delicate and uncomfortable to management.* This consequence occurs more or less in all West European countries concerned; but became almost an accepted routine in the FRG. Of this, J. *Schregle* of the ILO accounts very objectively:

"If an employer envisages making changes in the operation of the enterprise (e.g., by mergers, or closures of plants or departments) that are likely to entail substantial prejudice to employees, he must consult the works council (or councils), and both sides will jointly work out solutions, including an agreement providing for compensation of the workers concerned . . . If, despite all efforts, it becomes inevitable to terminate a number of workers, then the works council will have to examine whether the various social considerations which . . . must be taken into account, have in fact been considered in the case of each worker to be laid off. In practice, this sometimes means that the works council participates with management in the selection of workers to be made redundant. This works council involvement . . . also means that once the candidates for redundancy have been selected, the works council may have to explain the decision to the workers, particularly those affected. This is the logical consequence of the philosophy of co-determination. Works councils have to be prepared to share not only in decisions but in the responsibilities arising from them." [20].

It is a fairly widespread opinion in Western Europe that the trouble-shooting function of the participation system played an outstanding role in the economic successes attained by the North European countries (FRG, Netherlands and Scandinavia). As a proof, the relatively few strikes and the relatively smooth transformation of the economic structure are mentioned. These facts cannot be doubted; but they allow for various

opposed interpretations too. Here, again, the dialectics of complicated social processes may disprove the dogmatic way of thinking that prefers "unequivocal" solutions.

It may have been possible, namely, that the participation system proved useful in preventing or appeasing major conflicts because, under the favourable business conditions, rapid economic growth and improving living standards the conflicts between labour and management were less sharp than they could have been under different conditions. Part of this improvement may be, no doubt, attributed to the system of socio-political measures and of social insurance (including unemployment insurance) introduced after World War II in all capitalist societies. Thus, the low occurrence of strikes may have been not the consequence but precisely the cause of successful participation. (In this context it has to be emphasized that the occurrence of strikes in the FRG was low not only in the "co-determination industries" but also elsewhere.) It is also conceivable that the structural crisis of the West German coal industry in the 1960s could be weathered out without major strikes not because of co-determination – as it was stated the Biedenkopf report, – but rather because in the years of the "economic miracle" there was a huge demand for labour elsewhere (it is known that employment in the coal mining went down from 600 thousand in 1957 to 200 thousand in 1973) [21]. Recent developments only tend to reinforce this impression, since at the turn of the years 1978–1979 the structural crisis of the iron and steel industry has led – for the first time since fifty years, and exactly in the industries where co-determination was typical! – to a strike protracted over six weeks.

At any rate, in the second half of the seventies the economic situation of advanced capitalist countries is utterly different from that ten or twenty years earlier and the validity of past experience requires at least new proofs for the present situation. As much can be stated by all means that the crisis of 1974–75 and the ensueing particular growth – not involving as yet higher employment – did not cause major social shocks in the advanced capitalist countries, although, as a matter of fact, this was the deepest and longest crisis and depression since the Great Depression of the thirties.

Neverheless, in the fact that Western European countries have, in all appearance, successfully managed the social effects of economic troubles, a not negligible role could have been played by the trouble-shooting function of the participation system.

2. The different forms of participation induced, in their totality, *considerable changes in the organization as well as in the principles and practice of company management.* New legal frameworks, *new corporate institutions* (e.g., works councils), *new roles for the employees* (e.g., full-time representatives in the works councils and on the company boards), *new obligations of management* (e.g., of periodic reporting to, and obtaining concurrence from the workers' representatives for the planned measures), *new regulations* (e.g., of labour affairs) were established. And even if we cannot yet give a reassuring answer to the question how far and with what kind of real contents these forms are filled, as much seems certain that we have to do with a tendency deviating from and even disposing with the traditional concept of corporate organization and functioning.

Namely the "classical" theory of corporate organization and management – associated with the names of the American *Frederick Taylor* and the French *Henri Fayol*

– held that, in a rationally organized enterprise, the tasks of the subordinated employees and the conditions under which they have to work had to be determined "from above", i.e., by the higher levels of organization, and that the only duty of the subordinated employees consisted in fulfilling the prescribed tasks most diligently and as exactly as possible. This theory and practice relied on the more or less implicit fiction that the corporate collective, from the leading executives to the last hand, constituted a *community of interests;* the occurrence of social conflicts was acknowledged only somewhere in the outdoor world. Accordingly, also the managing of such conflicts was expected from extraneous factors and procedures (collective bargaining, labour courts, legislation and the sphere of politics taken in a wider sense).*

The spreading of workers' participation legalizes and makes evident just the fact the traditional theory of the firm would like to befog: the clash of interests and the conflicts within the enterprise. The latest Western theories, therefore, do not start any more from the "unity of corporate interest". Instead they emphasize the manysidedness or "plurality" of interests, trying to find adequate forms of organization and procedures for reconciling the clashing interests."Enterprises viewed as pluralist systems contain people who not only have abilities to perform the tasks demanded by the functions of the enterprise but also possess personalities, economic and political interest as workers and citizens. In varying degree, they have needs to structure their own work situations and to control their own lives, at work as well as off work. In this perspective, the question is not whether workers shall participate in management, but rather how and to what extent."

*Characteristic in this context was the "professional" argumentation by which the head of the British Institute of Directors has vented his indignation about the "White Paper" of the Labour Government containing their latest propositions on industrial democracy. In a letter written to the London *Economist*, this leader expounded that "the fundamental weakness of the White Paper on 'industrial democrary' is exactly the same as that of the Bullock report: it misunderstands both the purpose of the board of directors and the nature of business decisions. The board is not a forum for conflicting interest groups to argue about the distribution of wealth yet to be created; it is an executive team, whose task is the creation of wealth by marshalling the company resources in the service of the customer . . . When the board makes business decisions, it does not do so as a committee to establish a consensus. Politics is about reconciling conflicts of interest, and political decisions are quite properly made on the basis of majority support. But the only consensus that matters to the businessman is that of the customer" [22].

Ten years earlier the West German industrialists uttered even coarser declarations, and therefore they expressed perhaps more clearly the essence of the traditional bourgeois opinion: "the democratization of the economy is as ridiculous as a democratization of schools, barracks and prisons" would be. [23] Even disregarding the question whether the democratization of schools, barracks or prisons is really so ridiculous, it is worth-while to note to what kind of institutions the West German industrialists have compared the organization called upon to "create wealth".

Such opinions, however, seemed outdated even under the conditions of contemporary capitalism. The editors of *The Economist*, who clearly cannot be accused of anti-capitalism, remarked on this kind of declarations that "Britain's bosses . . . give much the same welcome to the new white paper, greeting it with the enthusiasm of a Victorian millowner faced with the abolition of child labour" [24].

[25]. This is how Professor K. F. *Walker* summarized the conclusions of a colloquium held in May 1976 to discuss the implications of EEC's "Green Paper" on workers' participation.

At present, still we have to do mainly with declarations of principle or, at most, with quite recent legal regulations which need a long time for transforming the practice, not to mention the protracted time necessary for introducing them. Even regarding the somewhat longer experience of the FRG there exist but sporadic evaluations. According to these, after World War II, important changes came about in the organization and behaviour of the West German corporations. [26]

Generally, however, evaluations regarding the transformation in the management of enterprises are rather careful. Thus, the already cited *K. F. Walker,* although he considers inevitable that the present authoritarian forms of management be replaced by the so-called "participatory enterprises" which take into account the independent interests of the workers and are able to ensure their cooperation by settling the conflicts; yet according to him, all this will be the task of the final quarter of our century.

The consequences and effects of workers' participation dealt with in the foregoing agree more or less with the original intentions of the reforms that introduced participation; in other words, they can be considered as *expected positive results.* No less important are, however, the effects opposed to the intentions of the reform, or the *negative, unexpected results.* Let us analyse some of these, too.

3. The fact that workers' participation is becoming institutionalized *makes imminent the danger of "professionalization",* i.e., that the function of workers' representatives will become an independent "occupation"; in other words, that a *narrow élite is going to be selected from the working class.* Already the functions of the works councils require that their members should be properly educated in order to be able to take part competently in the management of the multifarious matters belonging to the spheres of business, wages and labour policy, welfare, social and personal affairs. Participation on the board of the company, however, raises even higher requirements against the workers' representatives. Of course the difficulties connected with their selection, education and extension training, as well as with obtaining the experience necessary for their efficient functioning, contraindicate too frequent change of the representatives once elected. And this is exactly why representation becomes "professionalized" not only in respect of the special knowledge, experience and personal abilities required, but also in the sense that it is going to *develop into a vocation, an occupation and a life career* for the elected persons.

In addition to these objective factors and requirements, the tendency of professionalization is fostered also by personal motivations and aspirations. Participation has created quite a hierarchy of new institutions and roles, and offered *new possibilities of self-assertion, promotion and careers,* as distinguished from those to be found in the traditional ladder of promotion. For a person once elected into some body to represent the workers, the possibility is open to step to a higher level of representation, occasionally to become a full-time functionary i.e. paid by the enterprise solely for this function

(on the works council, on the supervisory board or the board of directors or on several of these). However, this may mean not only added prestige but also materially desirable advantages.

Researchers having investigated the situation in the FRG refer to the fact that, as a rule, *the elected workers' representatives are inclined to stick to their function,* and to preserve it as long as possible. Thus, e.g., G. Kliemt interviewed in 1966–1967 423 chairmen of works councils in the West German service industries. He found that 40 per cent of the full-time chairmen of works councils have been serving for more than eleven years in this position [27]. Considering that the Act on the "works constitution" came into effect only in 1952, i.e., only 14–15 years earlier than the time of investigation, a much longer time of service could hardly be conceived. Another investigation (by *O. Blume*) that was made at a somewhat earlier date (1961–1962) produced similar results: in 491 enterprises of the "works constitution industries": 40 per cent of the chairmen of the works councils have been performing this function for 10 years without interruption [28].

The possibilities of careers, however, are not limited to the enterprise in question. In every Western European country where participation was introduced, its functions are directly or indirectly (but even in the latter case very strongly) connected with, or even integral parts of trade-union activity. Even in the FRG where the works councils are *de jure* independent of the trade unions, members of the councils are usually at the same time members, not infrequently functionaries, of the trade unions. Now, as Professor *Fürstenberg* puts it, "to be a member of a works council can be an important step in a career that may ultimately lead to full-time office in a union, or even to political office" [29]. (This seems to be a reference to the connection between the trade unions and the Social Democratic Party.) Anyhow, the workers' representatives may act successfully only when aided by the trade unions. Newly elected representatives are trained in courses established by the trade unions; it is here that they obtain the informations and counsel necessary for their functions; in their disputes with management, they rely on the trade unions. It is no mere chance that whereas only one-third of all employees in the FRG belong to a union, the share of union members in the works councils is about 80 percent [30]. This seems to be explained by a case study made by *Fürstenberg* on the Siemens firm. Here, 41 per cent of the works council members elected in 1968 had *not* then belonged to a trade union, but shortly afterwards their majority became union members [31].

Thus, the newly-created or nascent layer of workers who consider the representation of their classmates as a full-time occupation or as career, tends to merge with the traditional layer of trade-union officials called upon to represent the workers from "without". This élite is rather inaccessible to certain groups of workers, like women, foreign guest-workers or shift-workers.

Professionalization of the workers' representation and the creation of a new élite – properly called by Professor Fürstenberg "representative oligarchies [32]" will have very serious consequences in the long run – despite being motivated by objective factors and

causes. It makes questionable the conceptual essence of all forms and variants of participation, i.e. participation of employees themselves in the management of corporate affairs, and in creating improved conditions at the workplace. It tends to reproduce the abyss between the boss and the collective led, as well as the traditional authoritarian concept of management. All this may lead to reducing the concept of participation – with all its intricate machinery – to no more than a clever manipulation serving different groups of interests.

4. The institutions called upon to ensure the representation of workers in corporate decisions *do not realize a direct, personal participation of every worker, they do not eliminate the bureaucracy and the phenomena of alienation.* This negative result is uniformly emphasized by every objective analyst of practical experience. It is no chance that it was in the mid-1970s when in the advanced capitalist countries – despite the crisis and low business activity – experimental efforts were made to "humanize work", to improve the "quality of working life", and to create a direct "shop-floor democracy". These efforts were motivated exactly by the recognition that the rearrangement of power relations within the enterprise resulting from institutionalized participation modifies only the social, economic and perhaps political environment of the worker but not the working process, the immediate conditions of work.

Participation does not eliminate bureaucracy, according to certain opinions it rather increases its burden. First, the functioning of the new representative bodies, their committees and subcommittees renders the decision process slower and more circumstantial, the paper work increases. Second, the same causes that have led to the professionalization of the representative functions make it difficult or even impossible for outsiders or "laymen" to look into the supposed or real labyrinth of decision-making. The members of the "representative oligarchies", often serving in several corporation and trade-union posts or functions, have no time or interest in widening the sphere of those "initiated", in informing their constituency on the merits of matters on the agenda, and still less to discuss these with them. The omnipresent self-justifying argument for this is that people readily accept the material, social and other advantages achieved for them by their representatives, but are less interested in the way they have been achieved. (Incidentally, this is a fact shown by various polls taken in different countries.)

But the result is that the ties between the representative élite and the employees who delegated them are loosening, the two-way flow of information is hindered and bureaucracy creeps into the institutions of participation. In other words, as a Norwegian author wittily remarked, "it is being tried to solve the problems created by bureaucracy by means of bureaucratic methods", which, beyond certain limits, may become a square peg in a round hole.

5. One of the most debated consequences of participation consists in the *integration or even identification of interests of the employee members of representative bodies and those of the capitalist enterprise.* In the West this is usually called the problem of "double loyalty", arising originally in the "codetermination industries" (coal, iron and steel) of the FRG where, as we have seen, the appointment of the director dealing with

labour affairs can be vetoed by the trade union. Fairly much has been written about the "schizoid position" of these directors who have to be a "two masters' servant". In this case, the concerns and lamentations seem to have been overstated, and the procedure applying to the appointment of labour directors was not taken over elsewhere. At present, the notion is applied in a wider sense, namely to the situation of all employees' representatives sitting on the boards and having a say in the corporate decisions.

In practice, this problem presents itself not in the way imagined by simplifiers and vulgarizers. It is not that the workers' representatives, as soon as they take a seat at the table of the supervisory or the management board would "feel like capitalists" or "sell out" the workers' interests. Reality is much more complicated, and other dangers are looming.

One of the real problems consists in the *reconciliation of labour's interests with the requirement of maintaining and developing the enterprise.* This problem presents itself in many ways: e.g. in conflicts between short-term and long-term aspects, or between interests of different layers of the collective, etc. Formerly, in a period of lively business activity, this reconciliation did not raise an unsolvable dilemma and, therefore, the principles of participation could more or less assert themselves. However, in the subsequent lean years when the problems presented themselves in a more acute form, the "double loyalty" became an unequivocal loyalty, and in the institutions of participation the spirit of confrontation took the place of cooperation, thus filling these institutions with new contents.

Another real problem arises *with the reconciliation of the general interests of the trade union movement, with the particular interests of the employees of individual enterprise,* – usually also included in the notion of "double loyalty". This problem arises rather sharply in the Latin countries of Western Europe (including the Walloon part of Belgium), where revolutionary-spirited trade unions are still opposing the idea of participation. This attitude may be found, to greater or lesser extent, even in the "classical" country of participation, the FRG, and also in the Scandinavian countries. We have seen, however, that the "double loyalty" is not subject to a danger of rupture, since it tends towards a solution consisting in the creation of a new type of élite conscious of both interests being able to solve the conflicts within its own sphere of authority.

A genuinely new phenomenon which may be the consequence of the integration with the interests of the capitalist enterprises would be *corporativism, the coalition of the professionalized "representative oligarchies" and of the similarly professionalized management of the enterprise – blessed and supported by the state.* This phenomenon exists at present only in its germs, and is mentioned by the various authors only as a hypothetical possibility; but it is characteristic that they deal with it at all, and that such publications have appeared just recently.

The American Professor *Sturmthal,* in the conclusion of a study reviewing the Western European tendencies he terms "syndicalism", writes that "the more the union becomes involved in management participation, the more serious the danger of syn-

dicalism is likely to be. I am using this term in a special sense: a coalition of management and union directed against the consumer. Management accepts, to a large extent, union demands, with the more or less clear understanding that the two will cooperate in transferring cost increases – usually with an adequate increment for profit – to the consumer of goods or services involved". [33] According to this author, management and union leaders should be prevented in using their power position in this way.

The Swedish Professor *Schiller* looks at this danger from another angle. In his opinion, in Sweden the extension of the sphere of collective bargaining (according to the law of 1976) involves even more the representatives of the employees into the function of management. "This creates the possibility that trade-union leaders might become absorbed as new elements in corporate leadership. Employees in general may benefit from such a development, but there is also a risk that they could be left to the mercy of an all-powerful coalition of management and trade-union leaders" [34]. Though, Schiller is, anxious that this coalition might include the state apparatus and this "justifies raising the question of whether we are moving toward a corporate state" [35].

And *Qvale,* an expert on the Norwegian practice of participation describes this (according to him, accelerating) movement towards corporativism as a consequence of stagnating business activity: "Here we see another interesting development which has become quite clear during the last few years with stagnation or recession in substantial parts of Norwegian economy. The employees, through their board of representatives, become quite extensively involved in lobbying for the company. With the given political and economic situation in this country, workers' lobbying for state support is quite effective. Although not a completely new occurrence, workers' participation on the board level has made it much more widespread, and it seems that the government is encouraging it, finding the local unions' sanctioning of companies' applications for support an alternative to a more elaborate state control system to check the basis and use of the grants" [36].

As we see, the three authors mean very different, existing or imagined phenomena by the term "corporativism". The basis of all these phenomena is, however, common: the integration of interests of the union with those of the given enterprise, resulting from the participation of the workers in corporate decison-making. But it is worthwhile noting how different (either favourable or unfavourable to the working class and society as a whole) might be the consequences resulting from it. Only the future will show which of these tendencies will become decisive.

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All in all, the spreading and acceleration of the processes belonging to the concept of industrial democracy is, in the present decade, introducing qualitatively new elements into the contemporary capitalist economy. The efforts under the slogan of industrial democracy, with their reformist ideological and political contents, reflect partly an objective tendency of modern scientific and technological development which leads to a re-evaluation of the "human factor" in the sphere of production and services, and partly

to an increased political and economic role of the working class and its trade unions. Thus, the phenomena of industrial democracy cannot be considered as an ephemeral fashion. Despite their contradictions, changing forms and probable recessions, these processes will assert themselves with increasing power in contemporary capitalism.

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ИНДУСТРИАЛЬНАЯ ДЕМОКРАТИЯ В ЗАПАДНОЙ ЕВРОПЕ: ЭФФЕКТЫ И ПРОТИВОРЕЧИЯ

Л. САМУЭЛИ

Реформы, стремящиеся ввести или расширить в капиталистических странах Западной Европы мероприятия, подразумеваемые под понятием »индустриальной демократии«, хотя и избегают нарушения существующих там общественно-экономических отношений в широком смысле слова, все же вносят определенные изменения в роли, взаимоотношения и расстановку сил владельцев, управляющего аппарата и рабочих внутри капиталистического предприятия, т. е. в конечном счете видоизменяют и производственные отношения.

Из числа мероприятий, вводимых этими реформами, в статье подробно рассматривается лишь одно – участие представителей коллектива работников предприятия в органах его управления. Речь идет в подавляющем числе случаев об участии не в работе дирекции, а в наблюдательном совете акционерного общества, причем не о паритетном участии, а о меньшинстве голосов, предоставляемых представителям персонала. Поэтому даже практика функционирования наиболее развитой системы участия в Западной Европе – практика ФРГ – свидетельствует о том, что никаких радикальных изменений в деятельности капиталистических фирм эта система не породила. Тем не менее, яростное сопротивление предпринимателей распространанию системы участия вполне оправдано, т. к. она нарушает монополию капиталистической собственности на управление предприятием, вносит инородное тело в сплетение производственных отношений современного капитализма, хотя и не затрагивая – по крайней мере, в настоящее время – существующих отношений собственности и господства в целом. Этим же объясняется, почему требование участия в управлении стало в последние десятилетия главным элементом идеологии и политической стратегии социал-демократических партий Западной Европы.

Во второй части статьи рассматриваются фактические результаты и эффекты реформы по распространению индустриальной демократии. Частично эти результаты отвечают ожиданиям инициаторов реформы, т. к. привели к возникновению более-менее успешно действующего механизма по предотвращению или разрешению конфликтов внутри предприятия. Частично же реформы имеют отрицательные эффекты – порождают возможность профессионализации представительства трудящихся, выделения из х среды узкой прослойки, усугубляют, а не смягчают явления отчуждения, бюрократизации управления.

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A. INOTAI

REFLECTIONS ON THE FIFTH ANNIVERSARY OF THE OIL PRICE EXPLOSION

Capitalist countries reacted on the drastic rearrangement of the international oil market in 1973 by intensifying research activities, an increased use of alternative energy resources, economy measures, transformation of the economic structure and a strong orientation toward exports. In five years the prognosticated shortage has been replaced by abundance – transitorily at least – the considerable trade gaps have practically disappeared (except for the USA). A shift in power relations to the benefit of producer and consumer countries outside the OPEC has also begun. Countries poor in capital and raw materials have achieved considerable success within a short time by improving their international competitiveness, fast increasing their exports, and using development resources to serve these aims, instead of trying to achieve self-sufficiency in energy, which is expensive and threatening with an unrecoverable development lag.

The change in oil price of October 1973 and the succeeding rise in prices of raw materials represented an important element in the beginning of a new era of world economy. They influenced and continue to influence the shape and rate of economic growth, economic power relations and the international financial system. Five years ago, the Club of Rome's warning against exhausting raw material resources seemed temporarily believable. It revealed the large extent capitalist countries were dependent on strengthened oil producers, some of whom appeared to be also politically incalculable suppliers. Finally, because of the rise in prices, a considerable debit accumulated in the accounts of oil importers. The first reflex-like answers in that critical situation were formulated as follows: 1. if indeed an absolute lack is threatening, it is justified to develop the country's own production even disregarding aspects of economic efficiency; 2. the fact of a high-degree dependence may demand a high price of security and promotes intensive import substitution; 3. reduction of the deficit requires simultaneously a restrictive import policy and an intensive export development.

Five years later – till the changes in Iran – considerable oil reserves were in store. Therefore, the chief producers: countries offering oil at higher prices were becoming obliged to keep low their production artificially; the negotiating position of the OPEC has weakened, from the middle of 1977 till the end of 1978 the nominal price of oil was frozen while its real price considerably fell, and the dollar could not be replaced by any better value-preserving currency basket. The Iranian events sharpened once again the tensions on the world oil market and led to considerably higher prices, questioning the viability of analyses based on short-term tendencies. As it was wrong five years ago to draw conclusions on long-term energy policy from the then current situation, it would be

inconsiderate to arrive maybe at contrary conclusions, without a thorough analysis, from the phenomena between 1975 and 1978, or attributing unconditionally lasting impacts to the recent Iranian changes. Every long-term economic policy programme – particularly the highly investment intensive energy policy – lays grave responsibility on those elaborating the conception: desirable decisions which are economic also in the long run and provide sufficient security as well must be made today. Such decisions are even more significant in the case of countries possessing a limited amount of capital and standing before a change of phase in their economic development, as is e.g. Hungary.

Shortage or abundance?

The Cassandrian forecasts of absolute shortage now seem to be those of the past. They have been replaced by the conception of relative shortage which recognizes that production can be further increased and stabilized at a high level but, assuming a faster increase in consumption requirements, it prognosticates grave imbalances. This conception lies at the ground of numerous analyses which, if set up in chronological order, will provide a surprising picture: between 1973 and 1978 we could meet conceptions of foretold shortage, repeatedly delayed, and increasingly injected with political motives.

The first investigations concluded that the energy needs of the world would be still satiable in the 1970s owing to the lucky and accidental discovery of oil deposits, but a general oil shortage was foretold already for 1981. [1] The CIA report shifted the time of the "catastrophe" to 1985. Up to that time the OPEC could increase production at the desirable rate, but no producers outside the OPEC would appear, i.e. in the oil imports of capitalist countries the role of the OPEC would grow further. [2] In the spring of 1978 no oil shortage was prognosticated for before the late 1980s and, although such a situation was possible before the end of the century, it was hardly probable. [3] The memorandum submitted to the trilateral committee in June 1978 took a similar position: not only a safe satisfaction of demand was forecast in it for the 1990s but abundance in oil was also prognosticated. [4]*

Each investigation determined supply upon the basis of sure sources exploitable with today's technologies and relied in prognosticating demand upon the consumption standards of the period up to 1973. It can be easily recognized that in 1973 not only oil prices changed, but prospecting activities as well as technologies have been developing since, too, and the transformation of consumption habits has begun. Stock or reserve is a dynamic concept which changes as a function of price development. Prognoses of a static approach perceiving the change only in two elements of the continuously changing world

*Every analysis considered the temporary lack of oil supply due to political problems as possible but not quantifiable. Political changes can severely influence the oil market situation in a given period but without impact on the *amount of supply sources.*

economy (oil supply is diminishing, oil prices are rising) shifted the date of the foretold "oil crisis" by fifteen years – in three years. They have gradually lost their economic arguments and are now trying to support their views by political pressure and blackmail on the part of OPEC oil producers. The Iranian events must be interpreted too, in this light. The shifted "crisis periods" prolonged several times, and the gaining ground of political arguments can be explained by changes in demand and supply of the crude oil market that took place after 1973 and had a long-lasting effect. After the recession of 1974 and 1975 crude oil production grew – under the effect of a favourable tendency of the market and stockpiling efforts – by 8,1 percent in 1976, by 4,2 percent in 1977 and by only 0,2 percent in 1978. The level of production could be raised or maintained without increasing output of the OPEC countries which is debilitating the reasoning that a certain amount of OPEC output reduction cannot be counterbalanced by other crude oil sources. While 80 percent of the nearly 220 million tons of increment in 1976 were supplied by the OPEC countries, in 1977 more than two-thirds of the increment came from non-cartel sources, whereas in 1978 a nearly 100 million tons decrease in OPEC production could completely be compensated by countries outside the OPEC. During the three years between 1976 and 1978 OPEC output fell by 57 million tons, while world crude oil production rose by 130 million tons, that is, non-member countries' output increased by 187 million tons. This confirms the fact that, on the one hand, there is a possibility for a considerable increase of production outside the OPEC and, on the other hand, through the reduced weight of OPEC in world production it devalues the argument of "economic and partly political blackmail". Although between 1975 and 1978 the Saudi Arabian production increment was the most important one, it is remarkable that in three years the United Kingdom increased her production by 51,9 million tons, China by 28,0 million tons, Mexico by 21,6 million tons and Egypt between 1975 and 1976 by 10,3 million tons. With the upswing of Alaskan production, the USA left behind Saudi Arabia in oil production. In the coming years this tendency is expected to continue: Mexican oil production will exceed 100 million tons already by 1980 instead of 1982, Chinese production may grow by a yearly average of 9–13 per cent, achieving 500 million tons by 2000, and British production will reach 120 million tons by the early 1980s. As regards the total picture, the less spectacular production increase of a number of countries is not to be neglected, either. The present upswing of production is the result of prospecting activities started still before the oil crisis.

There is no reason to assume, either from the side of prospecting, or from that of reserves, that the prospecting activities, resumed more intensively after 1973, will not lead to similar or even more important successes.

In 1976 $27 thousand million was spent on oil- and gas-prospecting which is near the double of the $14 thousand million of 1973. With this amount 45 per cent of investments into the oil industry were absorbed by development inputs. [5] In the USA – otherwise considered as fully explored – the number of prospecting drillings rose from 17500 in 1973 to 47000 in 1977 [6], and from Brazil to Indonesia many hundreds of millions of dollars have flowed into prospecting in these years.

Table 1
Crude oil production
(in million tons)

	1975	1976	1977	1978	Change between 1975–78	1976–78
World	2706.9	2925.8	3048.8	3055.7	+348.8	+129.9
OPEC countries	1348.4	1519.3	1558.1	1462.2	+113.8	– 57.1
– Saudi Arabia	352.0	428.8	458.5	410.0	+ 58.0	– 18.8
– Iran	266.7	294.0	282.2	255.0	– 11.7	– 39.0
– Iraq	110.1	112.0	122.1	115.0	+ 4.9	+ 3.0
– Libya	72.4	91.9	99.5	95.0	+ 22.6	+ 3.1
– Nigeria	88.0	102.3	103.3	95.0	+ 7.0	– 7.3
– Venezuela	122.1	118.9	116.6	108.0	– 14.1	– 10.9
– Kuwait	104.8	109.1	99.4	110.0	+ 5.2	+ 0.9
– Indonesia	65.5	74.8	83.8	82.0	+ 16.5	+ 7.2
North America	543.8	525.7	528.4	554.0	+ 10.2	+ 28.3
– United States	466.3	455.0	457.5	485.0	+ 18.7	+ 30.0
Western Europe	24.2	39.1	64.3	83.4	+ 59.2	+ 44.3
– United Kingdom	1.6	12.0	37.9	53.5	+ 51.9	+ 41.5
Latin America*	97.0	98.6	117.0	132.3	+ 35.3	+ 33.7
– Mexico	41.4	44.5	52.8	63.0	+ 21.6	+ 18.5
Far East*	43.5	49.4	52.3	55.4	+ 11.9	+ 6.0
PR of China	77.0	87.0	94.0	105.0	+ 28.0	+ 17.0
European socialist countries	513.9	543.6	573.6	596.5	+ 82.6	+ 52.9
– Soviet Union	490.8	520.0	550.0	572.5	+ 81.3	+ 52.5

*Excluding OPEC-countries of the region.
Source: Petroleum Economist, January 1978 and January 1979.

Prospecting activities have been accelerating partly because mainly Latin-American and South-East Asian countries eased concession terms.

The known reserves of the earth have never been finite values and it is difficult to see, why they should be considered as such exactly today in the period of fast development of new technological procedures. Oil reserves are estimated at about 300 thousand million tons, 40–50 per cent of which can be exploited through further improvements in technology. Sure reserves were estimated at 93 thousand million tons in 1977 which – with an average yearly consumption of 3 thousand million – is sufficient for 31 years. World oil reserves were estimated at 6 thousand million tons in 1920, which is 6,4 per cent of today's sure reserves. [7] Between the rate of exploring reserves and the extent of consumption of known reserves periodically changing proportions – moving into both directions – have developed. In 1939 reserves were estimated to last for less than 15 years with the then current unchanged consumption level, in 1950 this limit was 20 years, and in 1960 it was already 40 years. After that low production costs did not encourage more

intensive prospecting, while they caused a fast rise in consumption. The exhaustion indicator went down to 33 years in 1970, and to 30 years in 1973, but recent explorations in 1977 pushed it upward again. [8] There is every reason to assume that the size of known reserves will be growing considerably in coming years, so that the theoretically determinable exhaustion date will move farther away. This conclusion has been reached by the World Bank, according to which a considerable part of the area of developing countries outside the OPEC has not at all been explored yet. The reserves of Mexico, Brazil, Argentina, Western Africa and South-East Asia may solve the oil problem for at least 100 years. Exploration of these reserves requires 68 thousand million up to 1985 [9], but the present price level and the expectable technological improvements render such enterprising profitable. If we add to all that the expected growth of production of the range of primary energies, we can make the statement that on the supply side there are no such constraints as would support the thesis of energy shortage.

Further refutatory data are provided by the specific features of the development of demand. One of the causes of fall in demand was the capitalist economic recession. Owing to this as well as to the high oil prices, oil consumption of the capitalist world grew by 1 per cent between 1973 and 1977 instead of the yearly average 7 per cent growth rate between 1955 and 1973 and a growth rate higher than 3–3,5 per cent cannot be forecast till 1980, either. [10] Yet the decelerating growth rate of consumption has not been caused exclusively by recession; economizing measures are equally gaining ground. It is due to the latter that France – of a medium position among capitalist countries–achieved a 3 per cent growth of production with a 7 per cent reduction of energy consumption in 1977.

Data of recent years indicate that the energy intensity of capitalist economy is changing fast. It was a generally accepted view until 1973 that economic growth raised a continuously increasing demand on energy and, conversely, the latter was a precondition of a fast expansion of social production. In fact, this correlation was not general in the past, either, but changed as a function of the energy intensity of established economic structures. Also at present 60 per cent of the *total final* energy consumption is divided among four sectors. [11] In the future this correlation will be modified from two aspects. A relatively high rate of economic growth is conceivable even with a diminishing energy need. Merely a moderation of the specific energy intensity of industry allows that the capitalist economy should double the per capita income level with unchanged energy needs, without having to give up the characteristic marks of the established life-style. [12] At the same time, high energy prices do not throw back investments and economic growth with it. On the contrary, they stimulate for even more important and energy-saving investments which also push the growth rate upward. As a result of current structural transformations, in the future 0,8–0,9 units of energy increment – in the USA 0,75 – will be concomitant with the manufacturing of a unit of new product. [13] Computations for West Germany assume a coefficient of 0,79 in the average of 1976–1985 (a yearly average 3,8 per cent growth of production will be concomitant with 3 per cent increase in demand for energy), which will fall to 0,49 in the last 15 years of the

century owing to perfection of structural transformations, and the spreading of better energy utilization and conservation technologies. [14]

Dependence in a new light

In 1973–74 oil-importing capitalist countries considered it to be a vital programme to diminish dependence as fast and as much as possible. Affected by changed power relations, however, they soon gave up their original emergency plans. Where it was the concentration of dependence that gave cause for concern a simple solution could be found. While before 1973 most Western European countries covered the bulk of their demand for oil from one or two oil producer countries, after 1973 they tried to diversify their sources of purchases. FRG "dependence" on Libya changed from the earlier 40 per cent to a dependence between 10 and 20 per cent equally divided among five countries. France switched from Algeria, considered as "uncertain", to Saudi Arabia promising successful exports; Austria, Sweden, and Switzerland also widened the spectrum of sources. It is remarkable in this respect that a relatively more important dependence was accepted where special countervailing forces seemed to guarantee a balance of powers. Austria considered her exporting possibilities in signing an agreement with Iraq, Switzerland chose for partners the Arab Emirates of little influence, considered politically reliable. Holland alone increased the geographical concentration of dependence, which was a direct consequence of the Arab boycott and made the Iranian choice obvious. This spreading over to countries was worth making even if from 1974 on certain differences began to show in the prices of oil offered by OPEC member countries. That is, it was not worth sacrificing security aspects for differences of a few cents. The higher degree of security was worth the slight additional costs.

The situation is by far not so clear as regards the bringing about of an own energy basis with a view to reducing the absolute degree of dependence. Such plans require much larger amounts. Western economies are not willing to pay such prices, or only in a small part and always related to such programmes – sometimes outside the field of energetics – which promise returns in the long perspective. Economic considerations, economizing and structural changes coming into prominence, the downward modifications of expected demand for energy, and the somewhat weakened negotiating position of OPEC countries may account for the fact that no important reduction of the degree of dependence on energy imports is planned today, with the sole exception of the USA. It is believed that dependence may grow further without deteriorating the position of energy- and oil-importing countries. Dependence of the FRG on energy imports rose from 54,8 to 56,7 per cent between 1973 and 1976, that of France from 78,2 to 79,5 per cent, while that of small Western European countries did not change.

Most countries do not think the increase of coal production as a feasible alternative from the aspect of the economy as a whole. Mining costs in Western Europe are well above those of the cheap American or Polish coal, even though they are hard coals of excellent quality and in most cases from fully automated and previously developed mines,

where additional investment requirement is relatively low. Therefore, coal-fuelled power stations are not built either; 95 per cent of power stations envisaged up to 1984 will not be coal-fired. The only exception is the FRG subsidizing the continuation of coal production with generous amounts. Additional costs of this programme amount to DM 1,5–1,6 thousand million yearly, or, to 0,6 per cent of the yearly investments. Thus no investment capital is drawn away from important development programmes, so that these costs can be accounted as a kind of additional security costs.

In a smaller part it was economy measures, restrictions of 1974–75, in a decisive part, however, the deliberately stimulated export orientation that allowed the trade balance of capitalist countries considerably to improve between 1974 and 1977. In 1977 the FRG reached an approximately $ 700 million credit balance and Great Britain – partly freed from oil imports – a $500 million credit balance with the OPEC countries, with which they had had traditionally a debit balance even prior to the price increases. The Swiss, Irish and Danish balances were also good, which means that several countries disposing only of a small home energy basis succeeded in bringing this relation – traditionally entailing a deficit – into equilibrium, in spite of drastic changes in price. The picture is favourable almost without exception, if we examine the role of oil imports played in the trade deficit. The balance of trade of the FRG did not show a deficit in any of the years under examination, that of Japan did for three years, but closed with surplus again in 1976. The balance of trade of Italy showed a deficit in 1973–74 even without oil imports, but from 1975 it has been showing an important surplus with the exception of the oil account. The Spanish and English indicators have been reflecting a deficit even without oil imports, but, as a result of increased export orientation, a constantly growing share of additional imports is that of oil. [15]

In most cases the amount of the deficit was influenced by changes in the rate of exchange of the national currencies to the dollar. This much affected the oil price expressed in national currency, since the price of oil was bound to the dollar. Therefore, economies revaluing their currencies against the dollar got this raw material cheaper than the real price in the past years and economies devaluing their currencies got it more expensively. Thus the more than five-fold rise in oil prices between 1972 and 1978 amounted only to 2.2-fold for Switzerland, 3.2-fold for the FRG, Japan and Austria, and 3.5-fold for Holland and Belgium. That means that at the end of 1978 Switzerland paid in national currency the value of about $5.5 for a barrel of oil costing $12.70, the FRG, Austria and Japan about $8, Belgium $9, and France $11. At the same time, in countries devaluing their currency against the dollar the price per barrel rose considerably; it corresponded in the national currency to $16.4 in England and to $18.4 in Italy. [16] However, it had a favourable effect on every country that the price of oil expressed in dollars rose by 9.7 per cent between 1974 and 1978, while inflation in world trade – assuming 5 per cent for 1978 – amounted to 30.6 per cent, which let considerably fall the real price of oil.

Fast changing circumstances gradually transformed views about the "energy crisis" and pushed new questions into the foreground.

Accelerating rearrangement of power relations

A change in power relations may be observed in the fields of production, consumption and finances. The most important shift in production is the reduced weight of the OPEC which began at the moment when oil prices started to rise. The share of OPEC in world production fell from 53.5 to 49.4 per cent between 1973 and 1975, and it may be attributed solely to the sudden increase of American oil imports that it rose temporarily to 51.5 per cent in 1976, while in 1977 it again fell to 51.1 per cent, and in 1978 to 47.9 per cent. [17] With the expected high growth rate of production in non-OPEC member countries the share of OPEC may diminish by further percentage points by 1982–83, and even more important shifts may be expected beginning with the mid-1980s, when most of the prospecting and exploration activities carried on at present produce their results. Of course, oil exporter countries outside the OPEC may also adjust their price and sales policies to that of the OPEC. It is not impossible, however, that oil exporters outside the organization will exert an influence on the OPEC conception which is to occasionally hold back production in order to achieve better prices and sales conditions. It is doubtful, whether the rising new "oil powers" are prepared to adopt OPEC conceptions, since in the coming years they will be interested in maximum extraction, now from the aspect of supply (e.g. in Great Britain), now from that of foreign exchange earnings (Egypt, Mexico).

Contrasts within the OPEC will culminate in the field of finances at the turn of the decade, but they are based on different production possibilities and conceptions. Between 1973 and 1978 Saudi Arabia became the undisputable leader of the OPEC: the determinant of production and price policies. Close American–Saudi Arabian relations will hardly allow that views of other OPEC member countries should prevail, if they were to hurt real American interests. At the same time, they do not exclude that close relations between North–American oil monopolies and the Saudi Arabian government should exert an unfavourable effect either on the economic policy of the American government, or on the economic situation of the main oil importing countries.

Simultaneously with rising oil prices a transformation of the consumption pattern began, the probable effects of which are not adequately discussed in most production, consumption and price prognosticating studies. The electricity-driven car – promised to come out in the eighties – (60 per cent of oil consumed in the USA is today absorbed by motoring), a more economical use of energy, construction of some of the atomic power stations, a higher efficiency of energy utilization, and a whole range of chemical substitutes introduced into production will exert their effect against a fast rise in demand for oil i.e. in the direction of the development of a lasting excess supply. This would be even today much more perceptible if the oil consumption of the USA and a sudden increase of their share in the oil imports of the world had not occured in the past five years, while the oil consumption and imports of the other advanced capitalist countries were hardly rising or even stagnating. The EEC reduced the volume of oil imports by 20.5 per cent between 1973 and 1977, which can be attributed only in a small part to the start

of British production, since the crude oil imports corresponding to 878 million tons of coal equivalent of 1973 fell to 742 million tons by 1976, and thus went even below the 1970 level (to fall further to 698 million tons by 1977). [18] At the same time, an intensive rise in consumption was observed on the American, Canadian and Japanese markets not fully, or only to a small extent asserting world market prices. As a consequence, dependence of the USA on oil imports grew, and that explains the overcompensated answer of a traditionally closed economy on account of its dimensions and resources to the question of "dependence".

Imports developing in different ways have grave financial consequences, and so have the shifts that took place in the exports of the producer countries. The combined trade gap of $26 thousand million of OECD countries in 1974 turned into a surplus of $3.7 thousand million in 1978, though the balance situation of each country developed differently. The traditional surpluses of the FRG and Japan are well known, but the Italian trade balance also became active in 1977, while the French and British balances showed but a minimum deficit. As a matter of fact, all important OECD countries have absorbed the financial consequences of the rise in prices, except for the USA which accounted in 1974 for one-fifth of the total trade gap of the OECD, for more than half in 1976, and in 1977 showed a deficit surpassing the total deficit by nearly 50 per cent: $31.2 thousand million. [19]

Today even in the USA the opinion is heard with growing frequency that it is exactly the substantial oil purchases of the USA that allowed the OPEC to raise the price of oil at all. Since American home oil prices are subsidized by the government, the additional costs of rising American imports appearing in the 1977 rise in oil price had to be paid by the economizing Western European partners. [20] However, the bill begins to be unbearably high now even for the USA. Therein lies one of the decisive differences between the oil situation of today and that of five years ago. The interests of American multinational firms coincided in 1973 with those of the oil producing countries and their action met also with the efforts of the U.S. government at restoring the American hegemony opposite their partners having grown too much in strength. It was thought that changes in prices would create a difficult situation mainly for Western Europe and Japan poor in raw materials, while the USA would be able to cover most of their material and energy needs from the revalued inner sources. Until 1975 it seemed that this reckoning was realistic, since at that time the American balance of trade showed a surplus. From 1976, however, the deficit has been rising abruptly and, together with the volume of oil imports it has reached such a level that any further rise in the price of oil would bring first of all the USA into a painful situation. Yet it is not sure that the conflicting interests of the American government and the multinational firms would be solved to the former's advantage; this is indicated by the Iranian events. It cannot be excluded at all that U.S. oil companies have been involved in the political changes in Iran in order to create the ground for new oil price rises.

Also the financial situation of producer countries is on the way of transformation. It is true that the OPEC still has huge additional revenues from its annual oil exports, but

the credit balance went down by more than one-third between 1974 and 1978, and the surplus of the current account balance of payments remained below $20 thousand million in 1978. Conflicts of interest among member countries of different potentials are intensifying as a result of different developments in their financial situation. The surpluses of countries with a larger population and more developed infrastructure turned into a deficit exactly in 1978, and the prognosticated deficit of $500 million will be rising in the coming years. [21] The import consequences of the ambitious plans started continue, namely, and are even growing, while the possibilities of boosting exports remain constrained. The real importance of this situation is that the rising expectations of the population, the automatisms of developments started, and the established structure of interests itself allow exactly the most radical oil producer countries less and less to sacrifice their main vitalizing element: part of their foreign exchange returns at the altar of high-sounding political demands.

What oil prices can be expected?

There is general agreement today in that the price explosion in the autumm of 1973 was a non-recurring event that cannot be repeated in the coming longer period of world economic development. Today's high – or relatively high – oil price has influential supporters, at least for the time being. It is first of all in the interest of oil producer countries to attain higher prices than those of today, but they are supported by all those sectors whose competitiveness is guaranteed only with such or an even higher price level. Here belong also enterprises engaged in large-scale research activities, as well as economic and political groups supporting the energy programme of the US government. It is hardly probable, however, that all that would be sufficient for a continuous raising of the real price of oil through a long period.

For the 1980s the majority of forecasts reckon with oil prices similarly high than those of today, but stable. A few institutes render an unchanged real price probable also beyond the 1980s – provided that a corresponding structural adjustment takes place at a fast rate –, others reckon with a yearly 2 per cent rise in prices at the most up to the end of the 1980s. [22, 23]

Although less exaggerating than those of previous years, the prognoses are still not free from certain "beliefs". 1. It is assumed from the outset that the real price of oil cannot fall because exploitation costs of future sources are higher. In reality, there is a wide gap between exploitation costs and today's oil price level, which can narrow also with the downward movement of the latter and not only with the rise in exploitation costs. The most likely thing is that, considering the average, production costs will be also rising, but as supply rises, prices will move a little downward. 2. It is hardly believable that we should now know every source of oil. Since the world is by far not fully mapped from this aspect, it cannot be exluded that oil could be found not only below the present price level, het also below today's highest production cost (an example is presented by

recent Mexican discoveries). Neither can be unequivocally proved that, having learnt from the first experiences and in possession of technological advantages and economies of scale, exploitation off-shore should not be relatively much cheaper than today. 3. There is no proof that exploration should proceed in a strict order from the cheapest sources to increasingly expensive ones. On the contrary: in this century capital resources are becoming relatively cheaper. 4. Development of the substitution technologies pushes the price level of oil and of raw materials in general only transitorily upward, in the period of research and development absorbing huge amounts (these substantial expenses could not be justified in any other way from the economic point of view). But when mass production based on new technology and materials starts, the movement of price changes direction, and even sudden falls in prices are not infrequent.

It follows from the fast adjustment of advanced capitalist countries after 1973, from expected technological development, as well as from shifts in economic structure and in the balance of power that possibilities for raising the real price of oil through a long period are limited in space and in time. The geographical limit is presented by the fact that the elimination of excess supply – that can be rendered probable again in the long run – would necessitate to keep back production to a considerable extent. According to American computations the direct role of OPEC may diminish as a function of excess-supply in oil. In 1978 this excess-supply amounted to 20 per cent of world production (about 11 million barrels daily) and, if it were raised by a further 30–40 per cent, the prices of the cartel could not be maintained. [24] And yet in the coming years a considerable increase of production and a slow increase of consumption is to be expected, in case Iranian oil exports will approach at least the level prior to changes in home politics, and the growth rate of American energy imports slows down considerably. Under such circumstances several OPEC countries would be forced to curtail production with a view to raising their prices, but only a few of them can afford to take such measure, because the financial situation of one group of the producers will demand maximum exports.

The time limit is presented by the successful accomplishment of the prospecting and exploratory activities started after 1973, the building up of substituting energy sources, and the speed of an essential transformation in the consumption pattern. It is presumable that the first results of the above-mentioned activities will show after 1985. Therefore, after 1985 it may well be that not scarce but sufficient, or perhaps even abundant resources will be characteristic of the energy situation of the world. If, therefore, the OPEC and the multinational companies take a stand for raising prices, this aim of theirs will be realizable rather before 1985. Since until 1982 the growth of production of non-OPEC oil may cover the increment of consumption, and from 1985 new resources will be open and the transformation of the pattern of consumption will have greater effect, the action may be timed for the period between 1983 and 1985. Although troubles similar to the earlier ones may still be caused by a lasting drop-out of some important oil exporter (e.g. Iran), they would be only transitory and of lesser effect than those of 1973–74.

Conclusions

The overwhelming majority of capitalist countries did not forget – even under circumstances much less favourable than those of today – that energy policy is always a part of economic policy and cannot be torn out of it, however important a partial field it may be. Criteria of profitability, competition and structural development provided from the outset the umbilical cord through which national economic interests could influence the movement of partial interests of energy policy. The result of this is that none of the countries thought of substituting external sources at any price, let alone the fact that for most of them such possibility was never open, because of their being poor in raw materials. But even where temptation was strong and where efforts at autarky – as a consequence of lagging behind – were just gaining ground for a short time (England), it was observed that the economic advantages to be gained through a forced raising of the degree of self-sufficiency in energy would not increase the security of the economy. It would be the exports of the economy organically fitted into the international division of labour that would suffer losses, because unprofitable production and investments absorbing huge amounts of development funds would deprive the economy of its most dynamic elements.

It is exactly the extremely dynamic growth of the exporting sector that allowed the deficit, seemingly unsurmountable in 1973–74, practically to disappear with the exception of the USA. Therefore, the right answer to a large or even growing dependence was a large or even increasing export-drive. The behaviour of small capitalist countries having scarce home resources is especially remarkable. Most of them did not consider the effect of an oil embargo, conceivable either on political or on economic grounds. They believed that such measure could be successfully applied only against countries representing an important ratio in world oil imports. The volume of crude oil wanted by countries representing a slight fraction of world imports is always available, except the one case if, striving after reduction of the dependence, development funds of vital importance are drawn away from the sectors of economy capable of exporting. Just as energy policy cannot be separated from economic policy, investments into energy cannot be considered as exclusive means for increasing supply on the energy market either. One of the aims of such investments announced about 1975 – if not the primary one – was no longer the raising of the degree of self-sufficiency but the boosting of capitalist world economy inputs. It could have been best seized by the energy sector that had not yet overcome the shock effect and was also politically worked upon. On the other hand, investments into energy were from the beginning closely connected with the accelerated structural transformation of capitalist economy. Also, technological innovations realized or to be realized do not stop at the border of the energy sector, but permeate the whole economy within a short time. Therefore, investments into energy can be – and are to be – measured not solely by the results of the energy sector, but by the accelerated technical progress of the entire economy, strengthening competitiveness and by the consolidation of a more favourable production and export structure. That is, invested capital need not be

refunded exclusively in the energy sector: other industrial branches and economic activities may also come into account.

In research activities requiring large amounts of money only countries disposing of solid capital and research background can participate directly. Other ones – first of all fast industrializing developing countries – strive after increasing the elasticity of their economic structure so as to enable them to adopt technologies developed elsewhere at the fastest possible rate, and to produce the probably no small financial cover of the transfer. Both the increase of elasticity and adaptability, and the accumulation of foreign exchange reserves refuse the version of autarkic energy production and strongly underline the importance of export orientation.

The 1973 rise in oil price brought into a difficult situation mainly the countries poor in raw material and capital, and among them those that had to face exactly at that time the problems – complicated in any case – of transition to the intensive period of growth and of more closely joining the international division of labour. In some of them the autarkic mentality surviving in the medium of pursuing export-oriented economic policy aims tried, among other things with the demand for increasing self-sufficiency in energy, to create a situation in which a large part of development resources would be drawn away by the energy sector further pursuing the way of import substitution. Such great expenses which even countries disposing of solid capital cannot afford, by all means impair export development, since it is the sources of the latter that are diminished. The behaviour of another group of countries after 1973 indicates that problems can be solved by a consistent export orientation and through the concentration of available resources on this objective. In the opposite case a high price must be paid for a few percentage points of reduction of the degree of dependence: marginalization in the transforming world economic power relations, increasing inelasticity of economic structure and a growing one-sided dependence can be foretold.

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К РЕТРОСПЕКТИВНОЙ ОЦЕНКЕ »ВЗРЫВА« ЦЕН НА НЕФТЬ

А. ИНОТАИ

Ответом на резкое изменение цен на международном нефтяном рынке в 1973 году со стороны капиталистических стран было усиление научных исследований, более широкое использование других источников энергии, меры по экономии энергии, преобразование структуры экономики и интенсивная экспортная ориентация. О быстрой перестройке международного нефтяного рынка свидетельствует тот факт, что вместо прогнозировавшегося дефицита в середине 70-х годов наступило изобилие, а новооткрытые месторождения и направленная на экономию энергетическая политика не дают оснований предполагать наступление в будущем перебоев в снабжении, которые вызывались бы экономическими причинами (политические факторы, однако, могут временно играть роль). Оживление поисков нефтяных местопождений уже привело к нахождению новых крупных источников, и нет никаких причин предполагать, что новые источники непременно будут более дорогими, чем самые дорогие из уже разрабатываемых.. Также ошибочно делать из повышения расходов на научные исследования вывод о том, что уровень цен на нефть будет постоянно возрастать, ведь с расширением технических знаний, накоплением опыта и налаживанием массового производства современного нефтебурового и нефтедобывающего оборудования удельные расходы по добыче обычно понижаются, а не повышаются, что давно доказано применением современной техники в других областях.

Изменившееся положение на мировом рынке по-новому поставило проблему »зависимости«. Зависимость западноевропейских капиталистических стран в области энергоресурсов за прошедшие годы продолжала возрастать, однако едва ли можно утверждать, что это неблагоприятно сказалось на их мирохозяйственной позиции. Не снижение »зависимости« любой ценой, а создание эффективной структуры экспорта, обеспечивающей взаимную зависимость, является основной целью экономической (и энергетической) политики Запада.

Все западные страны (за исключением почти не принимавших ограничительных мер и лишь в небольшой степени повысивших внутренние цены США) по существу значительно снизили резко возросший после 1973 г. дефицит платежного баланса, а большинство даже преодолело его. Наряду с успешной экспортной ориентацией, в этом, естественно, сыграло роль и относительное падение цен на нефть, независимо от того, является ли причиной этого инфляция в мировой экономике, обесценивание доллара или повышение курсов валют отдельных стран по отношению к доллару.

Сменившее дефицит изобилие и вместо повышения – относительное понижение цен, очевидно, существенно изменило соотношение сил между странами-производителями и странами-потребителями, а также разделило и страны-производители. Доля стран ОПЕК в мировом производстве в определенной степени уже понизилась, однако при этом ключевые позиции Саудовской Арабии стали еще более сильными. Благодаря возрастающей потребности США в импорте нефти значение связей США и Саудовской Арабии еще более возросло. Вопреки американским планам 1973 г., соотношение сил между развитыми капиталистическими странами изменилось не в ущерб ФРГ и Японии, которые представляют все большую угрозу для американских интересов, а в определенной степени – в форме уже почти непереносимого пассива торгового баланса – стало менее благоприятно именно для выступивших в роли инициатора США.

Резкий скачок цен на нефть 1973 г. мог быть только однократной мерой и ее повторение – по экономическим причинам – вряд ли может произойти. Повышение цен по плитическим мотивам не исключено, однако ввод в действие новых месторождений, использование новых источников энергии, а также быстрое изменение соотношения сил ограничивают вероятность этого. Вопреки общеизвестным прогнозам, возможность эта более вероятна в первой половине 80-х годов, нежели позже, однако это в решающей степени зависит от поведения Саудовской Арабии.

Поэтому в экономической политике бедных сырьевыми и энергетическими ресурсами стран целесообразно пересмотреть ориентацию на повышение энергетического самообеспечения. Имеющийся опыт, а также ожидаемое положение на мировом нефтяном рынке указывают на то, что следует отдать предпочтение сознательной и селективной экспортной ориентации, гибкому включению в процесс международных структурных изменений. Чрезмерный упор на энергетические проблемы может привести к сохранению ориентации на экстенсивный рост, характерной для прошлого, запозданию с разработкой ориентированной на экспорт политики развития, а в более дальней перспективе может вызвать тяжелые экономические неурядицы.

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FACTOR-ANALYTICAL COMPARISON OF ECONOMIC LEVEL AND STRUCTURE

The article investigates the applicability of the method of factor analysis in international comparisons. Primary attention is given to the interpretation of the results to be obtained through factor analysis. The theoretical, methodological exposition is supplemented by a numerical example which applies factor analysis to the economies of seven European socialist countries and uses eight indicators.

In recent years – partly under the influence of some international comparisons published [12], [5], [8] – a few debated problems of international comparisons have been formulated or complemented by new elements.
E.g.:

– international comparison of economic structures is a task equal in rank to the comparisons of economic (or rather: economic and social) levels; what methods are used for the comparison of the economic levels and structures of countries, how are the two tasks related and how can the results obtained be interpreted?

– beside the synthetic value indicators (national income, GDP) various other (mainly physical) indicators obtain a growing role; what viewpoints are observed in the selection of these indicators, to what extent does this depend on the purpose and method of comparison, what combinations of the indicators are suited for solving the various tasks of comparison?

– to what extent might the differing results of different comparisons be traced back exclusively to methodological differences and to what extent are they consequences of differences in the scale of measurement?

In the Central Statistical Office of Hungary investigations and experiments have been going on for some time in several directions, aimed at the development of the methods of international comparison, at exploring new possibilities and at the inclusion of new themes into the comparisons. This study reports on one direction of these investigations, insofar as it approaches the problem of international comparison by means of *factor analysis*. This research project does not aim at providing a complete answer to every question asked, it only investigates to what extent this instrument contributes to clarifying the problems. From among the above three groups of questions the first will be considered as the main purpose of the investigation, but in the course of research some light has been shed also on some aspects of the other two groups.

There are several possibilities in economic analysis for the application of factor analysis.* International comparison is one of such application possibilities.** Highly diversified examples can be found in international literature [1], [4], [20], [21], but somewhat more is still inherent in the method.

I shall not discuss the principles, mathematical background and general methodology of factor analysis as several excellent reviews have been already published and there are also studies which examine the features of Hungarian economic development with the aid of factor analysis [13], [15]. Therefore, I shall dwell on the method of factor analysis only as long as is required for the exposition of my argument.

From the viewpoint of international comparisons the following features of factor analysis have to be stressed:

1. Factor analysis arranges the set of indicators characterizing the economy from various aspects in a manner that from the combinations of the initial indicators new indicators emerge – they are not obtainable by any other method – which may be considered as indicators partly of economic level, partly of structure;

2. It provides a quantitative orientation regarding the degree of comparability between countries;

3. Factor analysis operates with the so-called standardized values of the indicators and also the results are obtained in this form. This means transformations (see formula (1) later) in which the average of every indicator is 0, and its dispersion is 1.*** (Although the handling of these variables causes some problems, it helps in interpreting the results of international comparisons.)

Level and structure in international comparison

In the big and diversified area of international economic investigations some characteristic directions may be distinguished.**** From among these I am going to discuss two, the comparison of economic level and of economic structure, but in particular the relationship between the two. This relationship is highly diversified; its analysis has to answer questions like the following ones: what different structures accompany the economic development level of countries, interpreted in terms of national income – or

*At a seminar organized by the UN Statistical Commission and the Conference of European Statisticians in Washington (March 21–25, 1977) the President of the Hungarian Central Statistical Office, when speaking about the methodological development of Hungarian statistics, mentioned factor analysis among the four instruments whose increased use in statistical practice would be particularly desirable. [3].

**Another possibility is offered by regional investigations within a country, which will not be dealt with here. A remarkable survey of these has been provided by Rudolf *Andorka* [2].

***By average the arithmetic mean and by dispersion the standard deviation are meant.

****For details see [19]

GDP – or in some other sense; to what extent are differences or identities in development level consequences or to what extent are they causes of differences (identities) in structure; how can the different structures of two countries with identical development level or the different levels of two countries with identical structure be interpreted?, etc.

But the problem also has a facet in which economic interpretation becomes closely intertwined with the way in which the methodological question is put: the effect of structural differences on the quality and interpretation of comparisons of level.

As Ferenc *Jánossy* writes: "... comparison and ordering by size remain the more unambiguous with the smaller differences in size, the less essential the qualitative difference between the objects to be compared."([10] p. 29.) Strictly speaking, only the levels of economies with quite identical structures can be unambiguously compared. Of course, such do not exist in practice (if only because of the interrelations – more or less close correlation – between strucutre and level), from which it follows that there exists no completely unambiguous comparison of level, either. The structural constraints of comparability are always present, but in the case of some comparisons they are obvious, while they remain hidden in the case of others. E.g., when comparing value indicators, the deviations between different index formulae (e.g. volume indexes computed at different prices) may be attributed precisely to limits to interpretation and comparability deviring from certain kinds of structural differences.

There are different indicators available for stating the degree of comparability.* I will not dwell on their detailed discussion, since they are today already well known to economists engaged in comparisons. I only mention their common feature: they are not results but rather accompanying informations (and it is fortunate if the users pay attention to them). From this viewpoint factor analysis deserves attention because the comparison of level and structure is organically linked in it.

A summary outline of the method of factor analysis

In the following I am going to sum up those theorems of factor analysis only which will be needed in what follows. The exposition necessarily uses the terms of vector and matrix algebra. For an easier survey Table 1 sums up from among them the symbols to be used here and which henceforth regularly occur in this study.

Let us consider m countries and n indicators, which characterize the economy of the countries from different aspects. Let $[x_{ji}]$ be the size of indicator i in country j. The initial data are thus comprised by a matrix $X = [x_{ji}]$ of the size $(m \times n)$. Factor analysis operates with the standardized values of the variables, whose average is 0 and whose dispersion is 1.

*They are, e.g. discussed in detail in [7] and [18].

Table 1

Meaning of the symbols used in the study

a) Serial number and number

Denomination	Subscript	Number
Indicator	i, q	n
Country	j	m
Factor	k	p

b) Scalars, vector, matrices

Denomination	Scalar	Relation	Number of elements of the vector	Notation	Matrix and its type
Indicators	x_{ji}	indicator i country j	m countries n indicators	$\mathbf{x}_i$ $\mathbf{x}_j$	**X** (m × n)
Standard value	z_{ji}	ind. i country j	m countries n indicators	$\mathbf{z}_i$ $\mathbf{z}_j$	**Z** (m × n)
Factor weight	a_{ki}	ind. i factor k	p factors n indicators	$\mathbf{a}_i$ $\mathbf{a}_k$	**A** (p × n)
Factor value	f_{jk}	country j factor k	p factors m countries	$\mathbf{f}_j$ $\mathbf{f}_k$	**F** (m × p)
Standard value of factors	f'_{jk}	country j factor k	p factors m countries	$\mathbf{f}'_j$ $\mathbf{f}'_k$	**F'** (m × p)
Correlation coefficient	r_{iq}			$\mathbf{r}_i$	**R** (n × n)
Eigenvalue	λ_k			λ	$\langle\lambda\rangle$

The standardized value of the variable x_{ji} is:

$$z_{ji} = \frac{x_{ji} - \bar{x}_i}{S_i} \qquad \begin{matrix}(j = 1, \ldots, m)\\(i = 1, \ldots, n)\end{matrix} \tag{1}$$

where $\bar{x}_i$ is the arithmetic mean of the indicator i,

S_i is the standard deviation of indicator i.

Standardization is here only a technical step following from the course of the procedure. Later, however, as we shall see, it will have a role also in the economic interpretation of the results. The standardized values constitute a $Z = [z_{ji}]$ matrix of the same size ($m \times n$) as the original variables.

As a result of factor analysis we form new indicators, factors from the original variables (that is, from their standardized forms). These factors come about as combinations of the initial indicators. The original variables and the factors are linked by factor weights (or factor loadings)

$$\mathbf{Z} = \mathbf{FA} + \mathbf{U} \tag{2}$$

where

F – is the matrix of factors, of the size ($m \times p$) where p is the number of factors: $p \leqslant n$, but practically $p < n$, because one of the purposes of the computation is precisely to obtain a smaller number of factors than the number of the original indicators; its elements are f_{jk}, the value of factor k relating to country j,

A – is the matrix of factor weights, of the size ($p \times n$); its elements are a_{ki}, the correlation coefficient between factor k and the indicator i,

U – is the matrix of residuals whose elements depend on the extent to which the factors and the factor weights can explain the behaviour of the indicators.

Estimation of the factor weights is made from the correlations matrix (**R**) of the indicators

$$\mathbf{R} = [r_{iq}] = \frac{1}{m}\mathbf{Z}^*\mathbf{Z} \tag{3}$$

where $[r_{iq}]$ is the correlation coefficient between the indicators i and q ($i, q = 1, \ldots, n$).

In the course of the solution important roles are played by the eigenvalues λ and eigenvectors (**b**) of the correlation matrix **R**. According to the algorithm first the greatest eigenvalue has to be produced and then consecutively those having smaller value.

The factor weights are established on the basis of an eigenvalue and the relevant eigenvector. In the case of the factor k:

$$\mathbf{a}_k = \mathbf{b}_k \sqrt{\lambda_k} \tag{4}$$

where

λ_k – is the eigenvalue k of the correlation matrix (**R**),

$\mathbf{a}_k$ – is the row-vector k of the factor weight matrix **A**, that is, the vector of factor weights belonging to factor k,

$\mathbf{b}_k$ – is the eigenvector belonging to eigenvalue k.

In addition the eigenvectors also show to what extent the individual factors describe the behaviour of the indicators. Namely, every eigenvalue may be expressed as the sum of squares of the factor weights belonging to the factor

$$\lambda_k = \sum_{i=1}^{n} a_{ki}^2 \tag{5}$$

Further:

$$\sum_{k=1}^{n} \lambda_k = n \tag{6}$$

that is, the sum of the eigenvalues belonging to every possible factor (equal in number to the number of the initial variables) is equal to the number of the indicators. On this basis

$$\frac{\lambda_k}{\sum_{k=1}^{n} \lambda_k} = \frac{\lambda_k}{n} \tag{7}$$

informs us about the extent to which factor k explains the square of deviations of all indicators.

To every indicator there belongs a so-called communality (denoted by h^2) which is the part of the square of deviations of the given indicator explained jointly by the factors p

$$h_i^2 = \mathbf{a}_i^* \mathbf{a}_i = \sum_{k=1}^{p} a_{ki}^2 \tag{8}$$

where $\mathbf{a}_i$ is the vector of factor weights belonging to indicator i.

The formulae (5), (6), (7) present the extent to which the individual factors are capable of explaining the development of the indicators in a summary way, while formula (8) shows it from the aspect of the individual indicators. If the two directions are combined we get the following:

$$\sum_{i=1}^{n} \sum_{k=1}^{p} a_{ki}^2 = \sum_{k=1}^{p} \lambda_k = \sum_{i=1}^{n} h_i^2 \tag{9}$$

This relationship shows to what extent all factors considered explain the development of all indicators.

If the value of the communality is big (near to unity), the factors can be produced by a linear combination of the standard values of the variables and the corresponding factor weights.*

$$\mathbf{F} = \mathbf{ZA}^* \tag{10}$$

*Exactly formulated, there should be also an error component. Namely, the formula holds strictly only if the number of the factors and indicators is equal. But it also follows from the algorithm that the explanatory power of every new factor is smaller than that of the preceding one. Therefore, here and henceforth it will be assumed that the value of communalities is sufficient, even in the case of a smaller number of factors, to be able to neglect the error component.

The mean of the factors will be zero, their dispersion the respective eigenvalues. Their interpretation being cumbersome one usually reverts to standardized factor values (f')

Thus, the matrix (F') of the standardized factors is:

$$\mathbf{F}' = \mathbf{ZA}^* \langle\lambda\rangle^{-1/2} \tag{11}$$

where $\langle\lambda\rangle$ is the diagonal matrix formed from the eigenvalues. In the following the standard values of the factors will be called for short factor values (or factor scores).

Some theoretical considerations regarding the indicators

Factor analysis is one of the methods which supply new information about the economy and/or society of individual countries by using and combining various indicators. Consequently, the contents, results, interpretation and explanatory power of the comparison depend much on the indicators selected.

Every indicator describes the economy from some aspect – from an essential or less essential aspect – in an elementary, partial or complex manner. The set of the indicators – however big, rich and colorful it may be – provides only mosaic pieces. There are innumerable possibilities for putting together these mosaic pieces into some picture, and the more diversfied these elements are, the more difficult the task. At however detailed a picture we aim, some kind of synthetization is necessary, but in the course of it more or less of the individual features of the individual elements get lost.

Quantitative economic research is incapable of getting rid of the "devil of synthetization". This is an interestingly paradoxical situation, since in recent years the synthetic value indicators have been criticized precisely because they do not characterize the economy or society in a sufficiently detailed manner (national income, GDP). This is why it is raised from most diverse quarters that the picture provided by national income should be complemented; and beside (or instead of) national income the formulation and application of manysided systems of indicators is demanded. When, however, they come actually into use, then every demand reaching beyond simple listing or descriptive analysis leads to some new kind of synthesis. The different methods mean precisely different solutions to this synthesis. Of course, not every procedure leads us back to maximal synthetization concentrated in a single indicator. Factor analysis, though it strongly synthetizes, is precisely one way of preserving manysidedness.

The set of possible and economically meaningful indicators is, as a matter of fact, infinite (if not theoretically, at any rate practically), even if we consider the limits to statistical accessibility.* We may state that not only with reference to the diversification

*These limits are again dependent on the method employed. There are procedures – and such is also factor analysis – where some indicator can be only used if all data are available for every country included in the analysis. Other procedures can "tolerate" the lack of a certain part of the data.

of economy and society, to the detailed division of production and consumption, but also because a great number of variants of the different data is conceivable. We should namely consider that in comparisons we mostly use per unit values and thus some initial data might have many kinds of "basis of projection". E.g. the number of tractors may be related to the population of the country, to the agricultural population, to agricultural employment, to the total or the agricultural area of the country, to the cultivated area, to arable land, etc. (Not to mention various artificial combinations.) But however rich the data basis of a comparison may be, it uses only a fragmentary partial set of this practically infinite set.

There exists a principle, according to which the greater the number of indicators, the better the analysis, or that by simply increasing the number of indicators the quality, exactness or the informative value of the comparison will be, to minor or major extent, at any rate enhanced. This is indeed so in the majority of cases (the danger is at most that the inclusion of a new indicator does not improve the situation, or only to a slight degree relative to the cost and work of data collection). There are, however, also such cases when an increase in the number of indicators without particular considerations will impair the quality of the comparison.

This effect depends partly on whether the composition of the system of indicators in some system influences the results, and partly on the role played by correlation among the indicators. The first problem is encountered in the application of such methods where the indicators have identical weights. This problem had to be faced, among other things, in our research aimed at the international comparison of infrastructure [6]. Increasing the number of indicators of transportation improved the quality of the international comparison of transportation, but – duly or unduly – it increased also the weight of transportation in the complex system of indicators of infrastructure.* The problem of correlation among the indicators is a much more general one. Some methods demand namely – at least theoretically – that the system of indicators should be independent or uncorrelated, they do not tolerate multicollinearity, or only to a certain extent. Such are all comparisons using multivariable regression analysis. Such attempts almost always run against the limits of multicollinearity. The consequence is either that the multi-variable functions are finally restricted to a small number of indicators, or that the multi-variable regression is replaced by a series of single-variable regressions (which does not solve the problem of multicollinearity, it only avoids its explicit emergence). Factor analysis is not affected by multicollinearity. One of its properties is precisely the independence of factors. In the course of the procedure the correlated indicators come into the same factor, and thus the expansion of the system of indicatros by adding some indicator closely related to one or to the majority of the existing indicators at least does not impair the comparison.

Another frequently voiced principle, which can be hardly refuted, is that the indicators should be diversified, they should characterize the phenomenon examined

*This distorting effect may be eliminated or reduced by means of a simple methodological trick (two-stage averaging), but this does not change the general formulation of the problem here discussed.

from the possible greatest number of aspects. E.g. in the comparison of economic level or structure the possible greatest number of sectors and the possible greatest number of elements of living standards and economic development level should be represented by the indicators, etc. The enforcement of this principle has a positive effect on almost every kind of comparison, but particularly on those where the main objective is structural analysis. This widening of the spectrum also reduces the danger of multicollinearity; it is namely probable that e.g. an indicator of transportation is less correlated with an indicator of the health service than, say, two indicators of the health service are with each other.* Effort at diversity causes distortion only if too many peripheral phenomena are included into the analysis with a weight exceeding their real weight (e.g. luxury consumption), but even this becomes dangerous only with such methods which do not themselves select from among the indicators chosen. (This danger is much less significant than the onesidedness of the system of indicators.)

As it could be seen from the foregoing, correlation between the indicators has an outstanding and manysided importance in selection. From the viewpoint of correlation among the indicators the set of indicators comprises the most information in which

1. the correlation among the indicators chosen is the smallest,
2. the correlation of the indicators chosen with those not selected is the greatest.

The first requirement needs no particular explanation. Factor analysis contributes to meeting it insofar as it forms – as we have seen – independent factors (combinations of indicators) on the basis of the indicators selected.

The second requirement comprises two things: on the one hand the manysidedness of the set of indicators already mentioned and on the other hand that the indicator or indicators to be selected from some field should be characteristic of that field. For instance, when one or two indicators of transportation are included into a bigger set of indicators, we make efforts during selection that these should characterize transportation in the best possible manner (from the viewpoint of the given analysis), which is tantamount to saying that they should be in the closest possible relationship with the possible greatest number of indicators of transportation. There exists no automatic system for meeting this requirement, this has to be cared for as if "from without" in the course of selection, because factor analysis – similarly to any other procedure – can select and combine only such indicators which have been included from the outset.

One of the difficulties of selecting the system of indicators is precisely that *a priori* we usually have little information on these relations, we are mostly compelled to make assumptions.

It should be noted that these two requirements are accompanied by a third one in cases when among the indicators there is an outstanding indicator to be explained (e.g. when we wish to compare national income or GNP with the aid of a system of

*It is probable, but not certain. There are many such examples as the loose connection, and in some relations even opposed development, of two such frequently used indicators of the health service as the supply with doctors and the number of hospital beds.

indicators).* This third requirement is more or less in contradiction with the first one, since it is generally difficult to find such indicators in the economy which are not correlated to each other but they are correlated with a third one. But this is not of primary importance for factor analysis.

A numerical example**

The methodological explanations will be complemented by a numerical example. I wish to stress the primary aim of illustration as against the comparative analysis of the countries here included. This is necessary because the example is in itself irregular, first of all because of its size: only 8 indicators are used and even these are applied to only 7 countries. As a matter of fact this size contradicts the rules of factor analysis, which demand in general several variables and more observations (to which now correspond the countries), than the number of variables. But the methodological message and the exposition relating to interpretation are not or hardly influenced by the size of the model. Therefore it seemed permissible to avoid the time-consuming work of collecting more data of significantly more countries. Beside the more comfortable solution, the greater transparance of smaller matrices is also an advantage.

In the example we find the 1973 data of seven European socialist countries (Bulgaria, Hungary, German Democratic Republic, Poland, Romania, Czechoslovakia, Yugoslavia).*** In spite of individual features, the economies of these countries are relatively homogeneous in respect of geographical location, social system and size (with populations between 8.6 and 21 million). Nor is it immaterial that a part of the statistical data could be taken from a common source and that they are harmonized to some extent for coverage and methodology.

Also in the selection of indicators easy access played the main role and less the theoretical considerations expounded above. Nevertheless, efforts were made at selecting such indicators which have general economic or social importance from the viewpoints of either level or structure. It was further desirable that even this small set of indicators should illuminate the economy of the countries from the possible greatest number of aspects. The selected indicators are:

1. *Steel.* Per capita consumption of steel in kilograms. This is an indicator most frequently used in international comparisons, whose close relationship with industrial development level and mechanization is generally recognized.

*See e.g. [10], [11]

**The computations were performed by the Directorate for Computer Technology of the Central Statistical Office, relying on a study by Csaba *Zágon*, entitled: "Application possibilities of factor analysis".

***The tables generally follow the order of the Russian alphabet in listing the countries (except when they also express order by the size of some indicator). In view of the majority of the sources used, this order implied a certain technical facility.

2. *Cement.* Per capita consumption of cement in kilograms. It also frequently occurs in international comparisons as an indicator in which, indirectly, the volume of every kind of construction comes to expression (dwellings, industrial and road constructions, etc.).

3. *Energy.* Per capita consumption of energy in terms of coal equivalent. This is an even more generally used indicator than the preceding two, which has equally great importance in production and consumption.

4. *Lifetime.* Expectable lifetime at birth, in years. According to many experts this is the most comprehensive indicator of the general health situation. As such, it is an important element of the living standards as well.*

5. *Schooling.* Number of teachers per thousand pupils in the primary schools. This indicator is not so frequently met with as the former ones. It is one of the possible indicators of the level of education, which simultaneously has the property that it is not characteristically a quantitative, but a qualitative indicator. Its use is supported by the fact that in the countries examined primary education is almost full-scope in the corresponding age group and thus there is no danger that the children obliged to but not going to school might "improve" the value of the indicator.

6. *Fertilizers.* Fertilizers used per hectare of arable land, in kilograms of effective substance. This indicator, called upon to include agriculture into our data, is also rather of qualitative than of quantitative nature, its different variants can be quite frequently encountered in international comparisons.

7. *Telephone.* Number of telephone sets per hundred of population. It is the most frequently used indicator of communications, which also has a place among the indicators of living standards.

8. *TV.* Number of TV sets per inhabitant. It is closely related to living standards, within it to cultural supply, and also to communications.

The limits and shortcomings of the set of indicators influence, of course, the whole numerical example. Obviously, every result and every statement holds only for this scope of countries and only in the space determined by these indicators. But the methodological message is not restricted by this limitation.

Initial data of the computations

It is worth while to have a look at the so-called standardized values constituting the "raw material" of the factor-analytical computations (formula (1)). The standardization "deprives" the various indicators of their own unit of measurement, but, at the same time, it makes them independent of the effect of factors otherwise influencing the

*From among the eight indicators used this was the only one for which no 1973 data were available at the time of data collection. Therefore data relating to one of the years 1970–1972 or to the average of several years had to be used.

computations, e.g. from the fact whether steel consumption is expressed in kilograms or tons, whether the indicators relate to one, a hundred or a thousand heads of population, etc. The interpretation, particularly the verbal interpretation of the numerical values of these variables, with uniformly zero average and unity dispersion, (among which also negative values are necessarily found) is rather clumsy, yet their application may be useful even outside factor analysis.*

For illustration let us consider the basic data of the "energy" indicator and their standardized forms (according to our notation, the vectors $\mathbf{x}_3$ and $\mathbf{z}_3$)

Table 2

Per capita consumption of energy in 1973

Country	In coal equivalent kgs	Standardized value
Bulgaria	4145	−0.1024
Hungary	3461	−0.5001
GDR	6233	1.1120
Poland	4575	0.1477
Romania	3429	−0.5188
Chechoslovakia	6694	1.3801
Yugoslavia	1709	−1.5190
Arithmetical mean	4321	0
Standard deviation	1720	1

Source: Statistical Yearbook, United Nations, New York, 1974

The complete **Z** matrix of the standardized values of the indicators examined is contained in Table 3 and the matrix of the correlation coefficients between the variables, the correlation matrix **R** is shown in Table 4.

Examination of the first factor: level

The primary results of factor-analytical computations are the factor weights, the factor values and the eigenvalues belonging to the particular factors. The matrix **A** of the factor weights is shown in Table 5. (p. 378)

Let us consider the weights of the first factor, that is, the first column of Table 5. These factor weights have three closely interrelated and hardly separable functions and interpretations:

*The effect of different units of measurement on the results is usually eliminated and the measurement "unified" by using relative values. (E.g. [11]), which, however, makes results dependent on the choice of the base.

Table 3

Standardized values of the variables (Matrix **Z**)

Country	1 Steel	2 Cement	3 Energy	4 Lifetime	5 Schooling	6 Fertilizers	7 Telephones	8 TV
Bulgaria	−0.9330	0.1336	−0.1024	0.9600	−0.5234	−0.3893	−0.3335	−0.3697
Hungary	−0.4661	−0.3339	−0.5001	−0.1054	1.5278	0.1721	0.0929	0.4021
GDR	0.5759	0.6946	1.1120	1.0419	1.1600	1.6723	1.0578	1.6281
Poland	0.4506	0.3933	0.1477	0.3863	−0.8063	0.1006	−0.4905	−0.2184
Romania	−0.0220	−0.9053	−0.5188	−1.0887	−0.1132	−1.1751	−1.0291	−1.2324
Czechoslovakia	1.6634	1.4945	1.3801	0.3863	−0.0707	0.6926	1.6189	0.7507
Yugoslavia	−1.2689	−1.4766	−1.5190	−1.5805	−1.1741	−1.0731	−0.9169	−0.9600

Table 4

The correlation matrix

Variables	2 Cement	3 Energy	4 Lifetime	5 Schools	6 Fertilizers	7 Telephones	8 TV
1. Steel	0.8313	0.8783	0.4333	0.2426	0.6385	0.7558	0.5816
2. Cement		0.9598	0.8226	0.2731	0.7958	0.8619	0.7526
3. Energy			0.7781	0.3675	0.8373	0.8754	0.7913
4. Lifetime				0.3642	0.7721	0.6296	0.7273
5. Schooling					0.6115	0.5029	0.6810
6. Fertilizers						0.8633	0.9853
7. Telephones							0.8922

Table 5

The factor weights
(Matrix A*)

Variable	Factors			
	1	2	3	4
1. Steel	0.7900	−0.4133	−0.4123	−0.1478
2. Cement	0.9302	−0.3231	0.0954	−0.0633
3. Energy	0.9539	−0.2511	−0.0245	−0.0995
4. Lifetime	0.8099	−0.0124	0.5653	−0.1553
5. Schooling	0.5550	0.7602	−0.2073	−0.2611
6. Fertilizers	0.9467	0.1978	0.0620	0.1575
7. Telephones	0.9344	−0.0093	−0.1718	0.2156
8. TV	0.9300	0.2970	0.0186	0.2050

a) the factor weights are correlation coefficients between the eight indicators and the first factor; the first datum of the vector, e.g. $a_{11} = 0.79$, means as correlation coefficient the closeness of correlation between the first factor (a combination of the eight indicators) and steel consumption. (In our example, with the exception of "schooling", every indicator is closely related to the first factor. In the variant of factor analysis we are now discussing, the purpose is indeed that the relation with the first factor should be the closest one.*

b) The second function of the factor weights is that with the aid of their sum of squares (through the eigenvalues according to formula (5) and (7)), the property of the factors to what extent they can explain the combined behaviour of the indicators can be quantified. (In our example this value is 0.7497, thus the first factor unites in itself about 75 per cent of the behaviour of the eight indicators considered; this also means that the structures of the economies of the seven countries characterizable with the eight indicators selected are identical to 75 per cent.);

c) finally, the factor weights are indeed weights for producing the numerical values of the factors (according to the formula (11)).

The 75 per cent indicator mentioned under b) is, however, also a measure of the degree of *comparability,* since it quantifies the structural indentity. If, namely, the first factor is conceived of as a complex indicator of level, (and the system of indicators justifies it, since each of its elements is linked in one way or other to economic development level), the degree of comparability allowed by structural identity is 75 per

*A further possible step in factor analysis is the so-called rotation, whose aim is a certain "distribution" of the variables among factors, thus not maximum concentration in the first factor. This step considerably changes the interpretation of factors. But now we are not discussing this possibility of analysis.

cent. The greater this figure (the nearer it is to unity or 100), the more the first factor can be interpreted as an indicator of development level.*

The 75 per cent obtained in our example indicates a rather great structural similarity of the seven countries. If the set of countries had been chosen in some other manner (e.g. a mixed set of socialist and capitalist countries), we would have obtained a much lower value by all means.

But what is this factor? The values of the first factor (f'_1) are standardized linear combinations of the standard values of the variables (matrix **Z**) and the weights of the first factor:

$$\mathbf{f}'_1 = \frac{1}{\sqrt{\lambda_1}} \mathbf{Z}\mathbf{a}_1 \tag{12}$$

In our example the factor values are the following ones – listing now the countries in the order by size according to these values:

GDR	1.2897
Czechoslovakia	1.1939
Hungary	0.0384
Poland	0.0270
Bulgaria	−0.2080
Romania	−0.9202
Yugoslavia	−1.4209

The first factor is considered – partly because of the nature of the indicators selected, partly because of its great (75 per cent) explanatory power – a complex indicator of economic development level (in the framework of the indicators used). From the factor values the *order* of the countries can be clearly established, but not the proportions among the countries. Only as much can be seen, from the signs, that the level of the first four countries is above the average of the seven countries, while that of the other three below it. Can we do something for a more "workable" interpretation of the results?

Further interpretation of the first factor – the scale

When we are looking for some more usual interpretation of the values of the first factor, we inescapably run into a problem of international comparisons, frequently mentioned and debated in our days, namely, the problem of the so-called scale. When results of different international comparisons were confronted with each other, opinions

*The numerical value is 1 only if the correlation coefficient of every indicator with the first factor is 1. This is true only in the theoretical case if the structure generated by the indicators is uniform in every country, that is, when structural differences do not at all restrict the explanatory power of the comparison of level.

have emerged stating that the different results are attributable partly to the fact that the scale used in the comparisons is different. I will not discuss here the entire complex of the problem*, only its implications affecting also our computations.

At the start of the investigation we have made uniform the different scales of the indicators by means of standardization and, at the same time, we have also made them neutral to some extent. As a result of operations with these standardized indicators, we have obtained the factors similarly in a standardized form. But while the standard values of the initial data can be always re-transformed – if we know the average and the dispersion – into kilograms, units, number of teachers, etc., no such way back exists for the factor values obtained as a result.

Now, if we want to "popularize" in some manner the factor values which are correct in themselves but unusual and therefore difficult to interpret, we have to decide on a step which is either incorrect from a certain point of view, or, at least, misleading: we "borrow" a measure from the scope of the known indicators and try to "read" with its aid from our data. Any of the indicators in the model may be such. In this case the first factor takes the unit of measurement of the indicator in question, together with its average and dispersion. The computation runs:

$$f'^{(i)}_{j1} = f'_{j1} \cdot S_i + \overline{x_i} \tag{13}$$

where

$f^{(i)}_{j1}$ – the value of the first factor relating to country j, expressed in the unit of measurement of indicator i,

$\overline{x}_i$ – the arithmetic mean of indicator i,

S_i – standard deviation of the indicator i.

From among the eight possibilities two will be now examined: the use of the indicators of cement ($f_1^{(2)}$), and of energy ($f_1^{(3)}$). (See Table 6)

By using these measures, the data can be also transformed into the usual index form (columns 4 and 7).

Putting the value of the first factor on two different scales, we naturally get two different series of data. It should be emphasized that in these series of data we do not measure the consumption of cement or energy, but the level according to the first factor, expressed – in lack of a better total – "in cement" or "in energy". As can be seen from formula (13), the ($f^{(i)}_{j1}$) values of the individual countries do not depend on the values of the particular indicators by countries. The *order* of the countries is uniform in the case of every ($f^{(i)}_{j1}$) indicator and agrees with the order according to the first factor. We have not used the individual values of cement, energy etc., only their averages and dispersions. The order does not depend thus on the order of the indicator "borrowed" for the purposes of a scale, but on that of the factor values. (The order in columns 3 and 6 corresponds not to that in columns 2 and 5 but to that in column 1.)

*The problem of the scale of measurement is discussed in detail in a recent article of *Mrs. Csahók* and myself in the Statisztikai Szemle. 1978. No 8–9.

Table 6

Two variants of the first factor

Indicator, country	Standard value of first factor	Cement			Energy (coal equivalent)		
		per capita consumption kgs	Converted to first factor		per capita consumption kgs	Converted to first factor	
			kgs	Hungary = 100		kgs	Hungary = 100
Average	0	475	475		4320	4320	
Dispersion	1	96	96		1720	1720	
Relative dispersion	–	0.20	0.20		0.40	0.40	
Vector	f_1'	x_2	f_1^2		x_3	f_1^3	
GDR	1.2892	542	599	125	6233	6538	149
Czechoslovakia	1.1939	619	590	123	6694	6373	145
Hungary	0.0384	443	479	100	3461	4386	100
Poland	0.0270	513	477	100	4575	4366	99
Bulgaria	−0.2080	488	455	95	4145	3962	90
Romania	−0.9202	388	386	81	3429	2738	62
Yugoslavia	−1.4209	333	338	71	1709	1877	43

The unit of measurement of the expression and the scale are determined, however, by the indicators used. A comparison of columns 3 and 6 and much more of columns 4 and 7 illustrates that, depending on the relative dispersion of the indicator, the scale may produce bigger or smaller differences between the countries. (In this sense it is usual to speak about a relatively extended and a compressed scale.)

But the basis of measurement (the metric) may be also some indicator outside the model. We have to know only the average and the dispersion of the indicator in question (y) in order to assign, similarly to formula (13), a scale to the values of the first factor:

$$f_{ji}^{(y)} = f_{j1}' \cdot S_y + \bar{y} \tag{14}$$

where

$f_{ji}^{(y)}$ – the value of the first factor relating to country j, expressed in the unit of measurement of the indicators in question,

$\bar{y}$ – arithmetic mean of the indicator,

S_y – standard deviation of the indicator.

On the basis of estimations (see (18)), the average and the dispersion of per capita national incomes of the seven countries are available in terms of forints (33 845 and 6960,

Table 7

First factor expressed in the metrics of national income

Country	Forints	Hungary = 100
GDR	42,350	124
Czechoslovakia	41,720	122
Hungary	34,100	100
Poland	34,020	100
Bulgaria	32,470	95
Romania	27,780	81
Yugoslavia	24,470	72

resp.)* With their aid the first factor may be also expressed in the unit of measurement of national income. (See Table 7)

Of course, as the results in Table 6 did not mean that the consumption of cement or energy were compared, these data cannot be considered a comparison of national incomes, either. Only now the unit of measurement of national income was applied to "making readable" an indicator of level which has no scale of its own.**

The second factor – structural deviations

Let us now revert to the statement according to which the structure generated by the eight indicators in our example is common to the seven countries to the extent of 75 per cent. This ratio is sufficiently high for handling the first factor – as has been done in the preceding – as a considerable indicator of level, but the residual, the hitherto unexplained 25 per cent is also remarkably high. If the behaviour of the eight indicators is common in the seven countries to the extent of 75 per cent, this also means that to the extent of 25 per cent it is not common but special, deviating, etc. This particular

*By national income the notion used in the socialist countries, i.e. the net material product is meant, comprising the net value created in the sphere of material production.

**We cannot deduce far-reaching conclusions from the similarity of the indices "measured by" cement and national income; only this much is true that the relative dispersion of the two indicators is almost identical (about 0.2). – I wish to remark that I have performed the entire computation also in a variant where the number of initial indicators was not eight but nine and the ninth was national income. (Such handling of the indicator of national income or of GDP, as "one from among the many" is not foreign to economic investigations operating with many indicators.) The results of computations performed with nine indicators do not essentially differ from those using eight, and thus I do not burden the study with them. But the fact itself may be a contribution to supporting the above considerations.

behaviour (to the extent of 25 per cent), the structural deviation is explained by the other factors.

The weights of the *second factor* are found in the second column of the matrix of factor weights (Table 5). By employing formula (5), the power of this factor in explaining the dispersion is 0.1305, that is, more than half of the 25 per cent in question. The values of the second factor are obtained in a manner analogous to the first one, that is, similarly to formula (12):

$$\mathbf{f}_2' = \frac{1}{\sqrt{\lambda_2}} \mathbf{Z}\,\mathbf{a}_2 \tag{15}$$

The second factor unites in itself a considerable part of the structural deviations among the countries. But for an interpretation of the factor it has to be clarified what should be meant here by structural deviation.

With the aid of the first factor a theoretical or fictitious uniform structure may be developed. In this structure generated by the first factor every indicator behaves in the same manner, it is distributed uniformly among countries, and, in addition, just as the first factor.

Let us now compare this structure to reality, the values of the uniform structure to real values. We, of course, get deviations of different direction and extent, depending on the extent the actual structures of the countries differ from each other. These deviations are collected by the second factor. The elements of the factor may be considered as measures which sum up the extent and direction of structural deviations for a country. The nearer this is to 0, the nearer the structure of the given country to the common part of the structures of the countries, the fewer the structural particularities. The more it differs from 0, the greater and diversified the structural properties of the country.

Direction of the deviation is shown by the sign of the factor value. A plus or a minus sign does not mean in itself an economic judgement, a positive sign does not mean "more" or "better", nor can a negative sign be interpreted as "less" or "worse". Two factor values with different sign only mean that the structures of the two countries deviate from the common structure generated by the first factor in different directions.

The values of the second factor can be thus read in two directions: without sign they indicate the extent of deviation from the common structure, with a sign, the direction of deviation. Below, the values of the second factor are given in both orders, that is, with and without sign:

Order of countries according to the second factor

a) without sign		b) with sign	
Hungary	1.6678	Hungary	1.6678
Czechoslovakia	1.1787	GDR	0.8924
Poland	0.9660	Yugoslavia	0.0203
GDR	0.8924	Bulgaria	−0.2159
Romania	0.2199	Romania	−0.2199
Bulgaria	0.2159	Poland	−0.9660
Yugoslavia	0.0203	Czechoslovakia	−1.1787

According to the first variant Hungary and Czechoslovakia show most of structural similarities. According to the second variant, however, these countries are most different from each other. For illustration, let us consider in what direction the data of the two selected countries differ from the structure generated by the first factor.

Table 8
Direction of deviation of Hungarian and Czechoslovak indicators from the first factor

Country	1st	2nd	3rd	4th	5th	6th	7th	8th
	indicators							
Hungary	−	−	−	−	+	+	+	+
Czechoslovakia	+	+	+	−	−	−	+	−

The direction of deviation is different with six indicators and identical with two. As opposed to that, e.g. as regards Hungary and the GDR the deviation is identical with six indicators and differs with two.

The factor value of Yugoslavia is somewhat surprising, showing the smallest structural deviation among the seven countries. Knowing the particular features of the Yugoslav economy, an opposite tendency might have been expected.* The combined picture given by the two factors may be illustrated in a two-dimensional space. (See Figure 1, p. 385)

Part a) of the figure shows the position of the countries on a one-dimensional axis, on the basis of the first factor as an indicator of level. The second factor is included in part b) of the figure: here the points of the countries keep their distance on the vertical axis, but scatter horizontally, depending on the extent to which they differ from each other. The distance from the horizontal axis indicates level, that from the vertical one the extent of deviation from the theoretical structure.

Analysis of further factors – the number of factors

The first two factors explain together 88 per cent of the standard deviation of the indicators (formula (7)). From the remaining 12 per cent 7 per cent (0.0720) fall to the third factor. Also the third factor comprises structural properties, but only such as were not expressed by the second factor.

On the basis of the first factor a uniform theoretical structure has been established. Having now the second factor, this may be modified somewhat. In this similarly

*It is conceivable that these characteristics will be expressed by other indices not figuring in the example.

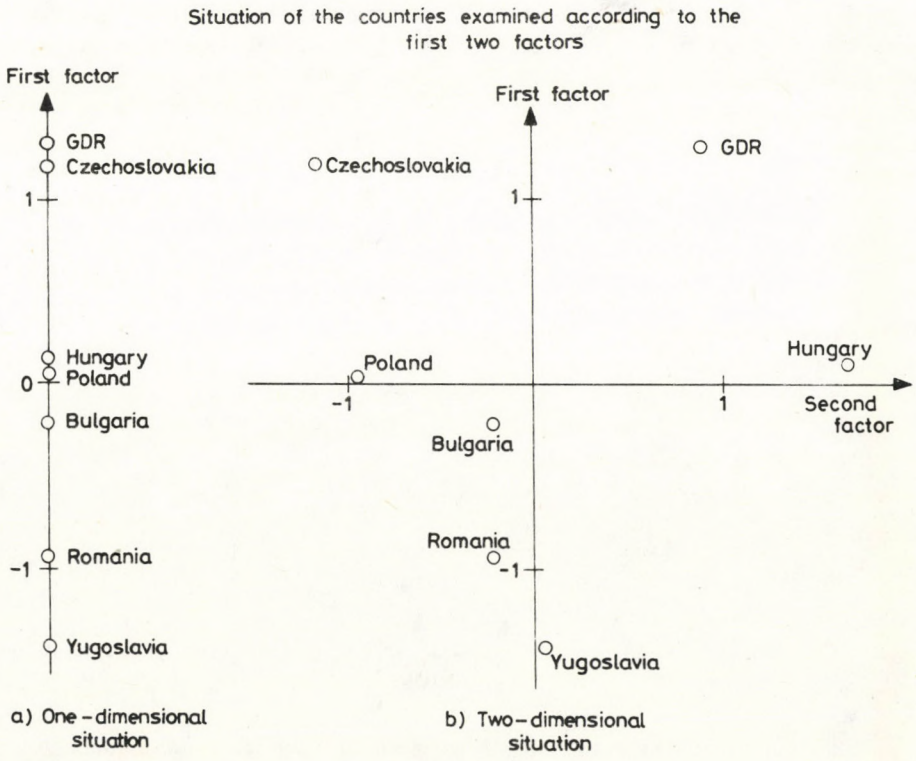

Fig. 1

theoretical structure, but one differentiated relative to the first one, we assume that the indicators deviate from the values according to the first factor, but the size and direction of the deviation corresponds in the case of every indicator uniformly to the second factor value of the given country.

This differentiated theoretical structure approximates reality better than the undifferentiated one, but of course it does not agree with it. If we compare it with the actual values we again get deviations of different direction and extent. The third factor is the common measure of these deviations.

The values of the third vector ($\mathbf{f}_3'$) are as follows, in the order of the countries according to this factor:

Bulgaria	1.8778
Poland	0.5585
GDR	0.1831
Yugoslavia	−0.2801
Hungary	−0.3531
Czechoslovakia	−0.9800
Romania	−1.0055

At the two extreme points of the order we find Bulgaria and Romania, two countries whose second factor value is almost identical. This means that the structural deviations between the two countries do not fit into that common part of the structural properties which are comprised by the second factor. Such properties are the higher steel consumption of Romania and its more favourable supply with teachers, and the extremely high value of the average lifetime in Bulgaria.

The first three factors determine together 95 per cent of the standard deviation of the indicators. Of course, further factors also may be computed,* but their role is negligible in the investigation. We close our computation with four factors, but already the fourth one may be considered residual with its 4 per cent value, and not as a subject for separate analysis.

Table 9
Role of factors in the combined dispersion of the indicators

Serial number of factor	Explanatory power of dispersion	
	by factors	cumulated
1	0.7497	0.7497
2	0.1305	0.8802
3	0.0720	0.9522
4	0.0301	0.9823

The factor values by countries belonging to the four factors are summed up in the following table:

Table 10
The factor values (Matrix **F'**)

Country	1st	2nd	3rd	4th
	factor			
Bulgaria	−0.2080	−0.2159	1.8775	−0.3392
Hungary	0.0384	1.6678	−0.3531	−0.4692
GDR	1.2892	0.8924	0.1831	0.5009
Poland	0.0270	−0.9660	0.5585	−0.3745
Romania	−0.9202	−0.2199	−1.0055	−1.4460
Czechoslovakia	1.1939	−1.1787	−0.9800	0.3843
Yugoslavia	−1.4209	0.0203	−0.2801	1.7438

*The possible maximum of factors is identical with the number of the indicators. In our example the number of observations (countries) is smaller than that of the indicators, therefore, the possible number of factors is identical with the number of countries (7).

The satisfactory nature of the four-factor investigation is indicated not only by the fact that the combined explanatory power of the four factors is more than 98 per cent, thus the role of the factors not taken into account is negligible, but also by the similarly high communality of the eight indicators taken separately (formula (8)): the four factors explain the standard deviation of the individual indicators to 95–99 per cent.

I do not consider either the methodological exposition or those illustrated with the numerical example as exclusive possibilities for the application of factor analysis in international comparisons. In fact, also some further variants of the methods discussed are conceivable. I mention only one of them: the correlation matrix constituting a point of departure for the whole computation assumes *linear* relationships among the indicators. It is not certain, however, that other kinds of relationships are not more characteristic. As a matter of fact, the analysis should include the factor analysis of the various (first of all logarithmic) transformations of the variables. Such a step – beyond augmenting the whole work of computations – is not usual in the practice of factor analysis. In the numerical example it is mainly the generally rather high values of the correlation coefficients which make the assumption of linear relationship acceptable. But this does not exclude further development in this direction, just as many other ways are conceivable for the utilization of factor analysis in the sphere of international comparisons.

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СРАВНЕНИЕ УРОВНЕЙ ЭКОНОМИЧЕСКОГО РАЗВИТИЯ И ЭКОНОМИЧЕСКИХ СТРУКТУР С ПОМОЩЬЮ ФАКТОРНОГО АНАЛИЗА

Д. СИЛАДИ

Автор исследует применимость методов факторного анализа в области международных сравнений. Свое внимание он сосредотачивает на интерпретации результатов, получаемых с помощью факторного анализа.

Теоретико-методологическое рассуждение дополняется числовым примером, который конкретизирует сказанное в отношении экономики семи европейских социалистических стран и, соответственно, восьми показателей.

Первый фактор автор трактует как комплексный измеритель уровня экономического развития. На основании весов факторов можно дать количественное выражение структурной тождественности стран, и через это также и степени сопоставимости.

Техника факторного анализа предусматривает исчисление стандартизованных величин из первоначальных величин показателей, так что и результаты, т. е. величины факторов фигурируют в этой форме. Поскольку использование данных такого характера является непривычным в экономической практике, в статье подробно рассматривается также вопрос диапазона международных сравнений и, соответственно, перевода стандартизованных величин в различные диапазоны и их интерпретации.

Второй фактор обобщает структурные отклонения. С помощью первого фактора можно образовать теоретическую, фиктивную структуру, от которой в большей или меньшей мере отклоняются фактические структуры. Величины второго фактора показывают направление и размер этих отклонений. Если корректировать теоретическую структуру отклонениями согласно второму фактору, то получается модифицированная теоретическая структура. Отклонение фактических структур от последней выражается в третьем и дальнейших факторах.

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REVIEWS

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HUNGARIAN FOREIGN TRADE PRICES IN THE 1970s

The price explosion of 1973–1974 as well as the "oil crisis" following the Middle-East war have led to a considerable and rapid regrouping of world economy. Relative prices of primary energy, raw materials and finished products, and simultaneously also the terms of trade between developing and developed countries have changed. The situation of countries rich in oil and other raw materials as well as foodstuffs considerably improved, while that of those not disposing of such goods further deteriorated. The most serious economic crisis of the postwar period developed in the advanced capitalist countries.

The price explosion started with the rise in the 3–4 dollar price of crude oil per barrel of 1973 to more than 11 dollars. After that a spectacular and rapid rise began also in the prices of other basic raw materials. The direct reasons were, however, not uniform. The rise in the price of crude oil affected the price level of all materials based on oil (fertilizers, synthetic basic materials), of other sources of energy (coal, gas, fuel oil, etc.) and of produced energy (e.g. electric energy). At the same time the prices of several important products of agricultural origin increased in 1973 and 1974 as a consequence of unfavourable production circumstances. Thus, the price of fishmeal increased because of the halt of Peruvian fishing bringing about an increased demand for other protein fodders and a considerable rise in the price of the latter, too. Cocoa and wheat prices increased because demand exceeded supply. The price of sugar reached a record level because of poor harvest.

Price movements mainly of shorter cycle were largely influenced beside essential and permanent economic relationships (scarce sources, lasting increase of demand, technological and economic limits to substitution, etc.) also by speculative activities on international scale (e.g. in the case of certain non-ferrous metals, sugar or coffee). These speculations were promoted, beside the fact that profits are more easily attainable with considerable price movements, also by the insettled state of the international monetary sphere and the permanent danger of devaluations stimulating for investment into storeable goods.

Fast price increases since 1972 can be divided into three short phases. From the middle of 1972 to October, 1973 the rise in the price of raw materials considerably exceeded the average, resulting mainly from the disequilibrium between demand and supply. From October, 1973 to the middle of 1974, when a peak was reached, prices increased unambiguously as a result of the Middle-East war and the oil crisis which

considerably raised also the prices of several other raw materials and chemicals beside crude oil. Afterwards, the economic situation was characterized by recession and a slight decrease in prices.

During the last three years price movements have mostly calmed down and the "new" relative prices which will characterize the world trade of the next years (decades?) are beginning to develop. In the future short-term price fluctuations exceeding those of the 1960s will have to be reckoned with. This is related to the already mentioned uncertainty of the world monetary system and to the unequal economic development of capitalist countries. The real price of oil has decreased to some extent, but not considerably, and even now price increases should be reckoned with in the near future. Prices of other raw materials (e.g. chemicals) decreased following the price explosion of 1973–1974, but in view of the world economic inflation they became settled at a much higher level than previously, in some cases with a continuing rising trend. Prices of industrial finished products also considerably increased. As we shall see it, judgements concerning the magnitude of relative changes in proportions between the prices of raw materials and finished products, made in the initial period following the price explosion, already need some correction at present.*

A new and presumably only temporary phenomenon, nevertheless lasting for several years, is the extraordinarily high price of certain agricultural products (cocoa, coffee, fodder from vegetal oil products, etc.) developed on the world market in 1975 and 1976 because of unfavourable weather and production circumstances. It should be mentioned as well that prices of some articles (sugar, wheat) have fallen considerably as compared to the record level some years ago, which is a source of several difficulties for the economic situation of producing countries.

To sum up, we may state that the overwhelming part of world market prices have become relatively stabilized at a higher level than in the early 1970s and with modified relative prices. But, because of the uncertain economic and monetary situation of capitalist countries, in the present world economic situation greater price fluctuations than those in the 1960s have to be reckoned with in the future. Relative stability can, therefore, be interpreted only in a certain "zone" and in such a way that with the major part of products no major price movements, similar to those in 1973–1974, may be expected in the nearest future.

Changes in the terms of trade during the last two decades are indicated by the data of Table 1 based on the UN Monthly Bulletin of Statistics.

The sudden and considerable deterioration in the terms of trade brought about a slowdown of economic growth, an increase in unemployment and considerable dis-

*According to UN data (Monthly Bulletin of Statistics) the average export price indices of industrial products of developed industrialized countries (computed in US dollars) showed exactly a 100 per cent increase in the middle of 1977 over 1970, while those of basic materials increased by 135 per cent. At the same time, the price index of the basic material exports of developing countries was 455 per cent. If fuel and coffee are left out of consideration, the difference between the price indices of basic materials and finished products will considerably diminish.

Table 1
World trade prices
(percentages)

Denomination	Yearly average change				1976	1977*
	1956–1960	1961–1965	1966–70	71–75	yearly change	
	Import price indices					
Developed capitalist countries	–0.6	0.4	1.7	16.4	0.9	7
Developing countries	–0.4	0.7	1.3	17.4	0.9	11
	Export price indices					
Developed capitalist countries	0.4	0.9	2.1	13.9	0.0	7
Developing countries	–1.5	–0.2	1.5	25.5	6.1	16
	Terms of trade					
Developed capitalist countries	1.3	0.4	0.4	–2.1	–1.1	0
Developing countries	–1.1	–0.8	0.2	6.8	4.3	3

*Date of the first half.

equilibria in the balances of trade in many countries. Competition for export markets became sharper and in many cases limitations on imports were introduced. At the same time, a rather fast transformation of the inner economic structure of countries began in the interest of relatively reducing the import of products that had become extraordinarily expensive and of increasing the production and exports of more competitive products. Though the solution to the problems is still very far, some countries (eg. the Federal Republic of Germany, Switzerland, Japan) could achieve remarkable results. In the majority of smaller countries, among them also in Hungary, this situation has led to an extraordinary sharpening of competition and decreasing sales possibilities, which, together with the deteriorating terms of trade, further aggravated the problem of the balance of foreign trade.

*

In the 1960s, Hungary's economy developed somewhat faster than that of capitalist countries. The yearly average growth of GDP amounted to 5.3 per cent. In the first half of the 1970s the rate of economic growth accelerated. Between 1970 and 1975 it

amounted to 6.3 per cent on annual average. In 1976–1977 growth was about 11 per cent, in harmony with the time-proportionate part of the Five-Year Plan.

Hungary's international economic relations have expanded much faster during the last years than the growth of GDP. The growth rate of foreign trade considerably exceeded that of Western countries both in the 1960s and in 1970–1976, but in recent years a slowing down could be observed. In the 1960s the volume indices indicated in Hungary a 10.2 per cent, in Western countries 8.2 per cent, while between 1970 and 1976 8.2 and 6.3 per cent growth, respectively.

Difficulties appeared in the 1970s first of all in the trade settled in convertible currency. Deterioration in the terms of trade affected, similarly to other countries, also the trade balance of Hungary unfavourably, and in the interest of compensating it the boosting of exports would have been needed. However, because of a permanent sharpening of competition on capitalist markets, spreading discriminative measures aimed at restricting imports, etc. the growth rate of exports has lagged behind that of imports in recent years. In the unsatisfactory growth of turnover the slowness of structural transformation and the inadequate competitiveness of certain Hungarian products had an important part.

Exports (to both the dollar and the rouble area) increased more rapidly than imports compared to 1970, but related to 1973, i.e. in the years following the price explosion, the growth rate of exports (34 per cent) was smaller than that of imports (42 per cent). Since the trade settled in roubles was more balanced even originally and a deterioration in the terms of this trade occurred only with a delay and to a smaller extent, the worsening of the trade balance has not yet caused any special trouble up to now. However, the deterioration in the terms of trade settled in dollars was much more significant in its total effect and caused a considerable deficit in the balance of trade (amounting since 1974 to 400–600 million dollars yearly).

With the changes in the world economy during the 1970s and the given economic and foreign trade structure of Hungary, the deterioration in terms of trade was unavoidable. Its measure as well as the development of exports and imports, and the balance of trade are functions of several factors and can be influenced to some extent. Among the determinant factors the following should be taken into consideration:

– a considerable part of the energy and raw material needs of the country are covered from abroad;

– the prices of goods imported increased much faster than of those exported – as a consequence of differing product patterns; and in the development of the prices of export products problems of quality, technology, servicing and market policy have a part, too;

– domestic consumption and the product pattern have not considerably changed during the few years passed, thus the import material intensity of the growth of national income is still very high;* the growth of the volume of imports shows a definite

*In the 1960s a 1 per cent increase of the volume of national income was accompanied by an about 2 per cent increase in the volume of imports. In the first half of the 1970s – because of a

cyclicality, and the rise in prices coincides in many cases with an increase in the volume of imports (e.g. in 1974 the volume of products imported against hard currencies increased by 18 per cent with a 40 per cent rise in prices).

Table 2
Volume of Hungarian foreign trade turnover
(Index: 1970 = 100)

Year	Imports settled in		Total	Exports settled in		Total
	Rouble	Dollar		Rouble	Dollar	
1971	118	116	117	113	99	108
1972	113	109	111	139	112	128
1973	116	112	114	152	132	144
1974	135	131	134	157	136	150
1975	158	124	142	167	140	157
1976	152	139	148	174	158	170
1977	162	153	160	199	175	191

The import of products important for the supply of the population was ensured by the state even with the highest prices, thus domestic consumers felt no shortage in them – at least not in the most critical periods (e.g. sugar in 1975, coffee in 1976 and 1977). The connection between world market price increases and changes in domestic prices is rather loose, indirect and delayed, also in the field of productive consumption.

Major characteristics of changes in foreign trade prices

With the relatively stable world market prices between 1955 and 1970 Hungarian foreign trade prices changed only to a small extent as regards their basic trend. Import prices decreased altogether by 7 per cent during 15 years, while export prices by 6 per cent. In the development of prices a definite periodicity could be observed. In the second half of the 1950s the decrease of export prices exceeding that of import prices resulted in a deterioration in the terms of trade. This was followed by an unambiguous improvement in the terms of trade, as a consequence of rising export prices in the first half of the 1960s, which continued in the second half of the decade, but to a much lesser extent. In 1970 the terms of trade were by 7 per cent more favourable than in 1960 but this improvement was only 1 per cent if compared to 1955. The first half of the 1970s was characterized by extraordinary price increases and deterioration in the terms of trade. In

decrease of imports in some years – the yearly 6.2 per cent growth of the national income was accompanied by a yearly 7.3 per cent increase in the volume of imports; in 1976–1977 the respective changes were 5.5 and nearly 7 per cent.

1976 import prices decreased to a greater extent than export prices, taking also changes in rates of exchange into consideration, and the terms of trade improved by 2 per cent. But in 1977 import prices again increased faster than export prices which resulted in an about 3 per cent further deterioration in the terms of trade.

Table 3
Yearly changes of price indices in Hungarian foreign trade
(percentage)

	Years					
	1956–1960	1961–1965	1966–1970	1971–1975	1976	1977
			On annual average			
Imports	–0.4	–0.4	–0.6	8.1	–6.7	7.0
Exports	–1.5	0.4	0.1	4.1	–4.6	3.4
Terms of trade	–1.1	0.8	0.5	–3.7	2.2	–3.4
			In the five-year period			
Imports	–2.0	–2.2	–2.9	47.2		
Exports	–7.4	1.9	–0.4	22.3		
Terms of trade	–5.6	4.1	2.6	–16.9		

Note: Foreign trade turnover was accounted in Hungary in "foreign exchange forints" until the end of 1975, thus the price indices indicate changes in prices measured in these terms. Considering the fact that the rate of exchange of the foreign exchange forint related to Western currencies and thus also to the US dollar was changed several times in the course of the 1970s, the average measure of price increases would be by about 38 per cent higher if it were computed at nominal dollar prices. At the beginning of 1974 1 dollar was equal to 11.74 foreign exchange forints, while on December 31st, 1975 to only 8.51. The rate of exchange of the rouble did not change until the end of 1975. Since January 1st, 1976 the statistical accounting of foreign trade turnover has been made in forints converted at the commercial rate of exchange. Parallel with the introduction of the new system of valuation, the forint was revalued by 12.5 per cent against the transferable rouble and by 8 per cent on average against Western currencies. Therefore, the price indices of 1976 indicate by so much greater price decrease, respectively. At the medium commercial rate of exchange 1 rouble was equal to 35.– and 1 dollar to 41.30 forints on January 1st, 1976. The turnover of 1975 was recalculated on the basis of the then valid rates of exchange for the purpose of price index computation. If we wish to determine the changes in prices at nominal dollar or rouble prices, the price indices have to be multiplied by the ratio of changes in rates of exchange as compared to the base year.

In the first half of the 1970s changes in import and export prices were characterized by extreme fluctuations. In the first two years prices increased only to a small extent, but from 1973 on the rate of price increases accelerated. Price indices of 1973–1974 were determined by the very fast rise in prices in the trade settled in convertible currencies, while those of 1975 by the increase of contractual rouble prices. From 1976 on the indices of changes have not indicated great deviations, in either area, but the reasons for this – as we shall see – were different.

Rouble prices increased only to a small extent in 1971–1972, but the rise in import prices perceptibly exceeded that in export prices. In the framework of price adjustments distributed over two years the terms of trade deteriorated by 4 per cent altogether. With the price adjustments of 1975–1977 following the price increases on the world market, import prices were raised to a considerably greater extent than those of exports, which resulted in a considerable deterioration in the terms of trade.

During the first two years of the decade the prices in foreign trade settled in currencies of non-socialist countries increased only to a small extent, in 1973 the rise in prices accelerated and hit a new high in 1974 mainly in imports. In 1975 and 1976 stagnation and a moderate decrease, could be observed in prices. The terms of trade considerably deteriorated between 1973 and 1976, improving by more than 6 per cent in 1976, but the improvement did not continue in 1977.

Consistent enforcement of the price principle applied in the trade among socialist countries can be clearly seen even from this brief survey: changes in rouble prices followed the world market trends with a lag and without fluctuations, and amounted only to about half of the price increases in the trade settled in convertible currencies. However, deterioration in the terms of trade approaches that of the trade settled in Western currencies. In the coming one or two years some further deterioration in the terms of trade settled in roubles has to be reckoned with in consequence of the application of moving prices.

Table 4

Indices of Hungarian foreign trade prices and terms of trade

(percentages)

Settled in	Yearly change in							Change between 1970 and 1977
	1971	1972	1973	1974	1975	1976	1977	
	Imports							
Roubles	1.8	2.2	0.2	0.9	25.7	−1.8	6.4	38.1
Convertible currencies	2.2	2.2	16.5	39.5	0.4	−11.3	7.7	62.5
	Exports							
Roubles	−0.4	0.6	0.5	1.3	14.7	−3.9	3.2	16.0
Convertible currencies	1.4	3.6	13.6	18.9	−6.6	−5.5	3.6	29.8
	Terms of trade							
Roubles	−2.2	−1.6	0.3	0.4	−8.8	−2.1	−3.0	−16.0
Convertible currencies	−0.8	1.4	−2.5	−14.8	−7.0	6.5	−3.8	−20.1

Development of foreign trade prices in the trade settled in roubles

In the years 1973–1974 rouble prices were practically unchanged, some smaller changes in price indices were caused only by shifts in proportions among countries with different price level and some individual price corrections, whose balance was not unfavourable for Hungary. Effects of changes in world market prices in 1973 and 1974 could not be felt in the rouble turnover as long as until 1975.

The next adjustment of rouble prices was scheduled for 1976, but in 1975 rouble prices in the trade of CMEA-countries among each other were modified out of turn because of considerable changes in prices which could be regarded as lasting in view of the average world market prices of the preceding three years. As a result, prices of primary energy, raw materials and foodstuffs were considerably raised in 1975. The increase in the prices of finished products and even some materials making up the major of Hungarian exports considerably lagged behind that in import prices.

As a consequence of the world market situation CMEA-countries modified the practice of price fixing every five years. From 1976 on the contractual rouble prices of socialist countries charged to each other have been revised yearly on the basis of average world (main) market prices of the preceding five years. With this, changes in relative prices and a rise in the average price level began also with regard to the trade settled in transferable roubles, bringing about a gradual deterioration in the terms of trade of Hungary with the given product pattern of trade.

Development of the prices of certain major groups of products and important goods, within the nearly 40 per cent increase of the average price level between 1970 and 1977 of imports settled in roubles is shown by Table 5.

The prices of primary energy (coal, briquette, oil) and electric energy were by more than 120 per cent higher in 1977 than in 1970. The trend of price development corresponds to trends on the world market, but because of the time lag the extent of price increase is considerably smaller than the more than three-fold one experienced in dollar prices. (See Table 8.)

From among materials purchased for roubles, significant price increases could be observed during the last seven years with wood and paper products, basic materials of metallurgy, nonferrous metals, steel-plates and bars, basic materials of the chemical industry, cement, etc. Prices of materials of vegetal origin, basic materials of the chemical industry as well as of semi-finished products of the ferrous metallurgy increased more than the average, to 155, 159 and 154 per cent, respectively. The increase in rouble prices was smooth in the period examined, in harmony with the pricing principle already mentioned.

As regards machines and industrial consumer goods, their prices increased, on the one hand, to a lesser extent than those of materials (not to speak about primary energy), and on the other hand, even this process began only one year later. However, in 1976 the price increase of finished products was already much more considerable than that of materials. (Prices of the latter showed even some decrease on the basis of forint prices.)

Table 5
Development of prices of Hungarian imports settled in roubles
(percentage)

Main commodity group	Yearly change in							Change between 1970 and 1977	Share in the 1976 turnover
	1971	1972	1973	1974	1975	1976	1977		
Primary energy, electric energy	2.0	2.5	−0.9	−0.2	94.7	−5.2	18.2	125.2	15
Materials, semi-finished products, component parts	2.2	4.1	−0.2	1.0	32.5	−4.8	4.8	41.8	42
Machines, vehicles, other investment goods	1.3	0.2	1.0	1.0	5.9	4.0	4.6	19.2	29
Industrial consumer goods	1.0	0.4	1.0	1.5	5.5	1.1	2.2	13.3	11
Materials for the food industry, livestock, foodstuffs	2.4	2.3	−0.1	2.0	19.2	−7.5	0.9	18.7	3
Total imports	1.8	2.2	0.2	0.9	25.7	−1.8	6.4	38.1	100

Foodstuffs prices increased only to a lesser extent, similar to the average of industrial finished products, but in view of the almost insignificant volume of turnover, this does not influence the overall picture.

The price level of Hungarian products exported for roubles was by 16 per cent higher in 1977 than in 1970. In the case of primary energy and machines prices developed more or less similarly to import prices. With other groups they differed.

The price level of materials, amounting to one fifth of the total exports for roubles increased to a lesser extent than import prices during the 7 years, by only 16 per cent. Prices of some sub-groups – e.g. mining products, basic materials of the chemical industry – increased to a great extent, similarly to imports. The prices of semi-finished products and metal (ironmongery) ware increased by 28–37 per cent. In other commodity groups prices could be raised – on the comparative basis of world market price calculations – only to a lesser extent because of the deviation in the composition of turnover; what is more, in certain cases even some decrease could be observed. Thus, for example, the prices of basic materials of metallurgy decreased by 15 per cent and those of semi-finished products of the chemical industry by 10 per cent.

The price trend of machine exports was similar to that of imports. With industrial consumer goods it also contributed to the deterioration in the "terms of trade" that in 1971–1972 prices decreased by more than 5 per cent, and ever since then the increase of prices has been much under the average every year. For example, consumer goods turned

out by the engineering industry and packed pharmaceuticals became considerably cheaper.

The product pattern of foodstuffs representing a considerable volume in exports allowed a significant raising of prices and thus some moderation of the negative effect of the deterioration in the terms of trade. (The average price level of exported foodstuffs developed similarly to that of imported materials. But the share of the latter in the total turnover is considerably larger.) Prices of products of the milling, baking and pastry industry, of cereals, fruit and vegetables as well as of canned fruit and vegetables, of products of the vegetal oil industry, of livestock and animal products, as well as of sugar and confectionery increased considerably, to 184, 148, 154, 179, 152, 141 and 137 per cent, respectively. The prices of meat, pultry and dairy products increased by 17 per cent during seven years.

Table 6
Development of prices of Hungarian exports to the rouble area
(percentage)

Main commodity group	Yearly change in							Change between 1970 and 1977	Share in the 1976 turnover
	1971	1972	1973	1974	1975	1976	1977		
Primary energy, electric energy	−1.2	−0.8	0.3	−0.3	109.7	−6.7	22.3	134.7	0
Materials, semi-finished products, component parts	1.1	−0.1	0.3	1.3	17.3	−6.1	4.5	17.8	22
Machines, vehicles other instrument goods	−0.5	1.8	0.7	0.6	10.9	−0.3	2.8	16.6	43
Industrial consumer goods	−3.0	−2.4	0.2	2.2	13.4	−12.4	1.6	−2.3	19
Materials of the food industry, livestock, foodstuffs	2.1	3.1	0.7	1.8	23.4	1.6	4.3	41.1	16
Total export	−0.4	0.6	0.5	1.3	14.7	−3.9	3.2	16.0	100

From the development of the rouble prices of Hungarian foreign trade turnover it can be clearly seen that the deterioration in the terms of trade cannot be simplified to changes in the relative prices of raw materials and finished products. The situation is much more complicated, since a highly varying picture emerges from examining the details of price development. As we shall see this statement holds even more for dollar prices. Perhaps, it would be more correct to speak about a relative price increase of certain materials beside the considerable rise in the prices of primary energy.

Primary energy has a definite role in the deterioration of the terms of trade – despite the fact that their prices increased to the same extent both in imports and exports – since their share in imports amounts to about 15 per cent, while in exports to less than 1 per cent. There is a considerable, nearly 20 per cent deterioration with terms of trade in the case of materials, which are, as a matter of fact, concentrated on some subgroups and deviations in turnover proportions are determinant. From among industrial products, the terms of trade of consumer goods deteriorated nearly to the same extent as those of materials, because of infavourable changes in export prices.

Finally, in the main group of foodstuffs there is a definite price increase and an improvement in the terms of trade as compared with the import prices (19 per cent) because of the favourable product pattern of exports. It can be seen also from the development of the dollar prices of foodstuffs how decisive is the structure (and favourable or unfavourable changes therein) for price development as a whole. With this main group, the terms of trade have developed very unfavourably for Hungary in the period examined.

Price trends in Hungarian foreign trade settled in currencies other than the rouble

The price trends of Hungarian trade settled in dollars and other convertible currencies has been unambiguously determined by changes in world market prices. However, when comparing Hungarian foreign trade price indices with those on the world market, it should be taken into consideration that the former cover a wide range of products and are connected with effective deliveries of goods, and they thus follow the price indices of the world market corresponding to daily transactions only with a delay of a few months. Finally, it should be referred to that the foreign trade turnover is made up of transactions under different conditions with several countries, thus the development of prices is largely influenced by particularities of countries and kinds of currency, terms of delivery and payment, marketing activity of the foreign trade enterprises and the timing of transactions, too.

Price increases on the world market are immediately enforced in the prices of Hungarian foreign trade settled in convertible currencies. In 1973 and 1974 the price level increased by 15–40 per cent. This trend stopped in 1975, what is more, even a slight reduction in prices could be observed and it continued in 1976. In 1977 another rise was experienced, caused first of all by the rising prices of some imported agricultural products and foodstuffs.

The improvement in the terms of trade ever since 1960 continued until 1972. In 1972 the terms of trade were by 0.5 per cent better than in 1970 and by 17 per cent more favourable than in 1960. But in 1973 a deterioration started and amounted to 23 per cent in three years, touching the bottom of the 1970s (up to now) in 1975.

Improvement in 1976 was followed by a deterioration of a slightly lesser extent in 1977.* (The 1977 index of the terms of trade was 93 per cent of that of 1960.)

60–70 per cent of Hungarian trade settled in convertible currencies are transacted with developed capitalist countries. Here import prices increased to a definitely lesser,

Table 7
Prices in Hungarian trade with developed capitalist and developing countries
(Index: 1970 = 100)

Main commodity group	Import in				Share in the 1976 turnover	Export in				Share in the 1976 turnover
	1974	1975	1976	1977		1974	1975	1976	1977	
	Developed capitalist countries									
Primary energy, electric energy	293	318	291	294	0	335	320	307	332	7
Materials, semi-finished products, component parts	162	165	142	145	67	148	131	124	126	42
Machines, vehicles, other investment goods	131	139	133	140	19	112	118	115	123	4
Industrial consumer goods	130	140	132	134	5	130	130	126	135	19
Materials of food industry, livestock, foodstuffs	181	160	139	158	9	144	137	133	142	28
Total	159	160	141	146	100	145	137	132	138	100
	Developing countries									
Primary energy, electric energy	488	446	464	–	18	–	–	–	–	0
Materials, semifinished products, component parts	218	211	228	252	33	138	122	114	108	26
Machines, vehicles, other investment goods	–	–	–	–	0	109	109	112	115	40
Materials of food industry, livestock, foodstuffs	157	144	160	223	44	150	140	139	150	15
Total	196	187	204	266	100	125	119	117	120	100

*Deterioration in the terms of trade was determined in 1977 by considerable increases in the prices of cocoa, coffee, fodder from the vegetal oil industry and fish-meal, as well as by the decreasing price of wheat on the export side. Without them the terms of trade would not have changed practically. This deterioration in the terms of trade should thus be attributed to special circumstances in 1977 which cannot be regarded as direct consequences or processes resulting from the price explosion, though the world economic uncertainty obviously had a part in the extent of price increase.

while export prices to a somewhat greater extent than in the total turnover settled in convertible currencies between 1970 and 1976. There was an opposite situation in the case of developing countries which have a nearly 20 per cent share in the turnover. (See Table 7).

We import many kinds of products, materials and finished products from developed capitalist countries and their quality and modernity corresponds to the technological level of those countries. This refers also to materials. In the course of the price explosion it was the prices of certain raw materials that increased first of all. Rise in the prices of products at various stages of processing was already of a relatively lesser extent.

From developing countries Hungary imports several kinds of raw materials in great volume whose price considerably increased. Such are, for example, crude phosphate, cotton, cocoa, coffee, fish-meal. The price of cruide oil increased also to a greater extent than that of oil products. Thus, the price level of imports from developing countries doubled in six years, while in the case of developed countries only a price increase of about 40 per cent occurred.

As regards exports, an opposite situation can be observed. The average price level of Hungarian products exported to developed countries could be raised more than of those exported to developing countries. This can be explained partly by the fact that in the first case oil products whose price level rose threefold amount to about 7 per cent of the turnover. The rise in the prices of machines was small in both relations. Since their share in exports to developing countries is tenfold as much as in those to developed countries, also this item contributed to the low level of the average price index of Hungarian exports to developing countries. Prices of materials, semi-finished products and industrial consumer goods shipped to developed countries could be better raised. An explanation may be that in these countries only up-to-date products of outstanding quality can be sold whose prices show a definite increase. The product pattern of exports to developing countries includes in this group of products (of no significant volume in itself), – probably corresponding to specific requirements – in many cases presumably such products which cannot be exported to developed countries. Price competition and the fight for obtaining markets moderated the rise in prices of these articles.*

Resulting from the foregoing the 17 per cent deterioration in the terms of trade settled in convertible currencies between 1970 and 1976 is the average of an about 7 per cent one as regards developed capitalist countries and an about 40 per cent one in the case of developing countries. In 1977 the terms of trade deteriorated again because of the rise in prices of some products imported from developing countries. (In the trade with developed capitalist countries the terms of trade of 1977 were 94 per cent of those of 1970, while in the case of developing countries about 45 per cent.)

*From a methodological viewpoint it has to be noted that the representation of price index computations of foreign trade with developing countries, being of relatively small volume and rather heterogeneous, allows the determination of the average extent of changes in prices only within somewhat wider limits of error than in respect of countries with much larger turnover.

In the following a survey is presented of certain details of price trends by commodity groups of the Hungarian foreign trade settled in convertible currencies. (Data by main commodity groups are summarized in Table 7.)

a) *Changes in import prices*

In the imports settled in Western currencies prices of primary energy rose to the greatest extent, but their weight is not considerable. The rise in the prices of foodstuffs, representing a weight of nearly 20 per cent, exceeded 100 per cent even with price movements in 1977 taken into consideration. Material prices (more than half of the total turnover) and those of machines (14 per cent) increased by about 50 per cent, those of industrial consumer goods by 25 per cent, less than the average.

As to the price movements of the individual years (see Table 8) two remarkable phenomena have to be referred to: the rise in material prices was the highest practically in 1974 followed by a decrease in the next two years. The price increase of 1977 was slight. Prices of finished products show a rising trend, though to a much smaller extent, but with lasting character. Therefore, a certain levelling trend of relative prices – mainly as regards machines – some decrease in the measure of changes in relative prices developed as a result of the price explosion can be observed. In the development of the high price level of foodstuffs in 1973 and 1977 also the uncertain world market situation resulting from the price explosion had a part beside unfavourable weather conditions.

From among material prices those of materials of vegetal and animal origin, mining products and basic materials of chemical industry increased faster than the average (to 169 and 163, 297 and 172 per cent, respectively). Prices of basic materials of metallurgy as well as of the iron and metal semi-finished products increased only to a lesser extent (to 119 and 111 per cent, respectively).

Price movements following the price explosion, and often speculative, were characterized by the following as regards materials. The price level of materials of vegetal origin was the highest in 1974, but after a temporary decrease it began to rise again in 1977. Prices of materials of animal origin reached the highest level already in 1973, then they decreased and are still lower than in 1973 even with the price increase of 1977. Prices of mining products increased almost threefold during the period examined. The prices of non-ferrous metals developed relatively favourably during the entire period, their overwhelming part became more expensive only to a lesser extent than the average. Only Zinc was an exception, whose price was very high in 1974 for speculative reasons, but has considerably decreased since then. The rise in the price of oil necessarily brought about an increase in the prices of chemical products, too, but – just as in other commodity groups – other factors had contributed to this as well. In 1974 the price of almost each product was more than double of that in 1970. The price of caustic soda was extraordinarily high, reaching the top in 1975 (447 per cent). The average price level of semi-finished products of the chemical industry was the highest in 1975 when it reached more than double of that in 1970, but the price indices of ammonia soda and phosphoric

fertilizer amounted to 407 and 335 per cent, respectively. Prices of the iron and metal semi-finished products as well as of metal ware increased the least, but this can be mainly explained by price reduction at the beginning of the decade. Namely, from 1972 on also the price level of these has begun to rise similarly to the average.

Table 8
Prices of Hungarian imports settled in convertible currencies
(percentage)

Main commodity group	Yearly change in							Change between 1970 and 1977	Share in the 1976 turnover
	1971	1972	1973	1974	1975	1976*	1977		
Primary energy, electric energy	20.8	−2.2	41.3	105.5	−6.5	−3.7	7.0	230.0	7
Materials, semi-finished products, component parts	−1.3	2.8	11.0	51.2	−1.6	−13.5	3.6	50.2	57
Machines, vehicles, other investment goods	5.4	4.9	6.6	12.1	6.0	−0.2	4.9	46.7	14
Industrial consumer goods	0.7	3.8	5.7	15.9	5.5	−9.6	2.2	24.8	5
Materials of food industry, livestock, foodstuffs	9.0	−2.6	42.3	21.9	4.3	−15.0	27.2	207.5	17
Total	2.2	2.2	16.5	39.5	0.4	−11.3	7.7	62.5	100.0

*In 1976 – as it has already been mentioned – the commercial rate of exchange of the forint to dollar was revalued by 6 per cent on the average. Therefore, in this year price indices computed in forints indicate smaller changes than the price increases computed in nominal dollars.

Price indices of machines (amounting to more than 10 per cent of imports settled in convertible currencies) and of industrial consumer goods (5 per cent) can be computed only by relying on very low representation because of the limited number of comparable products. Making use of information available from other sources, too, prices increased during the 7 years by nearly 50 and 30 per cent, according to our estimations.

Prices of foodstuffs imported to Hungary rose to a greater extent than those of materials. During the seven years passed, considerable price movements – in some cases of opposite direction – could be observed.

In 1971 the 9 per cent increase of average prices was brought about mainly by the rise in the prices of butter and milk powder for fodder, respectively. Concerning 1972 the decreasing prices of coffee, butter, grain fodder and fish-meal are worth mentioning. On the other hand, prices of hulled rice and lemon increased. The large-scale rise in price level in 1973–1974 was brought about by the growing prices of fish-meal, fodder from the

vegetal oil industry, hulled rice, milk powder for fodder, grain fodder, sugar, cocoa and coffee. In 1975 prices of several goods imported in large volume (fodder from the vegetal oil industry, fish-meal, coffee, milk powder for fodder) decreased. But because of further rising sugar prices the price level of the main commodity group increased by 4 per cent. In 1976 prices showed some decreases of varying extent, only the price of coffee increased. The high price indices of 1977 were determined by the extraordinarily rising prices of coffee, cocoa, fodder from the vegetal oil industry and fish-meal.

Therefore, as regards imports, considerable changes in relative prices took place between primary energy and foodstuffs, on the one hand, and between materials and industrial products, on the other.

In case of primary energy, we face a shift in relative prices, a decrease of present prices cannot be reckoned with in the medium run, what is more, rather some further slow increase of prices is to be expected. However, the price level of foodstuffs and materials of the food industry cannot be regarded as settled and steadily high in this sense. For example, in the case of sugar, wheat, live-stock and meat considerable price fluctuations could be observed.

Even with products very expensive at present a fall of prices can be reckoned within a relatively short time, because, on the one hand, e.g. the consumption of coffee is considerably decreasing all over the world with such high prices, and on the other hand, production possibilities can be expanded. Besides, unfavourable weather conditions of some years are usually followed by good ones.

The import prices of materials, semi-finished products and machines increased practically to the same extent, while those of industrial consumer goods to a somewhat lesser extent. Demand for up-to-date, highly productive machines of good quality is rather great, partly because of the investment activity of developing countries rich in oil and partly because of increasing competitiveness, thus also prices are increasing. These prices are likely to be rather steady in the future.

b) *Changes in export prices*

The rise in the prices of Hungarian products exported against convertible currencies (see Table 9) was much lower than in imports, except for primary energy and industrial consumer goods, in the other three commodity groups and thus also on the average. Changes in the terms of trade are, therefore, resulting not mainly from the difference in turnover proportions, but from the deterioration in the terms of trade in the commodity groups mentioned.

The rise in the average price level of materials is determined by the given product pattern, which differs from that of imports. In Hungarian exports those products have relatively greater weight whose prices decreased until 1972 (basic materials of metallurgy, mining products, semi-finished products of the iron- and metal industry). However, in the period examined, the character of price movements was identical with that in imports, prices were on the highest level in 1974–1975. Prices of basic materials and semi-finished

Table 9
Prices of Hungarian export against convertible currencies

Main commodity group	Yearly change in							Change between 1970 and 1977	Share in the 1976 turnover
	1971	1972	1973	1974	1975	1976	1977		
Primary energy, electric energy	21.7	–11.4	42.5	110.1	1.0	–4.9	7.4	232.6	5
Materials, semi-finished products, component parts	–4.1	–6.0	12.6	42.4	–12.2	–7.1	1.8	19.8	37
Machines, vehicles, other investment goods	1.4	1.5	0.9	5.2	3.2	–1.5	4.6	16.1	12
Industrial consumer goods	3.8	2.6	5.8	15.6	–1.1	–5.5	7.6	31.2	16
Materials of food industry, livestock, foodstuffs	5.1	14.8	20.6	4.1	–7.2	–5.3	2.8	37.0	30
Total	1.4	3.6	13.6	18.9	–6.6	–5.5	3.6	29.8	100

products of the chemical industry increased to a much lesser extent than the average, since the world market prices of our export products (PVC-powder, pharmaceutical basic materials) are much more unfavourable than of those we import.

The price increase of exported foodstuffs exceeding the average, but much smaller than that of imports is also determined by the given export structure. Prices of vegetables and fruit considerably increased just as those of products of the vegetal oil industry. However, meat, poultry and dairy product prices increased to a much lesser extent – in harmony with world market price trends – by hardly 40 per cent. Prices of cereals and products made therefrom are also very low. In the period examined prices showed a considerable fluctuation also in this group, a 50–100 per cent increase of prices could be experienced with several products in 1974–1975. Even the highest prices of these articles were usually lower than of those included in Hungarian imports.

When comparing export price indices by main commodity groups (Table 9) with those of imports (Table 8) a similar picture can be found from a certain viewpoint. Material and machine prices increased more or less to the same extent, and less than the average in both imports and exports. Apart from primary energy, the price indices of foodstuffs were the highest in both. Export prices of industrial consumer goods increased to a greater extent than those of materials and machines. The terms of trade by main commodity groups were about 100 with primary energy and industrial consumer goods, while with materials and machines they deteriorated by 20 per cent and with foodstuffs by nearly 40 per cent.

To sum up, we may state that in Hungarian foreign trade settled in convertible currencies the about 20 per cent deterioration in the terms of trade of 1977 as compared

with those of 1970 was determined first of all not by the considerably higher prices of primary energy and not even by changes in relative prices between materials and finished products (since their price indices developed very similarly both in imports and in exports), but by the fact that we could much less raise the prices of exported materials, semi-finished products, machines and foodstuffs than the prices of imported products increased.

As regards the export price indices of materials and machines it should be noted as well that sharpening competition on the world market and certain economic policy measures aimed at restricting imports made the market situation of Hungarian finished products more difficult, thus prices could be raised only to a lesser extent than those of industrial finished products turned out by developed countries. True, in many cases quality, the terms of delivery of Hungarian goods and deficiencies in the service network also impede the raising of prices. With industrial consumer goods these problems appear perhaps only to a lesser extent and this might be an explanation for the relatively greater increase in export prices, similar to that in import prices. It also results from the above that the relative decrease in material prices (determined by rolled goods) and in those of machines brought about by sharpening competition was only indirectly influenced by the price explosion on the world market. Thus, in view of the price trends of trade settled in convertible currencies it may be stated, that beside primary energy only some materials and agricultural products became more expensive, but sharpening competition has led to price differentiation also in the sphere of industrial products. For Hungary both factors have impaired the terms of trade.

From the aspect of the equilibrium of the country the price changes of recent years have been considerable and their effects will be felt over a relatively longer period. Namely, it cannot be expected that the terms of trade characteristic of the 1960s will be re-established. In other words, this means for Hungary that in the coming years for one unit of imports 15–20 per cent more has to be exported than previously. However, improvement of quality and competitiveness, modernization of the product pattern provide various possibilities in a wide range of products. Improving efficiency and structural transformation based on it are the only means to re-establish our foreign economic equilibrium. This is indicated also by the results of other countries.

Changes in Hungary's terms of trade by international comparison

Hungary's terms of trade belong to the most unfavourable ones even by international comparison.* In 1974 when import prices considerably increased, the terms of trade of the United Kingdom, Japan, Italy, Spain and the United States were worse than

*In this comparison the development of Hungary's foreign trade prices paid in convertible currencies is examined, since changes in the terms of trade settled in roubles follow the price movements on the world market only with some years' delay, and this would disturb the comparison with capitalist countries.

Table 10
Terms of trade of some countries in 1974–1976

Country	1974	1975	1976
	in percentage of 1970		
Improving trend:			
Austria	94	98	95
Cyprus	82	88	92
Denmark	90	93	94
United Kingdom	77	84	83
Finland	99	106	101
France	89	96	95
Yugoslavia	91	94	93
Malta	81	80	82
Federal Republic of Germany*	95	102	101
Italy	72	80	77
Switzerland	96	103	108
Sweden	93	102	102
Israel	84	85	89
United States	80	82	82
Deteriorating trend:			
Belgium	95	95	93
Greece	91	84	83
Spain	80	74	68
Turkey	87	78	86
South-Africa	99	93	88
Japan	79	72	71
Hungary	84	78	85

*Computed on the basis of so-called unit value indices. Besides, also price indices based on market quotations were published, on whose basis the terms of trade deteriorated by a few per cent.

those of Hungary. In other countries the deterioration in the terms of trade did not exceed 10 per cent. There were even countries whose terms of trade were more favourable in 1974 than in 1970 (Ireland 102, Iceland 120, Norway 103 per cent).

In the years 1975–1976 the terms of trade of most countries considerably improved as a consequence of a faster rise in export prices than in import ones. Two factors are likely to have had a part in that. On the one hand, fast accommodation to changed world market conditions and austerity measures decreased the import of primary energy, materials and agricultural products having become very expensive or at least slowed down the rate of growth, and on the other hand, export prices could be raised

through increasing the export of competitive products. Export price indices of each of the examined countries – computed in national currency, thus taking eventual revaluations also into consideration – were considerably higher in 1976 than two years earlier.

It is remarkable that a part of developed countries in need of considerable energy, raw material and foodstuff imports largely reduced the extent of deterioration in the terms of trade, what is more, the terms of trade of the Federal Republic of Germany, Switzerland, Sweden and Finland were even more favourable in 1976 than before the price explosion. (In the two latter countries also the increase of export prices of some raw materials and agricultural products contributed to this.)

As against this, Hungary's export prices decreased both in 1975 and 1976. Temporary improvement in 1976 was the consequence of a favourable development in import prices. In 1976* Italy, Japan, Spain and Greece were in a more unfavourable position than Hungary. (From among developing countries larger deterioration of terms of trade than in Hungary could be observed e.g. in India, South-Korea, Malawi, Sri-Lanka, Uganda and Zambia.)

The two leading countries of the capitalist world, the United States and Japan have to reckon with a considerable deterioration in their terms of trade, first of all because of oil imports of large volume. This caused very serious deficit in the balance of trade of the United States, leading to the weakening of the dollar in 1977. However, Japan's balance of trade remained favourable, the yen became stronger, since exports could be increased to such an extent that they could compensate for the effect of terms of trade losses. (According to data of the middle of 1977, the terms of trade of the United States deteriorated to 78 per cent, while that of Japan improved to 75 per cent.)

I. DOBOZI

THE FOURTH CONFERENCE OF ECONOMISTS OF HUNGARY AND THE UNITED STATES

The fourth Hungarian–US conference of economists was organized in Budapest between 14–16th November 1978 by reason of the agreement signed between the Hungarian Institute for Cultural Relations and the US International Research and Exchange Board (IREX).**

*In 1977 Hungary's situation deteriorated also by international comparison since, according to information available to date, it is likely that the terms of trade of industrial countries did not decrease in most cases or only to a minimum extent.

**Members of the Hungarian delegation: József *Bognár* academician, Director of the Research Institute for World Economy of the Hungarian Academy of Sciences; Mihály *Simai*, academician, Deputy Director of the Research Institute for World Economy of the Hungarian Academy of Sciences (head of the delegation); György *Becsky*, senior member of the Economic Information Unit of the Hungarian Academy of Sciences; András *Blahó*, assistant lecturer at Karl Marx University of Economics; István *Dobozi*, research worker of the Research Institute for World Economy of the Hungarian Academy of Sciences; Ottó *Gadó*, ministerial adviser, Ministry of Finances; András *Inotai*,

Four main subjects were discussed at the meeting: 1. problems of East–West economic relations – and within them of Hungarian–American ones; 2. American views on Hungarian economy, Hungarian views on American economy; 3. methodological questions of economic research; 4. economists' role in influencing economic policy.

Paul *Marer's* lecture under the title "US–Hungarian economic relations: import protectionism in the US and the expansion of Hungary's manufactured exports" was held on the subject of East–West and within them Hungarian–American economic relations. According to the lecturer, the debt of Eastern-European countries reached such a level by the late 1970s that neither these countries themselves nor Western creditors wish to raise it much further. As a consequence, in the 1980s, the import capacity of Eastern-European countries in relation to advanced capitalist countries will be closely dependent upon their export capacity. Most of the export increment of socialist countries must consist of finished goods of high quality and technical standards. On the other side, East–West trade will depend also on the future demand for the export products of socialist countries. This is determined first of all by two factors: on the one side, by the income elasticity of demand, on the other side, by the effect of discriminatory and import-restrictive measures.

The lecturer warned that the strengthening protectionism on the part of the European Economic Community against exports of Eastern-European countries necessitated an increased diversification of exports to the West, and to the advantage of North American markets. In the case of Hungary such a strategy may be encouraged by the granting of the "most favoured nation" clause by the USA which eliminated a considerable economic and psychological obstacle to Hungarian exporters. Marer, however, considered it extremely important that Hungarian firms – when considering their possibilities of entering the market and increasing their share on it – should be fully aware of the American import-restrictive measures and procedures that may hit particularly hard the exporters of socialist countries. Two of these prove to be especially important for Hungarian suppliers: anti-dumping measures and those concerned with the so-called market disruption.

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senior member of the Research Institute for World Economy of the Hungarian Academy of Sciences, Ferenc *Molnár,* senior member of the Institute of Economics of the Hungarian Academy of Sciences; József *Molnár,* General Manager of Tannimpex Foreign Trade Co., President of the Hungarian–American Economic Council; Miklós *Németh,* Deputy Head of Section of the Institute of Planning; Tibor *Palánkai* associate professor, deputy-rector of Karl Marx University of Economics, Márton *Tardos,* Head of Department of the Market Research Institute; Ernő *Zalai,* associate professor of Karl Marx University of Economics.

Members of the United States delegation: Josef G. *Brada,* Professor of Arizona State University; Edward *Hewett,* Professor of the University of Texas (Head of the Delegation); Franklin *Holzman,* Professor of Tufts University; Paul *Marer,* Professor of Indiana University; Michael *Marrese,* Professor of Northwestern University; Thomas *Wolf,* Professor of Ohio State University; Richard *Portes,* Professor of the University of London; Tibor *Scitovsky,* Professor of the London School of Economics.

Under the Trade Law of 1974 the procedure concerned with market disruption is applicable exclusively to socialist countries. The International Trade Commission of the USA has so far admitted the market disruption charges raised by American firms only once. The number of procedures concerned with dumping charges is much higher than that. Since 1960 five out of sixteen dumping charges brought against socialist countries were accepted by American authorities, and the rest (the latest one has been the charge of the Westinghouse Company against Tungsram Incandescent Lamp Works) were refused. In the course of the dumping proceedings American authorities do not accept home price and production cost calculations of socialist countries as bases for fixing the fair price. According to amendments valid since 1978 – in case the local controlling activity of American customs authorities is allowed – in the course of dumping proceedings the real production factor inputs (material, energy, working hours, etc) of the firm in question are applicable in fixing the fair price of the product of the socialist exporter (its level will decide, whether there is dumping or not), yet these inputs are to be expressed in a form of value by using prices of a comparable market economy.

The dumping or market disruption problems arise only if exports of a product to the USA are increasing dynamically, thus causing damage to US producers. Without proving damage caused the charge against the exporter will be considered void. It is expedient for Hungarian firms to export such products to the USA of which American imports are relatively large and thus Hungarian suppliers do not compete only with US producers but also with other exporters. Hungarian and other East-European exporters must constantly watch the development of their market share. According to experience, as long as this share is under 10 per cent no difficulties will arise, provided that the growth of the market share is not exceptionally fast. Hungarian exporters should avoid as far as possible to enter the American market with products that are typically American.

In the lecturer's opinion the most secure and most profitable way of avoiding dumping and market disruption problems is if the Hungarian exporters supply up-to-date and high quality, newly developed products of high technical standards. In the case of such products it is not necessary to sell at a price below that of competitors.

Answering questions asked after the lecture Paul Marer said that he saw a certain possibility for Hungary to make her home price and cost level accepted – in case of possible dumping proceedings. At present, however, from this aspect Hungary is handled in the same way as other so-called non-market-economies. In answering a question he said that socialist exporters are often charged with dumping mainly because they consider price as the main factor in competition and do not use other factors (advertisement, service, etc.) enough. According to the lecturer, it is not impossible for Hungarian firms to introduce a larger number of industrial finished articles to the American market. They have to take it into account, however, that these are more subject to protectionist restrictions than unprocessed goods.

András *Inotai*'s lecture bore the title "Economic relations between Hungary and the United States". He pointed out that Hungarian–American trade is of a relatively small volume and very unbalanced. In 1977 Hungarian exports to the USA amounted to

only 58 per cent of imports from the USA. The product pattern of trade is highly concentrated in both exports and imports. This also implies that a small number of firms transact a large part of trade between the two countries. In recent years important industrial cooperation relations have developed in a few fields. According to the lecturer, two basic factors affect favourably the future of Hungarian–American economic relations: the new Hungarian foreign trade strategy envisaging a higher share of Hungary – and of a more rational structure than before – in the international division of labour, and the assertion of the MFN clause in the trade between the two countries. Under the influence of these factors the importance of the American economy will grow in Hungary's choice of trade partners. In the lecturer's opinion the doubling or even trebling of trade within a short time is not unlikely. A considerable reduction of discrimination in mutual trade relations will lead to a dynamic development of favourable direction in the long run if it is coupled with adequate structural transformation on both sides. Hungary's foremost interest lies in increasing finished goods exports and in imports of American products promoting Hungarian technological development. This means that in the future intrasectoral trade and industrial cooperation must become very important.

In connection with this lecture the question was asked on the American part whether – after mutual enforcement of the MFN clause – in Hungarian export policy the American market would be handled as a new one, or as a substitute for the West-European market assuming increasingly stronger protectionist features. In the Hungarian answer it was emphasized that the American market basically did not substitute but complemented the West-European market. Certain West-European changes in economic structure, strengthening protectionism, and the circumstance that the growth of American economy is going to be somewhat faster than that of Western Europe in coming years may channel exports of certain products toward the USA instead of Western Europe.

Thomas *Wolf* held his lecture under the title "Determinants of East-European exports of manufactured products to the industrial west: methodological issues and data constraints". He pointed out emphatically that the future expansion of East-West trade depended mainly on how East-European countries would be able to increase their finished goods exports to Western countries. This fact necessitates a comprehensive empirical examination of the relative importance of certain factors determining the finished goods exports of Eastern Europe. Wolf wishes to carry out a quantitative analysis of the relative importance of each determining factor with the aid of an econometric model which is disaggregated by products, exporting and importing countries. In his opinion the following variables seem to be important determinants of East-European finished goods exports: 1. pricing policy; 2. the extent of Western trade discrimination; 3. non-price factors of competitiveness; 4. the effect of the product pattern; 5. the effect of business cycles of importing countries; 6. production capacity constraints and bottlenecks of East-European countries; 7. constraints due to trade commitments within the CMEA; 8. relative prices of exported products; 9. effects of industrial cooperation agreements.

In the first phase of his examinations Wolf wishes to investigate the finished goods exports to the Federal Republic of Germany of two Eastern-European countries (Poland, Hungary) with 25 products for Poland and 23 for Hungary. In the lecturer's opinion, analysis of determinants of Hungarian finished goods exports to the FRG may prove useful also for gauging to what extent the application of the MFN clause in Hungarian–American trade relations might increase Hungarian finished goods exports to the USA.

Franklin *Holzman*'s lecture entitled "Creditworthiness and balance of payments adjustment mechanisms of centrally planned economies" also treated the subject of East–West economic relations. In the lecturer's opinion, the debt of East-European socialist countries has been increasing extremely fast in recent years. The lecturer wished to find an answer to the question, whether, from the economic aspect, it was wise of Western countries to grant further loans to socialist countries. The answer depends – in his opinion – decisively on the judgement of the creditworthiness of socialist countries. The indicator most often used for evaluating the creditworthiness of countries is the so-called debt service/export ratio. It is a rather general opinion that countries are considered creditworthy if this ratio does not surpass a value of about 25 per cent. According to the lecturer, this indicator is unsuited for judging the creditworthiness of national economies. First, the indicator is relevant only in the short run and does not say anything about the long-term nature of creditworthiness, namely, whether the country in question is capable of transforming, in a longer perspective, its economy in such a way as will allow the improvement of the balance of payments and the repayment of debts. The indicator does not take into consideration the relative profitability of the debt from the point of view of either creditor or debtor. In this context it is also worth considering, whether additional imports are the consequence of financing the basic consumption needs and profitable investments of the debtor country, or they are additional imports due to an overvalued currency. In judging creditworthiness it is also important whether imports financed from foreign credits are spent on increasing export capacity or on import substitution, or they are used in other ways not improving the balance of payments.

In the lecturer's opinion for the judgement of national creditworthiness traditional means of analysis of the balance of payments must be used. In this relation he considers creditworthiness a so-called transfer problem since judgement of creditworthiness requires basically the knowledge whether the debtor country is able to acquire a sufficient surplus and foreign currency from which to repay the debt within a determined period. In this context he considers the repayment of debts to be a so-called two-gap problem. The first gap is the savings-investment gap, or alternatively, the gap between income produced and income absorbed. The second gap is that between international receipts and payments. Short of foreign exchange reserves the repayment of debts requires that foreign incomes should exceed payments to the necessary extent.

In Holzman's opinion the first (savings) gap is a relatively smaller problem for socialist countries than it is for capitalist ones since the intensity of participation of the former in international trade (ratio of exports to gross national product) is lower and, what is even more important, the turnover transacted in hard currency amounts to only

20–50 per cent of the total trade of CMEA countries, so that the ratio of hard currency exports to gross national product is smaller even than the global exports/GNP ratio. It follows that in case of a given (identical) rate of debt repayment the socialist country has to make much smaller efforts at savings than a capitalist country. The final conclusion drawn by the lecturer was that the savings gap was not of high value for socialist countries – except maybe for Hungary and the GDR. In Holzman's opinion the socialist countries' capability to eliminate i.e. to reverse the savings gap (income absorbed should be smaller than income produced) has considerably diminished in recent years.

Holzman is of the opinion that for socialist countries the second gap – in fact the difference between hard currency exports and imports i.e. the balance of trade – presents a graver problem. The size of the second gap is indicated by the yearly debt service (hard currency exports ratio which moved between 20 and 60 per cent in 1975). According to the lecturer, the eliminating of the first gap with a view to debt repayment (income absorbed smaller than income produced, *ex ante*) is a necessary but in itself not satisfactory condition of closing the second gap (i.e. achieving of an export surplus). Namely, for the improvement of the balance of payments and for financing the debt service it is necessary that the economy should be able – in the short as well as in the long run – to produce an adequate quantity of export products and import-substituting goods. For CMEA countries, however, in view of the low elasticity of demand for their export products, improvement of the balance of payments and repayment of debts may prove extremely difficult. Because of the relatively low demand elasticity hard currency receipts either do not increase, or only a little because of the deteriorating terms of trade on account of low export prices.

The lecture was followed by a lively dispute. Several contributors on the Hungarian side expressed doubts in regard of certain calculations of the lecturer – mainly those concerned with Hungary. Critical remarks were voiced that Holzman held the demand flexibility of Western imports for East-European products for too low. In his answer the lecturer stressed that in his calculations debt service presented a graver savings problem and burden for Hungary than for other CMEA countries mainly because the Hungarian economy was more dependent on exports than other countries. As regards demand elasticity, if in international trade (and particularly in the trade of manufactured goods) competition factors other than price are important (and they are), a reduction of export prices will not lead by all means to increasing demand. In his opinion, demand in advanced Western countries for products of most East-European countries does not grow at a satisfactory rate because there are difficulties with factors in competition other than price.

Three papers were read on the subject of *"American views on Hungarian economy"*. Richard *Portes'* lecture bore the title "Hungarian exchange rate policy between 1972 and 1976". In the lecturer's opinion the forint exchange rate to the dollar should have been raised higher in the said period than it was done in fact. Thereby the home price level could have been stabilized without an exaggerated growth of import subventions and export taxes, as well as a considerably worsening deficit in the balance of trade.

In view of increased money wages, their successful control, and the rather fast increasing productivity in the early 1970s it might be reasonably assumed that the gravest pressure on home prices came from the side of world market prices. Revaluation of the forint at a lower rate than the rise in world market prices led to strong central interventions on the part of authorities (import subventions and export taxes) and to rising producers' prices. The argument that a further revaluation of the forint would have disadvantageously affected the balance of trade does not stand the proof because the rate of exchange fixed in 1968 (Ft 60 = $1) was in fact a great devaluation of the forint currency. According to the lecturer, the balance of trade transacted in hard currency had been satisfactorily improving untill investments "ran away" and, as soon as investments were held back the balance became immediately active. This is justified also by experience of the years 1976–1977 when the growth of investments was ont of control. In the lecturer's opinion – considering the relatively low price elasticity of foreign demand for Hungarian export goods and of Hungarian demand for imported goods – there are weighty reasons that the rate of exchange (more exactly: devaluation) should not be used for restoration of the balance of trade with deteriorating terms of trade. It seems that in the open Hungarian economy it is not the rate of exchange but basically domestic absorption (and within it decisively investments) that determines the balance of trade. There are, however, also weighty reasons that the exchange rate policy (revaluation) should be used for the best possible neutralization of the domestic inflationary effects of world market prices. The lecturer held the opinion that if the rise in money wages was duly controlled, it was not necessary that the required modification of relative prices should be concomitant with a rising price level. In Portes' view there is no reason that the Hungarian economy of a rather decentralized character should give up such a positive feature of the old control system as price stability without being compensated for it by other advantages. Portes made it clear that neither the British nor the American exchange rate policies were so good as to serve as example for Hungary.

In the discussion following the lecture the Hungarian participants emphasized that an active exchange rate policy was needed for the establishment of external and internal economic equilibrium. Several contributors shared the lecturer's opinion to the effect that the forint was undervalued against the dollar at the said period and that this led to extensive selective and discriminatory central interventions. The price elasticity playing an important role in the lecturer's analysis – to be judged correctly only by empirical calculations – was also a subject of the debate. It was emphasized also on the Hungarian part that devaluation in itself was not enough to restore equilibrium. General agreement was achieved on the question that world market price proportions must be asserted in the home price system, but the home price level must be protected against external inflation.

Michael *Marrese*'s lecture dealt wite a few questions of the Hungarian economic mechanism. In the lecturer's view the Hungarian economy functions on the basis of a so-called cyclical centralism. He considers the economy to have four hierarchically organized levels: 1. members of the Central Committee of the Party and of the Cabinet; 2. members of sectoral and functional ministries, banks, national authorities and com-

mittees; 3. directors of producing organizations, trade union leaders and members of local councils; 4. individual workers and consumers. In lack of a clear national objective function and of a rational price system, as well as in view of inconsistencies between the incentive mechanism and the control system economic control takes place on basis of interest group bargaining between the abovementioned first and second levels. The bargaining among groups representing various interests takes place in a way that there is no consensus regarding national objectives. Marrase thinks hat the reason why there is no national objective function is that there are too many objectives amongst too many constraints. Members of the different hierarchical levels have different aims and react on different incentives.

The highest leadership does not explicitly maximize such objectives subject to numerous constraining factors as the increase of national income, the permanent increase of per capita consumption, acceleration of technological development, improvement of productivity, creation of a better investment decision-making system, etc. Maximization would lead to establishing priorities and the latter to public controversies among sectoral groups of interests, which – according to the lecturer – does not seem to be useful politically. Inconsistencies within the economic mechanism develop because national interests often disagree with sectoral and enterprise interests.

In Marrese's conception cyclicality in the "cyclical centralism" means that the power position of the groups of the first and second levels is changing in time in the course of business cycles.

The lecture aroused a lively dispute. The lecturer's views and analytical approach were criticized not only by Hungarian but also by some of the American participants. Marrese's main statement according to which Hungary had no national objective function (national utility function) was contested. An American delegate pointed out that the so-called bargaining model could not be considered at all as a Hungarian speciality, since it was present in every society.

Edward *Hewett*'s lecture dealt with Hungarian incomes policy pursued since 1976. The lecturer compared the Hungarian wage control introduced in 1976 with the American so-called tax-based incomes policy (TIP). The latter is intended to restrain inflation by keeping the growth of wage low and hence also the rise in costs. The important features of its functioning are: 1. the average growth rate of the wage level is determined which is then applied to every firm; the rate of the envisaged wage increase is equal to the difference between the estimated (anticipated) rate of inflation and the average rate of productivity increase in the whole economy; 2. if the actual percentual wage increase of the firm exceeds the centrally envisaged value, then – for every percentage point of wage increase above the latter – the profit tax rate of the firm will be raised by some multiple of the wage increase above the estimate. The lecturer pointed out several similarities as well as differences between the Hungarian wage control system and TIP. AS for differences, while TIP aims at restraining inflation originating from the cost side, in the Hungarian system no brake is applied to control cost-push inflation. In fact, the Hungarian system controls aggregate demand. The Hungarian wage control

system has too many objectives and these contradict each other (stimulation of rational labour utilization, allowing for differentiation in enterprise wage regulation, controlling the consumers' purchasing power, regulation of income distribution).

After the lecture Márton Tardos pointed out that the two – formally similar – control systems cannot be simply compared as was done by Hewett, exactly because the one is functioning in a capitalist and the other one in a socialist system. Enterprise leaders have different motivations in the two systems. The capitalist manager is interested in increasing the capital stock and in saving wages. On the other side, the Hungarian manager is interested first of all in the payment of more wages and less in increasing the capital stock.

The opinion was also voiced that the objectives of the Hungarian control system seemed to be too many only if it was missed that the objectives are not entirely independent of each other, nor are they so much contradictory. One speaker stated that in Hungary there was no worry about inflationary danger caused by wage increase.

On the subject of "*Hungarian views on the American economy*" two Hungarian lectures were presented. Ferenc *Molnár*'s lecture was held under the title "The present situation of the US economy and some of its main problems". With a view to demonstrating the special features of American economic development after the 1974–75 recession, the lecturer compared the economic situation of that period with the situation before and during the crisis. A comparison of the data of the second quarter of 1978 with the trough of the recession (1st quarter of 1975) indicates that by the percentual rise of several fundamental economic indicators the achievement of the American economy proved to be extremely good. The apparently good result is overshadowed by several weak points in development: inflation is fast; productivity improvement is slower than is customary in an upswing phase; the growth rate of government purchases is very low, as a consequence of which the stabilizing role of the Federal Government has weakened; there is a high rate of unemployment. Comparison of the present situation with the peak level prior to the recession (4th quarter of 1973) already proves that the economic achievement is not at all that good. The volume of gross private investments, building activity and the volume of corporate profits was stagnating in the said period, capacity utilization is still low, the yearly 1 per cent rise in productivity is still well below the trend value. The lecturer pointed out that on the demand side the primary growth factor after the recession was the expansion of personal consumption.

Ferenc Molnár drew the conclusion from his investigations that the US economy did not yet return to the track it had left as a consequence of the 1974–75 recession. The average yearly growth in volume of national product hardly surpassed 2 per cent during the past four and half years, which is considerably lower than the so-called potential growth rate (3,3–3,8 per cent). According to the lecturer, the main problem of the American economy is that it is not clear how it could be placed back on its track, since no such automatic forces exist as could solve present difficulties. The situation was further complicated by the fact that the American economy – as the lecturer put it – moved in

vicious circles. One such is constituted by inflation – productivity – investment. The extent of the rise in prices is basically determined by the increase of productivity, and the latter is determined by the expansion of fixed capital investment. In the present inflationary atmosphere circumstances do not stimulate investment. This inner vicious circle has been recently in connexion with an external one to be found in the foreign economic relations of the USA. The unceasing devaluation of the dollar stimulated inflation through imports becoming more expensive and reduced the competitiveness of American export articles through the inner vicious circle, thus further maintaining the weakness of the dollar.

In the course of the dispute many sought an answer to the question – on both the American and the Hungarian sides – why the increase of the productivity was so low in the US economy. The most often mentioned factors were the following: slow expansion of fixed invesments, intensive growth within investments of the costs of environmental protection not increasing productivity, the increasing share in employment of female and young labour, the rate of the slowing down of technical progress, etc.

András *Blahó*'s lecture dealt with the activity and role in world economy of American transnational companies. The activity of the largest American companies increasingly assumes a global character which increases the dependence of the US economy on foreign economic operations. This process has had an accelerating effect on the home industrial and financial concentration process in the American economy. The lecturer considered it an important new feature of the investment policy of transnational companies that from the late 1960s on the share of resources from outside the USA was constantly increasing in the financing of foreign investments along with the share of resources of affiliated firms. He mentioned the strengthening competition of West-European and Japanese monopolies, and a certain extent of weakening in the position of American firms. He considered it a new development of East–West – mainly of Hungarian–American – economic relations that American firms encouraged joint ventures. American firms are somewhat behind West-European – mainly the FRG – enterprises in this respect, and the form of their ventures is less complex as compared with those of the latter.

Some lectures were devoted to methodological issues. Ernő *Zalai* held his lecture under the title "Economic methodology in the East and the West" in which he compared several aspects of Marxist economics and neo-classical theory considered as the main stream of bourgeois economics. He pointed out that while Marxist political economy considered economic processes as social ones, neo-classical economics entirely separated economic processes from social ones. Marxist political economy searches for the objective law of motion of socio-economic processes and tries to explain the functioning of the whole of the economy. Neo-classical economics is based on the rational behaviour of the isolated individual and on equilibrium situations. As opposed to this, Marxist political economy is not equilibrium-oriented. The lecturer dwelt on the difficulties of verification of abstract economic theories. Because of these, the main method of verification of economic theories relies also further on their historical

justification. As for the relation between economics and ideology the lecturer stressed that economics could not be a branch of science "free from values", but only a normative ideological one. In his opinion, Marxist economics has not yet developed its own empirical research method. In this a certain role was played by the negative attitude of dogmatism toward empirical research. Finally, the lecturer drew the conclusion that economic theory and practice were still rather an "art" than science.

The debate following the lecture centred around the question, what kind of economic theory there was behind Hungarian system of economic. One American participant did not agree with the lecturer's statement to the effect that in Marxist political economy abstraction levels were more divided than in neo-classical economics. He put forward as example the highly abstract general equilibrium theory. As regards theoretical experimentations in economy, the American participants admitted that these were more possible in a socialist economy than in capitalist economies.

Josef *Brada*'s lecture treated methodological questions of econometric models ofte planned economies. In his opinion, socialist countries were somewhat behind capitalist countries constructing econometric models. Lately, however, an upswing of econometric model construction has been observed in Eastern Europe. Hungary has made a considerable progress in this field. The lecture covered three fields of problems of econometric model construction for planned economies. They are: the data basis, theoretical foundation of the models, and model specification. The lecturer deemed the data of socialist countries increasingly suited for the models, in a few countries, however, the data basis was relatively limited. He did not share the opinion that the models of socialist economies were *a priori* less well grounded theoretically than models of market economies. Socialist macro-theory differs from Western theory in that – among other things – it includes, implicitly or explicitly, the possiblity of macro-economic disequilibrium on the product, labour, and money markets.

It is a serious problem in model specification to decide which variables are to be determined within the model, and which are to be handed exogenously. In consideration of the great influence of planners on the formation of macro-level economic indicators, adequate modelling of the planners' attitude is extremely important. The choice between endogenous and exogenous variables in the case of socialist models is rendered more difficult for the Western researchers by the fact the macro-theory and macro-econometrics of market economies are centred on investments which drive the economy through the multiplier. The Western econometric models of socialist economies are also centred on investments, in spite of the fact that it may be the supply of consumer goods that drives a socialist economy through the supply multiplier. Therefore, it is the supply of consumer goods that requires a more careful modelling, while investments should be handled exogenously. In the case of socialist economies a high degree of multicollinearity among most of the variables must be expected. Further more, to the extent as reforms result in changes in behaviour relations, the estimation of other equations will be necessary for the post-reform period.

Tibor *Scitovsky*'s lecture bore the title "Perfection and Imperfections of Free Market Economy". In the lecturer's opinion, the main characteristic of Western economic thought is the belief in the superiority of free markets and in their automatic, spontaneous adjustment processes. According to the market theory, division of labour is advantageous for market actors. Division of labour is realized through the medium of market transactions and competition. The lecturer queried the validity of several assumptions constituting the basis of market theory and market competition. The first assumption is that participation in market transactions is free (No barrier to entry). Because of monopolies, this assumption is less and less realistic. The second assumption, that of convexity, entails the assertion of diminishing returns. While, however, increasing returns used to count earlier as exception, they are today the main factor of increasing efficiency. A further necessary condition of the efficient functioning of the free market is the actors' independence outside the market, i.e. the lack of so-called externalities. This is, e.g. amid increasing environmental pollution, an increasingly irrealistic assumption. This implicitly assumes as well that market actors act upon perfect information which does not cost them money. In fact, the obtaining of information is expensive. In the world of increasingly sophisticated products it is especially the individual consumer that counts more and more as ignorant outsider. The problem that consumers make their decisions by relying upon less information, thus decreasing advantages to be gained from the competitive market, should be solved – according to the lecturer – by the state by collecting and spreading information necessary for the buyers. The last assumption is concerned with price elasticity which is suited for balancing demand and supply. In fact, administered prices and other imperfections are found on the market. In Professor Scitovsky's opinion, out of all the above-mentioned assumptions it is the lack of elasticity of market prices that is the gravest and most critical deficiency of capitalist market economies. Rigidity of prices is a deeply rooted factor of capitalist economies and the primary cause of imbalance, and it can hardly be eliminated. In the debate there was general agreement on the irrelevance of the assumptions of the market theory criticized by the lecturer. Several contributors called attention to other false assumptions of the conventional market theory, e.g. equality of market actors. Under today's asymmetrical power relations of the market this assumption seems to be particularly anachronistic.

Mihály *Simai*'s lecture was concerned with the role of economists in the formulation of economic policy and in influencing economic decision-making. The counselling role of theoretical economists does exist in Hungary, but the connexion between theoretical economics and decision-making is not institutionalized. Relevance of economic sciences depends on how much economic practice relies upon them. The Hungarian economic control system considerably increased the economists' role in influencing economic policy, yet it has raised new and larger demands on them at the same time. The development of several fields of economics – mainly of those concerned with the functioning of enterprises – started or received a new impulse after the reform. Increased demands are made on Hungarian economics by the important economic policy problems that arise from the radical change in the international economic environment. Decision-

making and economic policy found themselves faced with a foreign economic environment incomparably more uncertain than before, and, as a consequence, there appared an increased need for medium- and long-term scientific prognostication. In the new situation an even more intensive dialogue and interaction are needed between economic policy makers and theoretical economists, and this raises the question of institutionalizing the theoretical economists' participation in macro-level economic policy decision-making and in the formulation of policy. In recent years a much larger number of theoretical economists and researchers have been drawn into the preparation of important economic policy decisions than before, thus considerably increasing their role in the strategic foundation of economic policy.

In his lecture entitled "Volume of Foreign Trade" Márton *Tardos* challenged some Western economists' views on the foreign trade volume of CMEA countries. In the lecturer's opinion, to know whether the foreign trade turnover of a country is smaller or larger than necessary, first the size of the optimum turnover ought to be known, which, however, cannot be determined with the aid of the present programming techniques and deficient information. Certain Western economists tried to form an opinion about the size of foreign trade of socialist countries by drawing comparison between the size of foreign trade turnover of market economies and of socialist countries. Pryor and Hewett drew the conclusion from their computations that the foreign trade turnover of CMEA countries – at the given level of their economic development – was low (compared with the average of advanced capitalist countries under examination).

The lecturer wished to formulate his independent opinion when he tried to state, by means of regression computations, in what the foreign trade volume of CMEA countries differed characteristically from the foreign trade of market economies. First he made computations for 1963 and 1974 on the basis of a sample of 20 and 31 countries (incl. also developing countries), about the extent to which the volume of foreign trade in market economies was determined by per capita national income expressing development level, and the size of the country represented by population. According to these computations the size of national income has a positive effect on the development of foreign trade turnover, while the number of population has a negative effect on it.

In the twelve advanced capitalist countries under examination, however, national income and the number of population practically do not determine – according to the computation – the volume of foreign trade turnover. Therefore, the lecturer was of the opinion that much care was needed in drawing any direct conclusion from the data of advanced Western countries with regard to the foreign trade of CMEA countries. Márton Tardos compared the foreign trade volume of socialist countries (per capita imports) with the trend value computed on the basis of the data of the 29 and the 31 countries resp., and he found that the size of the volume of foreign trade in Hungary fluctuated around the computed value, while in Poland and Romania it approached the computed value after a fast increase. A strong autarkic tendency is seen clearly in the GDR, Czechoslovakia, and the Soviet Union. The lecturer's computations do not support the

frequently asserted statement according to which in the economy of CMEA countries the volume of foreign trade is usually low in comparison with that of market economies.

In the dispute following the lecture Edward Hewett disagreed with the main statement of the lecturer, mainly on methodological grounds. Paul Marer stressed that the widespread assumption was wrong according to which a larger volume of trade was by all means better than a smaller volume. Oversized or unnecessary trade (as the forced exhange of soft articles) diminishes the advantages to be gained from trade.

The fourth Hungarian–American conference of economists was generally judged as highly useful for both parties. In the open and objective exchanges of opinions the most important questions of East–West trade – and in it of Hungarian–American relations – were outlined. The lectures and the lively disputes following them promoted a better understanding of each other's economy, research methods and problems, and a mutually advantageous exchange of information. The conference further strengthened the scientific cooperation between Hungarian and American economists.

"HUMAN RESOURCES, EMPLOYMENT AND DEVELOPMENT"

Sixth World Congress of the International Economic Association Mexico City, 1980

This sixth World Congress will be held at the Unidad de Congresos del Centro Medico Nacional, IMSS, Ave. Cuauhtemoc 330, in Mexico City, from 4 to 9 August 1980.

A Programme Committee has started work under the chairmanship of Shigeto *Tsuru* (Japan), President of the International Economic Association, with the collaboration of Rodolfo Becerril *Straffon* (Mexico), co-Chairman, Samir *Amin* (Egypt & UN IEDP, Dakar), Mary Jean *Bowman* (US), Michel *Debeauvais* (France), Harald *Gerfin* (FRG), Tigran S. *Khachaturov* (USSR), G. *Kohlmey* (GDR), Gautam *Mathur* (India), Franco *Modigliani* (US), H. M. A. *Onitiri* (Nigeria), Harry *Oshima* (US and Philippines), Mark *Perlman* (US), Paul *Streeten* (UK and World Bank), Lorie *Tarshis* (Canada), Victor E. *Tokman* (Argentine), and Victor L. *Urquidi* (Mexico).

The four main speakers who will address the Congress in plenary session on the first day will be Paul A. *Samuelson,* Josef *Pajestka,* Raúl *Prebisch* and Shigeto *Tsuru.* Thereafter, six groups of specialised sessions will discuss various aspects of the following topics:

I. Human Resources: Concepts and Measurement (Organiser: Paul *Streeten*),
II. Human Resources and Employment in Developing Countries (Organiser: Samir *Amin*),
III. Human Resources and Employment in Developed Countries (Organiser: Burton A. *Weisbrod*),
IV. International Economy and Employment (Organiser: Jagdish *Bhagwati*),
V. Human Resources in the Long-term Perspective: (Organiser: Harry *Maier*),
VI. Employment and Development in Latin America (Organiser: Victor L. *Urquidi*).

A Local Organising Committee has been set up with the following members: Armando *Labra* (Chairman), Horacio Flores de la *Pena*, Ifigenia *Martinez* H., Carlos Tello *Macías*, Julio *Zamora* and Lidia *Camarena*. Its headquarters are located at Colegio Nacional de Economistas, Antonio Caso 86, Mexico 4, D.F. Mexico.

Arrangements are being made to provide special travel and accommodation for participants, including, when desired, pre- or post Congress tours. Would-be participants will receive "News of the Congress", i.e. periodic information on the progress of its preparation, on request to the Local Organising Committee in Mexico or the Secretariat of the Association in France.

Suggested contributions to the scientific work of the Congress should be submitted to the Members of the Programme Committee or the Organisiers of the groups of specialised sessions, or sent to the Secretariat of the International Economic Association, 54 Boulevard Raspail (Bureau 428), 75270 Paris Cédex 06, France, for transmission.

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BOOK REVIEWS

HUSZÁR, E.: *Protekcionizmus és nemzetközi kereskedelem. Vámok, szubvenciók, mennyiségi korlátozások, devizális eszközök, preferenciák* (Protectionism and international trade. Customs, subsidies, quantity restrictions, foreign exchange means, preferences.) Budapest, 1978. Közgazdasági és Jogi Könyvkiadó. 240 p.

The purpose of the book divided into five chapters is the analysis of protectionist trade policy that has always been present beside the liberal trade policy resulting from the relatively permanent economic boom following World War II. As it is shown by the sub-title, the author examines the intruments whose open or concealed aim is to "control" and "direct" international trade.

World economic events of the early 1970s (the oil crisis, the raw material price explosion, uncertainty of currencies) provide good grounds for the author to evaluate, *in the first chapter,* the pre-crisis state of world economy, i.e. the causes of the somewhat exaggerated "oil-shock". Ernő Huszár is justified in making the statement that rises in the price of crude oil had been for long under discussion between member countries of the OPEC and oil trusts, but up to 1973 a radical price adjustment could be prevented for various reasons. The dispute about prices pursued for a long time finally led to a price explosion, the role of which, however, must not be overestimated. The opinion cannot be accepted that the raw material exporter countries are exclusively responsible for the rise in prices, as it is a similarly erroneous view that all the grave problems of capitalist countries come from the sudden rise in raw material prices. The author gives a realistic analysis of changes having taken place in the financing, accounting, and financial instruments of world trade, as well as of the development of monetary relations.

In the second chapter the author goes back to the preceeding period: he treats the emergence and development of pre-war trade policy. After presenting the most important trade policy tendencies he gives a more detailed description of the years following the world economic crisis of 1929–33. "Classical" protectionism and then the staté protectionism of the 1920s increased the protection of home markets and at the same time led to a setback of international trade. The "new free trade" announced after World War II was not a perfect abandonment of protectionism, but a special symbiosis of the two trade policies. Under cover of free trade the basic instruments of protectionism were asserted unchanged.

In the third chapter of the book Ernő Huszár expounds the above-mentioned subject on approximately hundred pages and analyses the role of customs duties, production subsidies, quantity restrictions, various foreign exchange measures and finally of non-tariff protectionism. In our days investigation of the latter is the most important, since its instruments are widely varied, and its effects are not – or hardly – quantifiable.

Liberal trade policy in international trade after World War II necessitated the establishment of such international economic organizations as would contribute, by means of bringing about cooperation, to the development of free trade. These are treated *in the fourth chapter* of the book, wherein the author makes the statement that world trade may well have a liberal centre, but in the international division of labour a regional, i.e. vertical organization is present. In regionalism again the joint presence of liberalism and protectionism clearly appears. The Common Market itself, i.e. its preferential system, has

undoubtedly a positive effect on world trade developments since, as a result of the functioning of the community, about one quarter of goods taking part in world trade is in fact liberalized. At the same time, it is obvious that the basic condition of the existence of the Common Market is import restriction, i.e. protectionism toward outsiders. The most fragrant form of protectionism is the agrarian regulation, but it appears and even strengthens in other fields as well. The author examines also the international organization of commodity markets. By means of presenting the six commodity agreements valid in 1977 (on tin, wheat, sugar, olive oil, cocoa, coffee) he proves that so far they have had no considerable influence on world trade, and with their low efficiency largely contributed to the rise in raw material prices in 1973–74.

In the last, *fifth chapter* of his book, Ernő Huszár analyses the sharpening trade policy problems of the 1970s. Contrasts in trade policy have had for consequence a revival of the protectionist tendency, as well as the refinement and enrichment of its instruments. It is not expected that the protectionist wave should reach the dimensions of the crisis of the 1930s, but advanced countries increasingly avail themselves of import restrictions in defence of their national interests. Presumably they will further increase the weight of government intervention in their national economies. Therefore, it is in the interest of countries participating in world trade to create international economic organizations that are more efficient and more just in their basic principles than those already existing.

E. PÉTER

PILLIS, P.: *Mezőgazdasági modellek* (Agricultural models.) Budapest, 1978. Közgazdasági és Jogi Könyvkiadó. 179 p.

The book treats the problem of the use of mathematical methods in agricultural business economics. It is not a collection of models – it is far from completeness in this respect – but a book of the methodological type. While summarizing results of about 15 years of research, the author also portrays the state of relevant Hungarian research work and its achievements.

Pál Pillis deals with the mathematical models belonging to the macro, mezo and micro levels of agriculture.

Chapter 1 of the book contains agricultural models on the level of the national economy. Through the analysis of the production functions presented here the author tried to prove tendencies characteristic of the development in Hungarian agriculture from 1960 to 1976. It was difficult for Pillis to realize his intention, all the more as the said 17-year period cannot be regarded as uniform but can be divided into at least two periods or perhaps even more.

This chapter analyses two Cobb-Douglas type production functions and an 8-Variable Exponential function. These are the following'

$$(1.)\quad Q = 2.2057\ K^{0.5157}\ L^{0.0372}$$

$$(2.)\quad Q = 1.7343\ K^{0.4868}\ L^{0.0357}\ B^{0.1852}$$

$$(3.)\quad Q = 1.4883\ F^{0.3158}\ K^{0.3872}\ L^{-0.0419}\ M^{0.0629}\ N^{0.1040}\ R^{-0.0939}\ Z^{0.0014}$$

where

Q = gross value of agricultural production,
F = agriculturally cultivated land,
K = gross value of fixed assets in agriculture,
M = fertilizer per one hectare (= 2,471 acres) of land,
N = number of large-scale farms,
R = annual per capita food consumption,
Z = agricultural exports,
B = weather uncertainty factor,
L = labour force.

The informations obtained from the above production functions are analysed in detail and several conclusions are formulated. From the latter I emphasize the statement that on the basis of the trends between 1960 and 1976, Hungarian agriculture can be planned with approximately 93 per cent reliability. In connection with the 8-variable production function it is noted that it has as many as two variables (R, Z) which are not considered as production factors but considerably affect production, namely, realization, i.e., the market. The importance of these will increase in the future also for the Hungarian agriculture. Chapter 1 also contains a survey of agricultural model computations for three five-year plan periods, showing among others, that development is heading from modeling production

technologies towards modelling production systems. The model analyses also suggest a new research task, namely, the development of a favourable pattern for the export products of the food economy and the long-range research of export markets.

Chapter II discusses optimizaton of the use of arable land, Hungary's most important natural resource. In the period under study the land area utilized in agriculture decreased also in Hungary, by nearly 400 000 hectares. At the same time population, per capita food consumption and the export of foodstuffs increased. The two conflicting tendencies, i.e., diminishing land vs. growing demands, make the optimum utilization of the land area available for agriculture an important task. Model computations of farms show that plant types yielding the highest production value or profit should be produced on the best quality soils. It is suggested by both the macro and the mezo models of land use that the important problem of encouraging the regrouping of capacities from less fertile to more fertile areas is not solved. It is high time to solve that because there are considerable differences in the shadow prices of lands by regions.

The author devotes *Chapter III* to the review of enterprise models. It covers the systematization of enterprise models, the description and assessment of the domestic state of model computations and a discussion of some major problems of development.

Pál Pillis groups the enterprise models according to four criteria: 1.the range of the models (complex enterprise models and enterprise partial models), 2. consideration of the time factor (static and not static models), 3. types of decision problems (optimization models of product pattern, per unit returns, technologies and utilization of resources), 4. linear or non-linear models.

Discussion of the problems of duality and of shadow prices is an interesting and valuable trait of this chapter. The author does not consider shadow prices to be categories of value but at the same time he stresses that occasionally extremely important informations can be derived from them. In agricultural models such areas are the shadow prices of lands, technological conditions and proportionality conditions.

The author remarks that the data system of the agricultural units is now the biggest obstacle in the way of a broader use of modern, computed-based decision system. The current data system is centred on property protection, that is, it is passive. Active protection of property should require a data system which could also allow the study of optimum exploitation of opportunities. At the same time he notes that it would not be realistic to create a second data system beside and parallel to the currently functioning one.

Chapter IV is the part of the book which contains the most novelties. It is entitled "Horticultural models". There are two main models in this chapter: those of cold-storage and of plantation.

In the *cold-storage* model the cold storing of winter apples is optimized. This problem is highly important in Hungary. The model sets out from a given production and studies the optimum composition of stored and unstored crop. The cold-storage model is a new implementation of linear programming and the author had to solve numerous problems in constructing it. The results of the model prove the importance and undisputable viability of mathematical programming also in such special fields. The model is constructured on the basis of three principles: a) the model can choose from the whole crop to fill the cold-store; b) two alternatives belong to each variable: sales without storage or after storage; c) the model is a complex one in the sense that it contains the sales of the total crop produced. With the solution of the model it has been proven that with the necessary knowhow cold-storage is not losing, as it is in the present practice, but guarantees profit in the vertical chain of apple production. But to make it profitable the cold-store must be filled with selected quality apples. The different apple varieties and crown shapes were exactly qualified by the shadow prices of the model.

The *plantation model* is a combined model giving a hand to the solution of 8 types of decision-making problems. The model covers production, storage, processing and trade: it is not of the static kind but optimizes processes which are not linear. Furthermore, the model embodies the replacement of old plantations, the setting up of new plantations and the investment

of a new store. The solution of the model informs enterprise management not only of the type of transformation. Note must be made of still another result. Namely, the shadow prices of plantation lands suggest that an extension of plantation areas is worth cosideration. The plantation model constructured by Pillis is a new scientific achievement in linear-dynamic programming in its kind. One more acknowledgement is due to the cold-storage and the plantation models and also to the whole book. The author evaluates both the primal and the dual solutions in detail and bases his conclusions on the combined analysis of the two solutions. This is one of the important merits of the book.

The overall characteristic of the treatment of the subject by Pillis is that it starts with the economic formulation of the problem, followed by the steps of mathematical formulation, modelling work, then the analysis of the result and of the process of realization. The author tries to bring the obtained results near to economic policy. In the Introduction he stresses that mathematical methods cannot replace or substitute for economic theory while it is nevertheless a fact that the economic sciences are stimulated by the broader use of mathematical procedures because the use of mathematical methods does not merely mean quantification but also implies a more diversified study of economic processes and relationships.

The book is altogether useful for readers interested in the use of mathematical methods in agroeconomics. It both tests known and frequently applied methods in a new field and enlarges our knowledge by the construction of new models. The author also scrutinizes the problems which still hinder the broader use of modern mathematical methods in agriculture. As the subject is presented with reference to the results of Hungarian research work it is also a good review of the Hungarian literature of the field.

I. BENET

KUSCHPETA, O.: *The banking and credit system of the USSR.* Leiden–Boston, 1978. Martinus Nijhoff XIII + 284 p.

The question which the book is intended to answer is formulated by the author as follows: what is the special role of commodity (market) and money relations in a socialist economy and what is in this context the function of finances and of the banking and credit system?

The Soviet practice is described in detail, stressing its powerful impact on theory. Certain features of the socialist banking and credit system are compared with the characteristics of the financial systems of market economies at some places but the author does not undertake a full-range comparison.

The first three chapters of the book present the historical antecedents, in chapters 4 to 6 the current Soviet banking and credit system and the task of finances in the control of planned economy are reviewed, and the last chapter is a summary of the author's critical observations and suggestions.

The author definies the three periods 1917 to 1932, 1932 to 1965 and from 1965 on as the main stages in the development of the Soviet banking system, and reviews the developments of these periods in detail.

The presentation of the current Soviet banking and credit system begins with the reforms of the 1960s, for these, in principle, moved the financial affairs from their passivity and which were considered in addition to be instruments facilitating the accomplishment of plan targets based not on a breakdown *from the top downwards* but on recommendations coming *from below.*

The tasks of the uniform and powerfully centralized Soviet banking systems are financial settlements and short and long-term crediting. However, their role is more important than to simply qualify them as financing institutes. These financial institutes can be regarded as part of the

planning and control authorities, of the *administration.*

The Gosbank, the Stroibank (Investment Bank) and the Foreign Trade Bank are directly supervised by the All-Union Government. Financing and credit policy are guided by the Supreme Council of he Soviet Union and by the Council of Ministers, while implementation is the responsibility of the Ministry of Finances, the Gosbank, the Investment Bank and the Foreign Trade Bank. The next links in the chain are the ministries of industries and the financial departments of enterprises. There is a bank network matching the administrative units; branches in cities and communities maintain direct contacts with the enterprises and transact their affairs.

The enterprise carries out its economic activity by means of its own invested and circulating capital, its own "property" and the bank credits. In the framework of planned redistribution the losses of the less efficient enterprises are centrally financed from the receipts of profitable ones. The central budget comprises some 50 per cent of the gross national receipts, this is the basis of the financial plan of the national economy.

Redistribution is carried out through the banking system. It is the duty of the banks to maintain equilibrium between the circulation of bank notes and of commodities. The Gosbank has a key role in *planning and control.* Planning is based on decentralized financial plans (the financial plans of enterprises and institutions), on the income and expenditure balance of the population and in the aggregate budget. All relations between the bank and other units of the national economy are regulated by the credit plan. Short and long-term credit plans are drawn up for the distribution of financial means which are provisionally not utilized and for the creation of new money, if necessary.

The supervision by Soviet banks is of administrative type, covering each micro-economic and financial problem of enterprise management, and could be almost considered a guardianship. Control is in part preventive in nature but also ex-post calling to account is resorted to. Such directive and punitive instruments are the interest policy and the sanctions. In order to attain higher effectiveness sanctions debit the fund set aside for premia. The role of the differentiated rates of interest is little, already because of the low proportion of credits and especially of investment credits.

The Soviet rouble is based on gold according to formal declarations though it is not exchangeable into gold either by local or by foreign holders. Its value is guaranteed by the planned commodity cover. Literature distinguishes between bank note and money of account. The latter has a more limited field of function while the first one is used more freely: at the owner's discretion. Besides, the flow of bank notes may also affect prices (at least in cash flow) while the money of account meets with fixed prices in settlements between enterprises.

The Soviet rouble is not put into international circulation; the currency may be exported only with permission. The trade of the USSR is transacted in transferable roubles with the CMEA partners and in convertible currencies with the Western partners. Only modest attempts have been made at including third countries into the scope of the transferable rouble. The only resemblance between the two roubles, the Soviet rouble and the transferable rouble, is the name: the first one is a national currency while the second is the clearing currency for the settlement of bilateral accounts. The rouble is not a convertible currency or world money as yet.

In the last, evaluating chapter the author stresses that although Soviet literature is not unequivocal, nor is it as clear as it should be, it can be nevertheless established that a society without money is not likely to come in a tangible length of time. The fulfilment of economic tasks necessitates an increase in the role of money as yet still pushed to the background. The functions of money are substantially the same in market economies and in planned economy: measure of value, medium of circulation, medium of accumulation. However, a number of limitations are encountered, especially in the accumulation functions. Enterprises and individuals alike are only allowed to accumulate within certain limits, and the acquisiton of private capital property is ruled out.

Enterprises may reserve only limited amounts of money and private persons are not allowed to buy capital goods. On the other hand, they may

build, may buy government bonds and may have bank savings.

It is a cardinal problem from the aspect of developing the system of economic control to what extent money as an indirect category can be used in the given set of instruments of planned economy? To find an answer, the type of the Soviet model of economic control must be first stated. Is it true that the economy as a whole and the enterprise sector in particular operates on the sole basis of direct plan instructions? The author answers in the negative. He believes that the central plan is implemented through the instruments of the market and administrative economic control. The most accomplished market type is the kolchoz market where the rule of supply and demand asserts itself; and this is where a very big part of agricultural production is realized. Demand and supply and wage payment opportunities also affect the allocation of labour. The workers choose their own jobs; administrative regulation only complements the "market". Demand has its influence on the pattern of consumption too, even though the total amount of wages is carefully watched. On the other hand, the controlled administrative distribution of shortage items is characteristically a non-market element. It is in the allocation of capital goods and materials required for production, that directives are most conspicuous, but differences and the assertion of interest categories are found also in this field.

Thus, in the author's opinion, various combinations of the elements of market economy and of the system of directives may be found in the Soviet economy. Even within the valid theoretical-ideological bounds it seems to be possible to accord an increased role to finances now doomed to passivity. Growing difficulties in the financing of growth and in allocating the factors of production call for that.

It is raised by the author as a particularly acute problem whether growth should be financed from receipts of the turnover tax type or from taxes set in percentage of capital value. In his opinion the first way would not serve a proper allocation of capital goods – the latter would be a more appropriate way as it would level out the profitability of capital. He believes that the reforms carried out in the Soviet economy have not solved this basic problem as yet. Although interest on capital (charges on assets, K.B.) were introduced and the share of long-term investment credits was increased, owing to unchanged other institutional and mechanism conditions these have not brought about any substantial change.

It certainly cannot be expected that market prices will be introduced and full autonomy will be granted to producing units in the Soviet economy in the near future. However, there could be and should be changes which are compatible with the given political-ideological framework. Here belongs in the first place the reform of the institutional system. The author does not think it is correct that banks perform functions which could be done better by other state institutions. The banks are now the "prolonged arm" of the government, and, because of the mono-bank system, the division of labour among various state organizations is not reasonable. It is another strange thing that the Gosbank in its capacity as central bank takes the trouble of microeconomic analyses and actually does not have the authority to essentially influence the control of macroeconomic processes.

He therefore thinks that an end should be put to the passive role of the Gosbank in *mediating* government measures and it should be made a *bank of banks.* A separate national accounting office should be called into being for keeping the national accounts, in close cooperation with the Central Statistical Office. It would be also expedient to set up a special organization for the control of business activities and to relegate the financing of industry to sectoral-commercial banks.

The Investment Bank should be transformed into a state investment company which would be responsible for mobilizing the investment funds. All these institutional changes would be successful, of course, only if the autonomy of the economic units were increased, and their developments were financed from the profits they achieve and if the system of collecting the incomes were changed too (more uniform turnover tax rates, normative taxation of profit).

The statements of the author are remarkable. Though he sometimes contests outdated ideas, his arguments are not unnecessary. Though

Soviet practice increasingly recognizes the importance of the activation of finances, a comprehensive conception for transformation is not yet on the agenda. The book bears the print of Western economists' approaches and system of notions but it clearly shows an endeavour to understand the special characteristics of socialist economy and to find suggestions which are feasible in the given frameworks. E.g. as for the necessity of institutional changes the conclusions which can be arrived at are valuable not for the Soviet economy alone.

K. BOTOS

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*We acknowledge the receipt of the enlisted books. No obligation to review them is involved.
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Műszaki szerkesztő: Botyánszky Pál
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I. Meznerics

INTERNATIONAL PAYMENTS WITH SPECIAL REGARD TO MONETARY SYSTEMS

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