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EDITORIAL

By historical standards ten years are not a long time even in the life of a review. Yet the reader may forgive us if we stop for a moment at this anniversary. We do so not because of the round figure only, nor with the intention of applauding ourselves. In the tumultuous history of the Hungarian intellectual life the number of periodicals that have lived ten years is only a fraction of the number of periodicals founded. Ample proof can be found in the history of the press in the first half of the twentieth century. We find the ten years significant also because in Hungary our periodical has been the first one which set as its aim, with scientific exactingness and covering the whole of economic science, to serve as a connecting link between a small country isolated by its language and the economists all over the world.

When ten years ago the first issue was sent to press, the Hungarian economists had been at the beginning of a major venture. It was then that the basic ideas of the reform of economic control and management, introduced in 1968, began to take shape. It was an enthusiastic and optimistic period, and not only in Hungary. In the majority of the socialist countries economic science was on the upswing. Economics in the West enjoyed the "golden age" of the sixties. The theories analysing the growth problems of the developing countries reflected optimism – if in a moderate form – and outlined the vigorous evolution of a dynamic starting though gradually but surely. The world was still before the large scale escalation of the war in Viet Nam, the Suez war, the unquiet year of 1968, the Chilean drama, the energy crisis but, *on the other hand,* it was similarly before the conclusion of the thirty-year war in Indo-China, the fall, one after the other, of the reactionary south-European regimes, the first SALT agreement and the signing in Helsinki of the document on European security. High hopes and sobering cooler winds have been changing ever since. Perhaps the world is less optimistic than ten years ago, but it is more realistic. It reckons with the fact that while making efforts at solving the global problems, the real problems and interests of no single social system or group of countries can be circumvented. It reckons with the fact that the age of waste, of welfare at the expense of others, of warmongery is on the decline and is looking for ways and means to solve the problems and to live together with those which cannot be solved in the short run.

Also Hungarian economics is in such a stage of looking for ways. The resources of extensive development have been finally exhausted in the country. There is no

other way but to incessantly increase the effectiveness of the economy. Progress in this small country with an open economy cannot be conceived in any other way but by proceeding along the parallel tracks of developing the internal economy and strengthening external economic relations. This recognition is not a new one. Ten years ago it still had to be supported by argumentation, today, however, it is obvious for everyone. In this stage of our economic development, which particularly requires foreign economic relations, mutual economic information is of growing importance.

In the first issue of the second decade our periodical publishes articles about the new Five-Year Plan. This plan outlines how to proceed in solving the tasks facing us by utilizing the tools of our tested system of control and enriching it by new ones. Of course, the plan does not comprise the answers to every question that can be already outlined for the next five years, much less to those which will emerge only later. This is a task to be solved in the course of implementing the plan in which the Hungarian economists will have a great role – in conformity with their own efforts and the demands formulated and raised towards them by the leadership of society. The primary aim of our periodical is to provide information about Hungarian economics, but, beyond that, it also wishes to serve the information of foreign readers about the Hungarian economy.

If there was any change in the efforts of our periodical in realizing these aims or in the approach, it consisted mainly in viewing the problems of the Hungarian economy much more than before in the wider context of the world economy, above all in that of the economy of the socialist community.

We cannot speak about our modest anniversary without commemorating those whom the periodical unfortunately lost for ever from among its mentors and helpers. First *Imre Vajda,* founder and first Chairman of the editorial board who had considered his mission to foster intellectual relations with the economists of the world as President of the Hungarian Economic Association and in his other functions as well. We will remember *György Cukor,* another founding member on the editorial board whose scientific exactingness and realistic approach had much contributed to shaping the intellectual image of the journal. We also lost *Sándor Ausch,* member of the editorial board, an internationally acknowledged researcher into the problems of socialist integration, and *Mrs. Vera Bing,* who was working in the administration. Their memory will be preserved not only in the pages of our periodical slowly turning yellow, but in our hearts as well.

We do not expect any turn in the life of our periodical in the future, but set ourselves as a target to fulfil more consistently the task we had set ourselves at its founding and about whose growing importance we are deeply convinced. We do not intend to give a picture of Hungarian specialties in the future, either. We are aware that the world will pay attention to us inasmuch it may discover in our development the elements or features of a creative adaptation of international tendencies. Our periodical is published not only for foreign economists dealing especially with Hungary, though we consider them to be natural partners in the intellectual current

of which we are a point from which radiation emanates. We believe that in today's complicated world, in the intricate web of interests and counter-interests it is not immaterial, either, what in a small country is thought about the large problems of economics, about the tendencies of world economy, how the effect of these on their own sphere of activity is judged. Even this is not interpeted in a narrow sense. Economists from any part of the world who had to say something to us could express their opinion on these pages and this will continue to be so in the future as well. We are proud to have not only readers but also authors from Moscow to New York, from Oslo to Rome, from Latin America to Australia.

The history of Hungary has taught us that the fortunate periods of our national existence have always been those when we did not fall or were not forced into a provincial seclusion, when we could openly hold up to the world our results and our concerns, when we lived in friendship with our neighbours and our intellectual life was enlivened by international contacts. Today we have much more and growing opportunities for this, primarily within the fraternal community of the socialist countries and also beyond its boundaries, in the sphere of those who have recognized that humanity has no other way than to counter the menacing dangers – be they environmental pollution, hunger, ignorance, neglect of the fundamental interests of others, the armaments race curbing the economic power of nations, that is, in the sphere of those who are working on establishing a new order of world economy in the wider sense of the term.

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I. HETÉNYI

GROWTH AND EQUILIBRIUM IN THE FIFTH FIVE-YEAR PLAN OF HUNGARY, FOR THE YEARS 1976–1980

The article embraces the following three problems: 1. the rate and main proportions of economic development; 2. main directions of economic development and the proportions of capital investments; 3. the foundation of the fulfillment of the plan.

Referring to the rate of economic development the author emphasises that the main question of production policy in the next five years shall be differential growth in various directions of sales. The cardinal point in the policy of capital investment shall be the concentration of existing resources and contribution in this way to the structural transformation as well as the reconstruction programmes.

The fifth Five-Year plan is a new program for action, setting new tasks for a new period. From the point of view of economic policy it is, however, an alloy of the new and the old: it contains everything of earlier objectives and means which was tested by time and judged in terms of expectable circumstances as maintainable. At the same time, it replaces what no longer serves a purpose and what is not in keeping with predicted conditions.

Main factors shaping the plan

The plan is based on the objectives society wishes to attain and on a multitude of experiences and prognoses, in the first place:

– on the political and economic experiences of the fourth Five-Year plan period (1971–1975),

– on the results obtained from the exercise on long-range planning for 1976–1990,

– on forecasts concerning the main factors of the economy,

– on tasks deriving from the initial economic situation in the narrow sense of the term.

Aware of the dangers of oversimplification, one can still say that the first two factors will basically secure *continuity* in the new medium-term plan, while the last two require essential *changes* in economic policy and methods.

Planning could rely on fundamentally favourable progress made over the last five years. The overall growth of the economy was in conformity with the objectives laid down in the fourth Five-Year plan and the actual figures are nearer to planned ones than was the case with any previous medium-term plan, generally showing some overfulfilment:

Table 1

Major economic indicators of the fourth Five-Year plan (1971–1975), percentages

Indicator	Planned	Expected fulfilment
National income	32	35
Gross industrial output	32–34	37
Agricultural production*)	15–16	18
Per capita real income	25–27	25
Per capita real wages	16–18	18
Investments into the socialist (state and cooperative) sector**)	37	50

*) average of 1971–75 as a percentage of the average of 1966–70
**) five-year totals

But comprehensive indices do not sufficiently describe diversified reality. At least three further questions must be answered:

– has the character of development perceptibly changed in keeping with the requirements of intensive growth?

– was the coordination of growth and equilibrium always successful?

– are there any weak points within the generally favourable picture which provide essential lessons for further planning?

I shall only refer to certain aspects. The main direction of intensive development had been indicated in the long-range planning exercise as follows: "In the system of targets of economic growth over the next twenty years great emphasis will thus be placed on raising technological standards, and those of organization and structure of production to world requirements, on selective development improving the export potential, and, in harmony with the evolution of these processes, on the gradual development of the infrastructure and the settlement structure." [1]

These requirements can be quantified in the first place by means of labour productivity, efficiency, export capacity (or exports) and infrastructural development indicators.

The indicators listed show a favourable development in the intensive direction. The capital/output ratio, however, developed unfavourably, the cause may be found partly in deficiencies related to the utilization of fixed assets.

Harmony between the requirements of *growth* and *equilibrium* has remained the Achilles heel of Hungarian economic policy. The problem is not new at all, it had been given great attention already when the fourth Five-Year plan had been drafted. Five years ago I wrote: "... the estimates do not one-sidedly exhaust all possibilities for quantitative growth" (namely, those envisaged in the fourth Five-Year plan – I.H.); "they provide, however, a satisfactory basis for living standard policies and secure more favourable conditions for the transformation of the product pattern... It was, however, not excluded either" (namely, the possibility of faster growth – I.H.) "subject to the condition that in a later stage of planning the following requirements can be satisfied:

1. Further acceleration of economic growth must not detrimentally affect the country's balance-of-payments position nor act towards increasing short-term indebtedness during the fifth Five-Year plan period; 2. quicker growth does not result in active balances which cannot be mobilized; 3. in the case of quicker growth, productivity rises at a higher rate than calculated in the plan concept; 4. greater production does not lead to a shift in the planned proportions between consumption and accumulation in favour of accumulation; quicker growth does not weaken, even transitorily, the internal financial equilibrium." [2]

I believe that these considerations quoted were appropriate and have remained so. However, they could not be fully implemented in practice, although – in my opinion – the effect of structural changes on efficiency was somewhat more favourable than had been planned. Difficulties were, however, caused:

– by certain mistakes of forecasting: e.g. by sudden changes in the processes of the capitalist world economy that were unexpected and could not be expected.

Table 2

Some indicators of development between 1961–1965, percentages

Index	1961–1970 fact	1971–1975 planned	1971–1975 expected
Annual increase of national income per employee engaged in the material production	4.6	5.1	6.2
Annual growth rate of industrial labour productivity	4.1	4.1	6.0
Contribution of the improvement of efficiency to the growth of national income*)	56	57	58
Growth in the volume of exports	–	6.2	10.2
Share of services in investments in the socialist sector	38	41	43
Share of non-productive branches in investments in the socialist sector**)	16	20	21

*) The formula for working out national economic efficiency:

$$E = \frac{N_1/N_0}{(M_1/M_0)s + (A_1/A_0)r + (K_1/K_0)p},$$

where the subscripts 1 and 0 indicate the plan and the base periods and

N – National income (net material product)
M – Employment in material production
A – Fixed assets engaged in material production
K – Stocks engaged in material production
s – sum of wages and personal incomes
r – sum of depreciation allowance and the charge on fixed assets
p – charge on circulating assets, and
the sum of $s + r + p = 1$

**) Transport, communications, water control, trade and the "non-productive branches"

A more thorough evaluation is demanded by the fact that the forecast of employment in 1971–1975 had overestimated the level of employment and thus contributed to the creation of jobs that could not be filled. This must be judged to be a mistake of a different type;

– by deficiencies in economic management, primarily by weaknesses in the control of the investment process, and by the delayed reaction even when a situation was recognized (meaning above all the regulation of incomes destined to serve investments, as well as measures aimed at selective development); by inconsistencies in implementation – in the end all that contributed to the deterioration of the economic equilibrium.

All in all, dynamic equilibrium asserted itself only at certain stages and – owing largely to the sudden and large deterioration in the terms of trade an economic policy giving priority to equilibrium must be implemented during the fifth Five-Year plan period.

Economic development in the years 1971–1975 taught us that

– planning had been on the whole correct; it had better judged the extent and effects of macro-economic processes and structural changes than in earlier plans;

– the system of controls proved to be suited – with its improved tools – for attaining the targets set, though, lacking experience, the scope and complex effects of some regulators could not be correctly assessed.

Planning and control could not achieve satisfactory results in selective development. Priority development projects were implemented with higher standards (by setting clearer priorities in respect of central development programs and the development of infrastructure), from the long-term point of view, however, the linking of development with restrictions proved to be less successful in industry, in spite of the fact that there is much sound experience of structural changes implemented on the initiative of enterprises. Today we are already looking forward more realistically to the expected effects of autonomous enterprise decisions. We are also aware that both the system of incentives and the social environment favoured an implementation of continuous growth by the average enterprise. Structural changes essentially modifying the framework of enterprise activities require more active central support and, within that, also political support. Planning must base the supporting of selective development on clearer realizations, whether the problem is the desirable direction of change, or its reality, or the risks involved. Economics still owes us the elaboration of a system of conditions and criteria to serve a selective development policy with a dynamic approach and relying on dynamism.

The rate and proportions of economic development

The planner is in a particular relationship with macroeconomic categories. There is no doubt that they are of fundamental importance for economic policy and planning. Without macroeconomic estimates partial estimates cannot be put at the service of a uniform common objective and measures or programs cannot be

assessed. At the same time, the experience gained suggests that it is of equal significance to plan the important partial interrelations and structural changes shaping the main processes and to formulate adequate policies and a system of measures realising them. Without such, the macroeconomic processes become devoid of content and uncontrollable and the main indicators turn into fetishes.

This allows me to do no more than suggest to readers that planning involves the synthetization of results obtained with different approaches (meaning much more than the collation of balances). A plan cannot be built on macroeconomic processes arguing that the details will be "filled in" later like figures in a child's painting-book, but it cannot be interpreted as a large "mosaic" to be fitted together, either. (A tractor or a fire-engine cannot be assembled without a general previous design!)

I will not continue the simile; the purpose of this article is not to discuss the theory of planning. I emphasize the many-sided approach only since without it the article may seem – owing to its subject – somewhat one-sided.

In the economic policy for the years 1976–1980 the first guideposts for its substance, that is, for planning growth and the main proportions, were the main lines of long-term economic development already quoted, which we consider to hold even under changed world economic conditions. The other starting point was the known requirement that, given world economic conditions that can be forecast, in order to attain a dynamic equilibrium the growth rate of the net material product must exceed that of the domestic utilization of national income by about seven per cent, and that, simultaneously, exports to countries with which trade is transacted in convertible currencies must grow by 20–25 per cent faster than imports from the same countries.

What growth and what main ratios can be planned?

We may start with manpower and productivity forecasts. The plan reckons with an annual 0.3 per cent increase of employment between 1975 and 1980 (the corresponding figure for the previous five-year period was 0.5 per cent), within that the annual increase in the services will be 2.1 per cent (1970–75: 3 per cent), and in agriculture there will be a reduction of 2.7 per cent annually (1970–1975: 2.9 per cent). Accordingly, industrial employment will practically stagnate. *Labour productivity* developed favourably between 1971–75: in industry and in agriculture it increased by 7 per cent a year on average and in building construction by 4 per cent. (Computed in terms of net output.) Technico-economic studies and the everyday experience that the reserves inherent in work organization are no smaller than they were five years ago, as well as the expected increase in productive investments suggest that the growth in labour productivity attained in recent years can be forecast also for the following five-year period, provided that the growth in production will not be limited by other factors – e. g. by foreign trade. From this point of view it is highly important to examine the interrelations between the expected development of foreign trade and international finance, and growth.

Although, when discussing the world economy, one thinks first of all of things such as capitalist inflation, the price explosion and depression, yet it will be in place

to deal first with those highly important and thorough changes, for us at least, which are taking place in cooperation between CMEA countries. From the point of view of the development of the Hungarian economy evolving socialist economic integration has favourable effects in the long run. The conditions for cooperation in the next five years are favourable as well. There are, however, also transitory limiting factors. It has a positive effect on growth that in manufacturing, and in agriculture, the integration provides better conditions for a fuller exploitation of Hungarian resources than has been the case hitherto. In the wake of the plan coordination for 1976–1980 we could plan an export pattern corresponding to the economic and technological progress and to domestic endowments; on the basis of cooperation and specialization we can increasingly concentrate resources, relying first of all on the modernization of existing plants. As a result of cooperation the possibility of importing advanced technology (machinery, intermediary goods, chemical materials etc.) is widening, though not yet satisfactory.

The conditions of procuring fuel and raw materials have, however, become less favourable, mainly as a consequence of the fact that the costs of extraction and transportation are growing in CMEA countries, first of all in the Soviet Union, and the capacities available are limited. Therefore, in increasing imports, various kinds of joint efforts are gradually becoming predominant. It must also be reckoned with that, owing to changes in economic structure, the opportunities of the traditional raw material exporters have diminished in several fields. In practice this has led to a situation where, in respect of several products, the maintenance of earlier supply levels has become typical. Nevertheless, imports of energy from the Soviet Union will continue to grow fast (by about 60 per cent), as a result of joint efforts, including participation in the construction of the Orenburg pipeline. But the imports of basic raw materials can be increased only to a small extent in spite of joint efforts.

Cooperation in the field of energy, and related domestic developments require huge investments. The share of energy in total investments must be increased. Contrary to a widely held view this decision is a result not of the increased oil prices, in the first place, but of the objective energy situation in CMEA countries and of demands made by the fast development of the infrastructure of energy (networks, storage facilities, the increased requirements of environmental protection). If plans are compared with ideas prior to the oil price explosion, essential changes can be seen to have been no more than the bringing forward of the construction of one or two thermal power stations using coal.

It must be noted that the joint international effort is of diversified form and content. One form is the exchange of what are called "hard" goods, that is of those that can also be sold for convertible currency, another form is target-oriented supplies for foreign projects, or direct participation in the construction of such projects coupled with credit-granting, or without it. Joint efforts as a form of cooperation have a stimulating effect on developing export capacities, but they also cause a slowing down in the internal rate of growth in several respects. They put

a strain on building capacities which are anyway narrow; in addition, the high western import contents of target-oriented deliveries restricts other kinds of imports from the West. Finally, where credit must be granted, this also limits the possibilities of accumulation.

Summing up what has been said and in consideration of the fact that a smaller increase in imports from CMEA countries may be expected in 1976–80 than lately – while the increasing demand for selective development would require a faster growth of imports – we may say that opportunities for cooperation with the socialist countries in the next period warrant a smaller rate of growth than we were accustomed to. How then do the expected developments in the capitalist world economy and the requirement of restoring equilibrium affect the growth rate in the period planned for? The problem may be examined from three aspects:

a) From that of the volume of investments. To balance the deterioration in the terms of trade* the rate of domestic utilization (of national income) and within that the volume of investments in 1980 will be lagging about 7 per cent behind the level attainable if investments were increased at the same rate as production. This circumstance will reduce the stock of fixed assets in 1980 by about one or two per cent as against earlier planned figures. If we consider that, with a more modest investment program, the time needed for completion can be more easily reduced, we may say that the volume of investments will not substantially affect the rate of growth up to 1980, although the long-term effect must not be underestimated.

b) Do changing world market prices and relative prices justify, in general, that investments into raw material production with their long gestation periods and slow returns should be given priority? Energy has been discussed already. Beyond that, in my opinion, there is no reason for such changes in the pattern of investments, and it would be a mistake to provide for such. Our economic resources have not changed and the rising price of oil has no verifiable strategic effect suggesting that the prices of *every single* basic and raw material should increase – beyond the secondary effects of the energy costs – as against the manufactured articles which are technically or otherwise advanced or, for that matter, agricultural products.** Investments must continue to have the character of reconstructions – also in the production of raw

* Planning data reckon with a deterioration in the terms of trade in both directions of trade – meaning trade settled in convertible currencies and that settled in transferable roubles. One can still justifiably discuss the subject here since the prices in trade between CMEA countries are indirectly influenced by capitalist world market prices.

** Three comments are needed. We will not discuss the effects of the capitalist depression which may well be highly important in the short run, since the structure of investments cannot be affected by short-term fluctuations from the point of view here employed. On the other hand, the expediency of implementing certain highly capital intensive – but lastingly profitable – investment projects cannot be excluded, if their realization is possible with long-term credit available for the purpose, since in this case our own resources are not called on to an exaggerated extent. Finally, we know only too well that per unit consumption of materials can be considerably reduced by developing technologies and products and that we have large reserves in this respect.

materials, thus e. g. in metallurgy as well. At the same time, we must reckon with the fact that the strained balance of payments of convertible currencies justifies an exchange rate policy that supports import-saving. Since material-saving programs indicate that there is ample scope for savings that do not impair efficiency, this circumstance cannot be called a seriously damaging factor from the point of view of the requirements of efficiency.

c) It is indeed an important question what increases in exports will be made possible by production and marketing opportunities in the next few years, including investments with a short gestation period, mainly of reconstruction nature, which serve this purpose – or without essential investments.

Diversified studies have pointed out that, if purposeful measures are taken, although a 60–65 per cent increase of exports to countries with which settlement is made in convertible currencies is not easy, it can be achieved. That is true in spite of the present depression in the West, considering the capacities of industry and agriculture and the possibilities of improving productive and marketing activities as well as the results of plan coordination with CMEA countries. The 60–65 per cent increase in exports allows for an increase of imports of about 40 per cent. This calls for rational saving measures.

This train of thought leads to the basic question: What rate of growth can be planned for production in view of plannable imports, the possibilities for efficient import-saving, and, at the same time, the import-expanding effects of selective development? The answer has to be supported by concrete computations regarding production, sales and investments. This was an essential part of planning.

In consideration of the social interests related to dynamic economic growth, other essential factors had to be carefully investigated as well. Among them international credit policy is of outstanding importance. The plan reckons with realistic credit commitments and with the possibilities of obtaining credit.

The correct ratio of consumption and accumulation was subject to further investigation. In deciding on it, the plan reckoned with the favourable effects of continuity, with the positive role of a living standards policy in raising efficiency, with the social commitments of a socialist state, and with the implementation opportunities for investment. All that has led to the conclusion that, even with the improving standards of investment activities, it is not justified to increase investments at the expense of consumption, while acknowledging the necessity of development projects already started, of structural transformation, of increasing the export potential and of the development of the infrastructure – all of which cannot be carried out without regularly increasing investments. In the final analysis, an essentially parallel rise in consumption and investments proved to be expedient, much as had been laid down in the fourth Five-Year Plan.

Returning to the logical scheme of export capacity→imports→production →domestic utilization (inclusive of the necessary feedbacks) the conclusion was arrived at that a 30–32 per cent growth in national income can be planned.

– The planned growth rate of national income is 5.4–5.7 per cent p. a. against the 6.3 per cent actually attained in 1975, thus somewhat lower than has already been realized;*

– the increment of imports per one per cent increase of national income will be 1.2 per cent (in 1971–1975 it was 1.4 per cent);

– the growth of exports to countries with convertible currencies per one per cent increase of national income will be 1.8 per cent (1966–1975: 1.6 per cent);

– as regards all the productive sectors the increment of national income per man-year will be 5.8 per cent (in 1971–1975: 7.3 per cent);

– national income per unit of assets engaged will diminish by one per cent in five years.

In view of the interrelations reviewed the basic problem of production policy is to bring about such a pattern of sales that, with an allover growth of 30–32 per cent, exports to convertible-currency countries should grow by 60–65 per cent, to rouble-countries by 40–45 per cent, while domestic utilization should increase by 23–25 per cent. This is a qualified objective, within which the interrelation between the growth of production and sales could be formulated with a more precise logic so that the attainment of the planned pattern of sales turns out to be the principal condition for a 30–32 per cent growth to become realistic. As regards the criteria of overfulfilment, what I said about the subject in the context of the fourth Five-Year Plan still holds true.

Main directions of development, investment ratios

Regarding development policy, I will concentrate on the investment ratios, though I do not agree with those who consider the volume of investments as just about the only factor of development. I consider the fetishization of investment proportions to be particularly unsound. I am also aware that the mode of exposition will necessarily be all too generalized.

The investment plan reckons with the following ratios.**

The main directions of investment are described in the table with the help of several indices. What then are the important efforts reflected by planning computations?

1. The investments of the fifth Five-Year Plan support the basic priorities established in the long-term plan. Principally in order to provide a basis for the sixth

* The mean value of growth rates planned in the third and the fourth five-year plans was 4.7 per cent.

** To remind readers: because of the known system of investment decisions (competition for credit, the formation of own funds etc.) the overall figures for branches do not represent decisions on programs but are merely planning computations.

Table 3

Investment by branches planned for 1976–1980
At comparable prices of 1972

Branches	Investment as percentage of the preceding five years	Annual growth rate of fixed assets, per cent	Planned capital intensity as percentage of the preceding five years	Share in total investments 1971–1975	Share in total investments 1976–1980
Socialist sector, total	126	5.6	100	100.0	100.0
Of which: mining	137	6.5	127	4.7	5.3
electric power production	198	8.1	106	5.1	8.2
housing construction*)	146	–	–	10.6	12.6
subtotal	–	–	–	20.4	26.1
All other branches	114	5.2	97	79.6	73.9
of which: industry and construction**)	114	6.3	101	31.7	29.4
agriculture	105	4.9	106	15.8	13.3
transport and communications	126	3.9	9.3	12.3	12.5
non-material branches***)	104	4.3	–	9.9	8.4

* Inclusive of personal servicing branches
** Excluding mining and electric power
*** Excluding housing

Five-Year plan, investments serving the development of the fuel* and energy basis as well as those in housing, which continue to play a key role in long-term living standard policies, will considerably increase.

2. Investments into all other branches will be allowed to grow by only 14 per cent in five years. In allocating investments, the following are born in mind:

– production tasks which were established by branches in view of the exports to convertible-currency countries that can be planned, plan-coordination with CMEA countries, and growing consumption. According to targets verified by these detailed computations agricultural production should be increased at about the same rate as in the preceding years, industry somewhat more slowly and construction somewhat faster.

– the conclusions arrived at in the technico-economic conceptions, reckoning with a more parsimonious development relying on reconstructions and, as a result of these, on the expectation that output per unit of assets will grow to a lesser degree in manufacturing (stagnating in industry, taken as a whole), while capital intensity in construction and agriculture will somewhat increase in comparison with the preceding period.

* More than 80 per cent of investments into mining serve the development of coal, oil and natural gas production.

3. The important long-term development trend is evident that it is expedient to increase the share of investments which flows into the infrastructure. This, in the seventies, affects mainly housing, then certain productive services (transport, distribution networks), and some other non-productive services (e.g. primary education and the training of skilled workers).

However, as a result of the deterioration in the terms of trade in 1974–1976 net income of the economy is growing much more slowly than the volume of national income. As a consequence, no satisfactory cover is built up to increase the share of infrastructural investments, so that we are compelled to delay its further perceptible rise. The combined share in investments of the productive services (transport, communications, water control, trade) and of the non-productive branches can be increased only slightly: from 47 per cent to about 48 per cent.

Within the infrastructure, it is mainly investments into transport and communications that will be growing fastest, that is, in addition to housing. The justification for this measure is borne out by the fact that, in spite of a 26 per cent increase in investments, the growth rate of fixed assets is still slower in these branches than in the rest of the economy.

4. From what has been said it follows that although the share of investments of manufacturing and agriculture will be smaller, those planned ensure that the stock of assets will grow dynamically doing so somewhat more quickly than production. It is, therefore, a key problem of investment policy that the means available should help structural changes in a concentrated manner and selectively, that up-to-date equipment should be better utilized by strengthening the reconstruction character and by means of a rational location policy, and that capital intensity should not unjustifiedly increase because of the unsatisfactory preparation of sales, labour shortages etc.

Founding plan-implementation

Conditions of plan-implementation will be discussed without going into details. The subject is only apparently distant from macro-economic indicators. Efficiency planned on the macro-level is basically a synthetized expression of product pattern, technology, organization, that is, of microeconomic processes. The reality of the planned improvement of efficiency thus depends on whether the everyday activities and processes claiming the whole creative power of the country can be adequately controlled and drawn into the implementation of these tasks.

But this relationship is not one-sided. A realistic and well founded growth rate and adequate ratios are both indispensable conditions and promoters of a favourable growth in efficiency. The planning of a realistic framework is thus itself a positive power. But the yardstick of reality is not the possible slowest rate of development, or growth, but *whether planned development is in harmony with exploitable opportuni-*

ties. To explore every opportunity for dynamic and coordinated growth, and through these for the raising of living standards, and the organization of their maximal utilization, is the responsibility of the planners, to the same degree as ensuring realism in terms of aggregate balances.

The tensions contained in the plan and its mobilizing power emerge as a relation between the plan targets and the means available for implementation. A strained (or even forced) plan can be justly criticized if it intends to mobilize the economy without adequate conditions (control, organization, regulation). The conclusion to be drawn is not that the lower the plan figure the better, but that the tasks should be set by relying on the exploitation of opportunities promoting smooth growth. The mobilizing power must be thus aimed directly at the economic processes in the form of requirements in respect of selection, stimulation, work organization etc.

The fourth Five-Year Plan had been properly based on economic regulation, the continuity of central decisions, the plans of the councils and the enterprises, and on annual planning, on the state budget as well as on the guidelines of credit policy.

The working out of measures promoting implementation was an organic part of drafting the fifth Five-Year plan. An outstanding role was played by plan-coordination with the CMEA countries, by agreements concluded which embody the results of coordination, as well as by the modification of economic regulators.

Modification of the regulators serves to better reflect changing conditions and rational action as well as the consolidation of financial equilibrium. Although it is not justified to make a distinction between these points of view in terms of their importance, I wish to stress here the importance of consolidating financial equilibrium since the structural efforts described above must be served by regulators, and within them by financial regulators which have a stressed role, in such a way that, in the meantime, the financial position should improve as well. A reduction of the difference between the production and use of national income can be based only on such an improvement.

A number of central decisions will be given concrete formulation soon, above all the objectives to be implemented in 1976–1980 of the Central Development Programs will be approved, together with the program of what are called lump-sum investments (for distribution networks, schools etc.). The drafting of enterprise plans is in process.

Relying on the experience gained since the introduction of the reform of economic control and management, as well as on the recognition that under dynamically changing conditions and opportunities within the world economy the fifth Five-Year plan is to a certain extent "open", it is clear that further decisions will have to be taken all the time. Decisions on the major investment projects to be started in 1978–1980 will be taken making use of fresh information. A factor supporting the claim for continual decisions is the joint resolution taken by the CMEA members prescribing that the coordination of long-term plans with a horizon

of 1990 shall, in 1976–1977, enter a decisive phase. Annual planning as well expresses the need for continual decision-taking.

Among the planning and controlling tasks there will be, however, also such which demand more purposeful work than was the case heretofore. Points in question are a selective production policy supporting export capacity, rational saving of materials, enhancing the organized character of production etc., – without diminishing the role of economic regulation, indeed, by increasing its scope – in conformity with the processes demanded by intensive growth and above all given the predictable labour situation.

The experiences of the fourth Five-Year Plan already mentioned have shown that a plan indicating aggregated tasks only and economic regulators mediating the general conditions of management as well as the technico-economic conceptions with more or less the character of recommendations, could not exercise a sufficiently effective influence on concrete economic processes. One of the indications was the effort manifest in the enterprise Five-Year Plans that more labour and investment was allowed for than what would have been realistic – above all in the competitive sphere – and that higher income was expected mainly from a fast rise in the volume of output. Although the ministries had called attention to this fact in the course of consultations, in most cases they could not provide satisfactory orientation for labour management, selectivity in production or enterprise investments.

The relations between central control and the enterprises need improvement. To ensure a better basis for enterprise plans and to promote intensive growth central planning and organization must be strengthened in certain respects. The first condition for that is that we should possess ideas ready for action (not however falling into the error of arbitrariness) on the possibilities and ways of labour management, selective development, export promotion and the technologically and economically justified saving of materials.

This is why the government resolution on the fifth Five-Year Plan prescribed the carrying out of several central planning and organizational tasks, to be implemented with the inclusion of enterprises, also by relying on their initiatives, even before enterprise plans were approved. The most important ones among them are:

– working out industrial development draft plans for the Budapest agglomeration, with special attention to the predictable labour situation, establishing the tasks of major enterprises in respect of employment and the releasing of labour;

– formulating concrete objectives related to selective development and structural transformation for the first half of the plan-period, so that these may be built into enterprise plans;

– formulating measures promoting exports to convertible-currency countries; within that establishing the conditions for applications to be submitted for preferential credits, organizing the participation of enterprises and allocating credits to investments to be started in 1976–1977, as soon as possible;

– organizing international cooperation ventures on a continual basis;

– working out a series of measures necessary for the saving of energy and materials.

This work is an organic complement of general economic regulation and if it is performed with competence it will provide a firm foundation for establishing the preferences to be included into the system of regulation and particular rules, and will also make possible that direct instructions should be issued only where other ways of regulation do not answer the purpose even after thorough investigation.

In the course of organizing and controlling work great attention should be paid to avoiding measures that cancel each other: on the contrary, such measures should support the reality of enterprise planning. Greater foresight – though admitting that unforeseeable circumstances will continue to exist – will considerably reduce losses and, acting on real processes serving the conscious and planned nature of everyday activities, this will help to implement a plan which is realistic but still requires serious efforts.

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ЭКОНОМИЧЕСКИЙ РОСТ И РАВНОВЕСИЕ В ВЕНГРИИ В ПЕРИОД V ПЯТИЛЕТНЕГО ПЛАНА (1976–1980 гг.)

И. ХЕТЕНИ

В вводной части статьи автор рассматривает факторы, учтенные при разработке V пятилетнего плана и указывает, что некоторые из них обеспечивают преемственность нового пятилетнего плана, а другие, как например актуальные задачи, вытекающие из исходного экономического положения, требуют изменений в предусматриваемой планом экономической политике и ее методах.

Автор останавливается на трех проблемах: 1. темпы и основные пропорции развития экономики; 2. главные направления экономического развития и пропорции капиталовложений; 3. обоснованность плана.

В отношение темпов экономического развития говорится, что основным вопросом производственной политики в последующие пять лет будет дифференцированный экономический рост в зависимости от направлений сбыта. В политике капиталовложений ключевым вопросом является концентрация средств, содействие таким образом структурным изменениям и проведение программ реконструкции.

В заключение автор указывает задачи планирования и управления по обеспечению выполнения V пятилетнего плана.

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L. FALUVÉGI

DEVELOPMENT OF THE FINANCIAL REGULATORS AND THE NEW HUNGARIAN FIVE-YEAR PLAN

The author enumerates the causes that have brought about changes in some elements of the system of financial regulation in 1976. He considers three areas of the change of the regulators: analyzes their effect on efficiency, on the stimulation of a more advantageous structure of sales and on the measures affecting investment decisions.

In the mid-1960s the Hungarian Socialist Workers' Party analysed, relying on economic reality, the possibilities for a lasting and dynamic economic development and stated that it could be guaranteed through a joint application of planning and economic regulation. The system of and control through far-reaching obligatory instructions addressed to enterprises was abolished in Hungary in 1968, and instead of them economic regulation became one of the most important means of enterprise control.

The main objectives of economic policy continue to be formulated in the national economic plan. It is the plan that lays down the main lines and proportions of economic development and co-ordinates objectives with means to serve their realization. Thus the plan and the importance of planning are a basic factor and unaltered as such also in this system of control. It is the way of linking national economic aims to enterprise objectives that has changed, because the role of plan directives has been taken over largely by economic rules indirectly influencing company interests, and this creates a larger and more diversified scope for the assertion of social consciousness.

Fulfilment of the national economic plan is now influenced on the one hand by direct central decisions (by instructions regarding major investments, prices of fundamental raw materials and consumer goods, import and export prescriptions affecting various fields), on the other hand by financial prescriptions affecting the distribution of net social income between State and enterprises, influencing thereby enterprise incomes, and conveying plan targets, and by other economic regulations as well. Besides, other factors also motivate enterprise decisions, to mention only the most important ones: the desire for a general development of the enterprise, the joint efforts of the workers' collective, the leaders' professional ambitions, etc.

The basic principle of economic regulations *is the right and freedom of the enterprise for independent decision, that may be asserted within the limits of the plan and is led by the profit motive.* In the development and growth of enterprises the accumulation of own resources has become important, and it depends on the result achieved, i.e. on profit, regulated at the same time also by the proportions of the plan. Thus, in the attainment of the objectives laid down in the national economic

plan it is the successful work of the enterprise that is recognized. Under adequate conditions the profit motive establishes a harmony between the social enterprise and individual interests, mobilizes and stimulates enterprise and individual energies towards social interests. More efficient work is advantageous for the enterprise and is expressed in higher profit. But it is also directly advantageous for the people working efficiently, because it brings them higher personal income. If enterprise profit is higher, and the working people earn more, this means that national income is growing and the socio-economic development of the country accelerating.

The profit motive can function only under such specific commodity (market) and financial conditions in which products are exchanged in the form of commodities, regulated by the sales contracts of enterprises, in which price and changes in price essentially influence demand and supply, and in which purchasing power is regulated in accordance with planned proportions, and the purchasing power reacts on supply. Under such conditions the purchasing power obtains an important role in creating harmony between needs and production; financial and fiscal measures and institutions – such as taxes, subsidies, customs duties, exchange rates, credits – affect the main lines structure and profitability of production as well as turnover and consumption. This is the role the reform of economic control and management introduced in Hungary in 1968 had assigned to the financial system.

The new system of economic management had no little part in the successful execution of the fourth Five-Year Plan covering the period 1971–1975, in the now dynamic economic development of the country, and in that the intensive features and methods of development have come to the foreground and strengthened.

It will remain to later generations to judge the role of the new methods of planned control and management in development, but it is beyond dispute already that economic history will consider the reform of the economic management system started in 1968 as of outstanding importance even though its full assertion takes longer and requires more adjustments than had been supposed.

Grounds and motives of the changes

It has become obvious by now that the evolution of the new and more efficient system of national economic planning and control is a complicated process that takes a long time. There are three fundamental reasons for this:

1. It is impossible to establish a radically new system at once: unfortunately, there is no way of laboratory experimentation in economy, and the effects of each measure cannot be forecast in every detail; there may be unexpected effects, or the expected effects may not take place, therefore, *the newly established system is bound to carry errors and contradictions.* These must be continuously reduced and eliminated. Exactly on these grounds the system as devised in 1968 has been considered neither ideal nor unchangeable.

The Central Committee of the Hungarian Socialist Workers' Party organized already in 1972 a critical analysis of the system of economic conditions created. It was found that the principles and elements of the regulators were on the whole correct and this had been clearly confirmed by practical experience.

There were, however, certain ideas that could not be realized, or not to the required extent. Conditions of a sound competition have not developed, not even in the case of parallel home capacities, and thus its assumed advantageous effects could not come about either. Nor can this be expected in the near future and thus our conception must be modified and taken into consideration in the regulation.

World market competition does not sufficiently stimulate improvements in quality and technology either, among other things because demand on the home market is also very large. This is thus not only a problem rooted in the economic mechanism, but may be traced back to the economic policy problem that we have not sufficiently regulated demand, and that the phenomena of a shortage economy persevere in our system. The fifth Five-Year Plan covering the years 1976–1980 aims already at a less ambitious growth of home demand.

The price system has not become elastic enough, and tendencies of price cutting have not developed, although it is true that this possibility has disappeared in the meantime as a world phenomenon as well. Conceptions about the permanent modernization of the price system could not yet be carried into effect consistently, and the orientating role of prices has, after a temporary strengthening, more and more weakened. The new system of financial incentives has not strengthened the owners' approach in workers enough, the democratic rights of producers' collectives have not widened sufficiently, and therefore, social control could not assert itself to the required extent. Leaders of the enterprises were unable to reconcile the interests of today with those of tomorrow: the long-range approach has not yet spread enough.

There were also other conceptions that proved to be unelaborated and not in adequate harmony with long-range development possibilities and objectives. E.g. the regulators did not stimulate efficient labour enconomy enough; the system of the average wage regulation induced exactly a loose labour economy. Capital burdens were too high, and in comparison to them the burdens on live labour were too low, although it should have been known – and some expressed this view – that labour would become scarce in our country. As everywhere in the world, always larger and more complicated investment projects are implemented, but the conditions of long-term interestedness could not be created, nor could be those for the ranking of development aims established.

The critical analysis has revealed many problems and inner contradictions. This does not mean, of course, that all troubles of the Hungarian economy are caused by shortcomings of the regulators. Problems of economic policy nature have been mentioned and, as will be seen hereunder, the roots of our concerns are even more far-reaching.

2. Planning and regulation methods cannot be changed merely by orders and prescriptions. In order that they achieve in fact the required effects a *thorough transformation of consciousness is necessary* which must become manifest also in economic behaviour. The undoubtedly new and more open conditions of tension must be understood and orientation among them must be learnt. The approach of leaders at various levels, of factory workers and co-operative workers must equally change. New orders and regulations need not be just "kept", but people must work in their spirit, their everyday activity must be permeated by the new principles and new approach, they must dare avail themselves of the new opportunities, and this does not take place from one day to the next, either in enterprises or in controlling institutions. Independence must be learnt, as well as its acceptance. Also the fact must be accustomed to that the right of decision of an enterprise has not only advantages but risks as well: it is concomitant with responsibility. And it must be accepted that in case enterprise decisions are not in line with conceptions of the control agencies, these decisions cannot be simply changed by orders.

We find it at every step that in our thinking and frequently in regulations themselves elements of the old and the new are both present. They are so mixed that often it is impossible to distinguish whether it is remnants of the past or the inner contradictions of the new regulations we are facing.

The transformation of social consciousness and the crystallization process expressed also in the regulators are taking place in our days; they must be intensified and channelled in the right direction.

3. Development does not take place along a straight line, nor smoothly, because *external conditions change in the meantime,* and not exactly as has been assumed. When establishing the economic rules we changed our price system in the conviction that we made the first steps towards linking home prices to international prices, and that these would be followed by further steps. We believed that the direction of the steps was obvious and clear, because we thought the trend in world market price changes to be foreseeable and easy to follow. This belief could not hold for long, since in 1973 the sudden change of oil-, raw material- and food prices started a huge inflation process in the capitalist countries, and it is still impossible to know exactly what the future will bring. Business and market research institutes issue widely different prognoses, often forecasting processes of opposite direction. The sudden change affected the Hungarian economy in different ways:

– The judgement of Hungarian exports and imports has changed on the world market. More export articles are wanted for the same amount of imported goods; because of the depression on the capitalist markets Hungarian products are more difficult to sell, and quality requirements are increasingly exacting. Since the higher demands of quantity and quality could not be immediately satisfied, the Hungarian balance of payments in convertible currencies has deteriorated considerably.

- The prices in the trade among CMEA countries could not remain unchanged either, if only because of a general intensification of East-West economic relations, and the substance of the change is also similar: larger exports are required for the same amount of imports from socialist countries than before.
- Losses in foreign trade had for consequence a considerably smaller amount of national income expendable within the country. This, however, was not immediately registered by the national economy, so that during the past two years domestic consumption was not reduced, and the standard of living as well as accumulation have grown even more than had been planned. The balance of the national economy, which had much improved in a few years, was now upset, and there appeared shortages of material and products in home production and trade. The total purchasing power exceeded the commodity stocks.
- We did not immediately recognize – and could not recognize – the effect and permanence of the changes on the world market in all their complexity. First we believed it was possible to protect the Hungarian economy from world market price relations influencing domestic prices. Therefore, the losses in foreign trade were covered by the budget, while the enterprises and the population could buy imported materials and products at old prices. This had two effects that have to be particularly stressed.

First, the import price subsidies paid from the budget in 1974–1975 amounted to four–fivefold of those in 1973. At the same time the profit of enterprises was growing quickly because of increasing export prices, while the resulting surplus taxes could counterbalance only a part of the import subsidies, and the difference had to be covered by the budget from credits. As a result of import subsidies and export profits the enterprises earned more income than was due to them on account of their real performance.

Second, and this may be considered even more important than the first: the micro-economy did not even notice the changes. Therefore, enterprises could not be expected to draw the necessary conclusions either by reducing the use of imported material, or by augmenting exports, since the urgent necessity of this was for them not so much a reality than propaganda. It was finally recognized in economic management that the necessary reaction, i.e. the transformation of the pattern of production and trade, and a more economical use of materials and energy resources *could not be forced by individual interventions, but* could be made general *only by an essential transformation of orientation:* by changing the price- and interestedness relations.

There is also a fallacy in connexion with the foregoing, which must be eliminated. There are people in Hungary who think that because of the changes in world economy the enterprise decision sphere must be narrowed down, since the necessary measures can be taken only centrally. In fact, the necessary practical measures must be taken by the enterprises themselves. It is up to them to recognize, which of their activities are uneconomic under the new circumstances, and what

could be done to replace them by effective ones. Definite central measures are needed then in order that enterprises can in fact recognize national economic interests, and that the latter coincide with their own, since this is the only way to induce them to take active steps. Therefore, the aim is not to replace enterprise measures by central instructions, but to indicate the correct path of enterprise decisions by centrally influencing prices and with the aid of financial regulations and, where justified, to help the enterprise by development supports in order that structural transformation might be more radical than could be achieved with the enterprise's own resources.

Thus the equilibrium of the Hungarian economy has deteriorated in the last years of the fourth Five-Year Plan, and it can be only gradually restored, partly by slowing down the growth rate of domestic consumption and partly by considerably augmenting the production for exports, as well as by a more rational use of imported materials. The changes of the regulations effectuated in 1976 had to keep in view these highly important objectives, formulated also numerically in the next annual and medium-term plan.

The changes in financial regulations are, therefore, to serve several aims at the same time: to eliminate or at least diminish the inner contradictions of the regulation system, to intensify structural transformations required by the changing economic conditions; to promote that in the formation and distribution of incomes the proportions and tendencies laid down in the national economic plan should be realized and that the proportion of the centralized income should increase.

The financial regulators alone cannot be expected to achieve these aims. It is the joint task of direct decisions (on investments, prices, income outflow, trading in means of production, etc.) and indirect regulators to achieve these aims. Financial regulators serve them if they can release the following effects: production activities become more efficient; sales adjust themselves more to plan objectives; efficiency of investments and developments improves.

For a more economic production

The main possibilities of improving efficiency are in the following: a more economical use of materials, and a more rational exploitation of labour and assets. Several changes stimulate the enterprises to act accordingly.

a) The producer prices of materials and energy carriers have been raised. Energy, fuel, building materials, wood, paper cost more, industrial materials used in agriculture have higher prices, and transportation costs are also higher. In addition to raising the prices of industrial materials in agriculture, the subsidies on fuel consumption have been stopped. These measures raise production costs to such an extent, that a decline of production could be expected. Therefore, the state purchase price of a few important vegetal products as well as of pigs and cattle for slaughter has been raised.

Under the joint effect of price increases production costs are growing by 3–4 per cent on average in the national economy. Within this, the prices of certain imported materials are increasing more intensively. Generally, enterprises do not shift surplus costs on to their sales prices, but their profit is reduced. In this way the unfavourable influences on the national economy are now felt also by enterprises. It must be said though that not every justified price increase has been implemented as yet. This is indicated by the fact that although import price subsidies have been considerably reduced: to one quarter, yet they are an important amount. On the average Ft 3–4 subsidy is granted on the import of products worth Ft 100. This is done because we do not want to let market price fluctuations due to business cycles assert themselves in the Hungarian price level. If, however, the present world market price level proves to be lasting, new price increases will be necessary also in Hungary.

It is to be hoped that enterprises will not rest content with diminishing profits, but will try to make up for it by better economizing with materials, particularly with imported materials that have become very expensive, and by trying to substitute the most expensive materials coming from capitalist countries by cheaper materials from the socialist countries or by domestic ones.

Restrictions in the price regulation are varied, and the possibilities for substituting materials are also different, and thus price increases will not affect all enterprises in the same way. World market prices and domestic input proportions are often disproportionate. This disproportionateness cannot be resolved by the price system according to uniform principles, because a given production structure cannot be basically changed in a short time. This makes it obvious that the price system will need to be further amended: short-term measures planned for 1977 do not exempt us from working out a thorough strategy covering the whole financial and the related institutional system, and this is formulated today as an important socio-political requirement.

b) Wage taxes grow by 40 per cent (10 per cent of the wages), thereby the proportion of wage costs in production costs is growing, but it is counterbalanced by a quicker price increase of materials. Therefore, this measure ensures in fact only that in spite of rising material costs the weight of wage costs in production costs is hardly reduced. The social security contribution of agricultural co-operatives will be also higher. Besides, the labour situation also forces the enterprises – since even if they want to find new labour they cannot in most parts of the country – to increase their production by better work organization, mechanization of manual work (material transport, packing, etc.), and without further increasing their staff, rather by regrouping existing labour to more productive working areas.

c) So far labour has been migrating from enterprises with lower profit to those with higher profits, because higher wages have attracted workers. Labour turnover has gone so far as to endanger continuity of production in a number of factories. This has led to a situation in which even those factories have been taking part in the "wage competition" that have not had any large output nor high profit. Workers did not

find it justified either, that for the same work different factories paid highly differing wages, not because of any actual merits of theirs, but because one enterprise could modernize its machinery by the help of state investment, while the other could not, and one factory received greater support, because its product was "more important" than that of another one, etc.

True, in most cases the differences in profits between enterprises reflect real differences in efficiency, even though they do not originate in differences in labour intensity directly felt by workers, but in the fact that one enterprise produces articles that sell better than those of another one, or manages its stocks better, or produces complicated and valuable articles from cheaper material than another enterprise. The effect of such differences on profit is desirable and agrees with our principles. This is because we wish to stimulate not only more efficient work at the workbench, and often the trouble is not rooted in the lack of that, but the true objective is to achieve effective results in every component of enterprise economy.

We do not yet know exactly, what are differences in income originating from work that are socially acceptable and are also adequate means of stimulating production. It is likely that the more the social benefits smooth out differences originating in the size of families and in the proportion of wage-earners to dependents, and the more income differences are in harmony with the actual usefulness of the work, with efforts spent, with competence, performance, the difficulty of the work, i.e. with clearly formulated, measurable and acceptable criteria, the more inclined society will be to accept differences of income deriving from work. Yet today it cannot be stated about any of these conditions that they are all right. Therefore, the *present rules of taxation weaken the close relationship between personal incomes and enterprise profits,* and even out the enterprises' possibilities in augmenting personal incomes. About half of the annual planned wage increase can be paid by every enterprise independently of its output. Sharing funds of at least six days' wages are allowed to every enterprise that does not operate at a loss. The payments "allowed" i.e. those around the average are taxed moderately, while higher payments are subject to highly progressive taxes. Therefore, the number of enterprises with extremely high as well as of those with extremely low growth rates of personal income will be reduced. The income differentiation of large-scale farms will also be controlled by changed income tax regulations.

This does not mean that personal income differences within an enterprise cannot induce better work even more than today. Beside a levelling among enterprises, *personal incomes within the enterprise may get differentiated,* and this is desirable. The worker who contributes more to the achievements of the collective must and can be more compensated financially and morally as well. This is enabled particularly by the various forms of task wages.

d) The thinking in terms of perspectives of leaders, their foresight is promoted by the fact that henceforth *a part of their premium* – amounting to 10–20 per cent of their annual salaries – has been made dependent on such indicators of enterprise

activities as are not necessarily expressed in the profit of the given year, such as e.g. the utilization of development means, measures taken to eliminate non-economic activities, etc. The effect of this measure depends mainly on how it is executed: how objectively and competently the work of enterprise leaders is judged, to what extent criteria of judgement can be established in the different sectors and fields that are really expressive of the justification of the leaders' present activities in view of the future.

e) A new system of *welfare and cultural funds* has been established. So far the amounts available for welfare and cultural objectives have been considerably influenced by the profit. It is thought today more correct and equitable if enterprises have approximately the same potentials in this respect. Independently of the profit of the enterprise the workers should enjoy the same welfare and cultural benefits. Therefore, enterprises can put into these funds and charge to costs a uniform amount per worker each year. In the average of the socialist industry this has been established at a level exactly 50 per cent higher than the fixed part of the sharing fund serving this purpose. Even if an enterprise used to have a larger amount before, it has to shift gradually to the unified norm. (If the enterprise wants, it can augment it from the sharing fund: there is no reason to forbid that. *In this way differences in benefits will diminish considerably, as well as the labour fluctuation caused by them.* Differences will not disappear altogether, for enterprises can build or buy cultural, social and sports institutions from their development funds. And development funds will continue to depend on profit. Nor has it been intended to eliminate all differences, since it is desirable that factories working more effectively should be more attractive, because this helps in eliminating the non-economic jobs. The aim of creating uniform welfare funds is thus to diminish exaggerated differences in benefits, and the resulting labour fluctuation.

f) *Reduction of the profit tax* aims at making enterprises more interested than today in increasing profit.

The average profit tax – including urban and communal development tax as well as the taxes on the raising of personal incomes – has been reduced by 1–2 percentage points altogether. This has been the consequence of the fact that, as a result of producers' price increases and the raising of the taxes on wages, the profit content of prices has gone down. Therefore, the lowering of the profit level does not cause a disadvantage from the aspect of the taxation system. Yet for the time being it is disadvantageous for the enterprises because it reduces – temporarily at least – also the amount of enterprise funds. This puts a limit on the machinery purchases of enterprises, which are a primary condition of improving efficiency. Since, however, the reduction of profits was inevitable – not only with a view to increasing sensitivity to incentives but also in order to reduce the deficit of the budget – the only solution for enterprises is to make up for their temporarily lower profit by utilizing their existing capacities more effectively and by making more economical investments.

A larger tax rate reduction than the above-mentioned ones would have been desirable. This could not be done now. To do so even larger price movements are needed, and even considerable changes in consumer prices. The turnover tax on consumer goods covers only two-thirds of consumers' price subsidies. The difference is an income that is realized in producers' prices but not in the retail trade. If the profit content of producers' prices were only that much less, it would already allow a further tax reduction of 4–5 percentage points. Therefore, investigations must be continued to reveal, how it would be possible to further increase the stimulating power of income regulation by further reducing profit taxes but without increasing at the same time the deficit of the budget.

The new rules of taxation allow to place from a unit of profit more into the enterprise funds. For the formation of one forint development fund so far Ft 4–5 of profit have been required, now only Ft 2. The raising of personal income entails now a much more differentiated profit than before, and it is usually less if paid out as sharing fund and more if paid as wages. The future of enterprises is usually faster and more effectively influenced by measures that aim at augmenting profits. There is no need to prove at length the powerful stimulating effect of this.

Today this effect is not enforced consequently enough, because the requirements of regulation and of budgetary equilibrium have come into contradiction at several points. The monetary demand of the budget could be satisfied only by imposing also a production tax in a considerable number of sectors, and this could be charged exactly to sectors where high profits were earned. From the aspect of regulation this may lead to larger than desirable levelling and may impair the incentive effect. Therefore, it is one of the most important questions of further developing regulation, on what conditions "individual" rules could be made to serve efficiency more consistently, and how those unsuitable for this purpose could be gradually eliminated.

More advantageous pattern of sales

The domestic purchasing power is expected to grow more slowly than production in the coming years. Therefore, sales on the home market will be growing at a slower rate than before. The volume of Hungarian exports to socialist countries is laid down in interstate contracts, envisaging a somewhat faster rate than the growth of production, in harmony with imports from these countries, including also additional exports necessary because of the worsening of the terms of trade.

A part of Hungarian enterprises could augment their exports to socialist markets at a faster rate but, if imports cannot be increased, the increase of exports is not justified either. All the more so, because it is a basic issue of improving the balance of trade, whether exports to capitalist markets can be increased to such extent as is laid down in the plan. In order that the envisaged exports can be effectuated, it is necessary that half of the increment of national income be realized

in these countries, i.e. on such markets where competition is intensive, quality requirements are high, and goods are replaced by others fast. This can be done only if the technological development of enterprises is fast, and the product pattern conforms to market demands. However, not the export of any kind of product must be increased, not simply a growth of volume is wanted, but a growing export of products easy to sell, i.e. of articles whose production is found adequately efficient also by international standards. Financial regulation tries to promote this.

a) At the beginning of the plan period exchange rates of foreign currencies were changed. Enterprises pay less for a unit of imports, and receive less for a unit of exports. Differences are bridged over by government refunds, but not in all cases. Refunds are earmarked mainly for the promotion of profitable exports, while unprofitable exports are driven back by not granting refunds.

b) At the time when the plans of enterprises were being formulated consultations were held with the leaders of big enterprises in which there seemed to be a possibility for a considerable enlargement of profitable exports to the world market. It was examined, what hindering factors had to be eliminated. Additional expenses that may arise are partly assumed by the budget so as to make the enterprise really interested in the full utilization of its potentials.

The utilization of *reserve funds* has been regulated in such a way that an enterprise wanting to complement its circulating funds in order to be able to increase its exports against convertible currencies can use its reserve funds at preferential terms.

Credit conditions have been laid down to allow enterprises to apply for investment credits for such purpose. In the coming five years 40 per cent of investment credits are intended to cover the enlargement of convertible commodity funds. The bank grants credit on efficient economic development projects, and will strictly demand the foreign exchange returns promised.

Development supports prescribed in the plan are also granted – where possible – mainly for creating export capacities, because this is the way also to activate enterprise resources for this purpose.

c) Enterprises are expected to put up with an active exchange rate policy. The exchange rate system has been simplified: the price coefficients have been replaced by commercial exchange rates. Their being quoted by the bank keeps enterprises informed about changes in the rates of exchange of each foreign currency, this enables a simpler calculation and renders more obvious national economic and enterprise interests in export and import transactions.

All this can promote competitive exports to the large extent required only in case the enterprises cannot augment their sales beyond the plan on the safe markets. Otherwise they would obviously satisfy the requirements of the regular customer who is more likely to accept given conditions, and only if forced would they supply markets on which technological and quality demands are higher, delivery dates are insisted upon, and also aesthetical and sufficiently protective package is required.

Therefore, the desirable structural transformation of production and sales will take place only if the outflow of domestic purchasing power is regulated consistently, together with influencing the proportion of sales to the different countries by means of export licences.

More efficient investments

Measures have been taken also to influence investment decisions and their implementation, changing partly the rules governing the accumulation of resources, and partly those of money supply.

a) The rigid rule prescribing the obligatory division of profit into two parts (one for raising personal incomes and one for enterprise development) has been abolished. This increases the freedom of decision of enterprises. On profit a tax depending on its utilization will be levied. Profit spent on development is free from tax. This may have the result that enterprises which do not wish to expand their present activities can augment workers' personal incomes without accumulating proportional development funds. Yet, on the other hand, it may have the result that enterprises which have an opportunity for fast and efficient development can put a considerable part of their profit, far more than before, into their development funds – free from the earlier heavy tax burden – paying transitionally smaller amounts from sharing funds. That is, development funds may become more diversified as a function of profit and enterprise decision. In this way enterprises will have far greater possibilities for development than before, if they agree to increase personal incomes only moderately for some transitional period. The danger persists, however, that some enterprises will prefer in their decisions an intensive raising of personal incomes even if that is not warranted by their results. Such an enterprise will, however, get itself into difficulty in the long run because, lagging behind in development, it will be less and less able to come up to expectations. It is hoped that this will be soon realized by enterprises.

b) Enterprise development resources are strongly influenced not only by the size of profit, but also by the rules of taxation. In several special sectors distinctive measures have been taken: tax exemptions have been granted and even the obligation to pay a part of depreciation allowance into the budget have been cancelled in order that larger development funds – required by the national economic plan – might accumulate than would according to the general rules. Thus e.g. the so-called consumer servicing enterprises may use the tax remitted for development. The general profit tax or part of it can be placed into the development funds by food industrial enterprises, communication enterprises, and by enterprises in almost all transport sectors; the whole depreciation allowance can be spent on development in a number of sectors, e.g. in building material industry, coal mining, food industry, and retail trade.

c) It is desirable that enterprises should invest the largest possible share of their development funds in machines that can be quickly thrown into action and

which are quickly paid off and should start fewer building projects, because then the high tension between demand and building capacity could be reduced as well. Therefore a *construction tax* has been introduced, to be paid by enterprises on the building costs of projects financed from the development funds.

d) *Depreciation rates* have also been amended in certain fields: where justified, higher rates have been established. A quicker depreciation than the average has also been allowed where enterprises judge it advantageous. To bridge over the losses in the running-in period it is allowed with large projects carried out by government decision that enterprises account lower depreciation rates temporarily, if they recompense for it later by higher rates.

The full period of amortization cannot be prolonged in this way, either, but the burden may be more advantageously distributed.

e) *Support* granted for enterprise investments used to be a free benefit. Now it will be *paid back* by enterprises, although with tax allowance, but this is an economic requirement for two reasons:

First: because the tax is the upper limit of support. A producer enterprise cannot be granted more support than will be repaid at least in taxes, since this is the guarantee of profitability of the investment on the national level. In the running Five-Year Plan the consistent assertion of this principle will still cause difficulties. Indirect support can be probably extended but gradually. This is because according to some computations there are a number of sectors in which the tax does not cover the repayment of supports. This calls attention to the fact that there is no full harmony as yet between economic efficiency manifest in profit, and the development conceptions. This, however, is indispensable in the long run, since development can be secured through investments only from income that is in fact produced. Therefore, this subject needs to be further analysed and principles more consistently applied in both planning and the allocation of supports.

Second: repayment obligation is a requirement of efficiency also because it becomes due even if the expected – and promised – tax is not returned in the price. In such cases the enterprise has to make repayment from some other source. This rule is thought to be strict enough to force enterprises to more realistic planning, whereby the distribution of resources will also become more realistic, and there will not be so much unexpected additional costs above plan.

f) The financing of large projects belonging to the scope of central decision has considerably changed. Earlier the enterprises received for such projects partly free allocations, and partly repayable loans. The proportion between the two used to be decided by how much could be repaid. There was no established limit above or below which these investments were considered favourable or less favourable. In future *also the costs of large productive projects are to be repaid.* For this new sources are provided. Repayment is made from pre-tax profit that is the result of investment and from the full depreciation allowance of the fixed assets created.

Several advantageous effects are expected from this new financing system. *In decisions a greater role will be played by effectiveness* as a point of view of selection, because the upper limit prescribed for repayment is ten years. An investment that cannot be repaid in that long period is not considered to be economic. There must be a very important reason for the approving organ to accept such investment. This will happen probably only in cases where official prices are so low that a return from sales cannot be expected. But such low prices as would in themselves justify this are becoming rare. More often the suspicion may arise that it is the weakness of the conception that lies behind low efficiency.

Because of the repayment obligation the investor is more interested in thorough and realistic planning and in implementation according to plan. It is disadvantageous for the investor if costs rise above those planned because, according to the new regulations, they must be borne by the enterprise's own funds. It is also unfavourable if results are smaller than expected, since the repayment obligation must be met also in such a case, from sources of the enterprise otherwise utilizable for different purposes.

Thus the new regulations are expected to achieve a more realistic planning of large investment projects, that decisions will be made with a greater consideration of efficiency, and implementation will better conform to the plan; those who know practice in this country know well how important that is.

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As it has become clear already from a few years' experience, the system of regulation can never be considered as finished or final. This is not only because the most important tasks of the economy are constantly changing and the pulling power of regulators must be adjusted to them, and because outer conditions also change continually to which the amendment of regulators must be the reaction, but also because the experience gained in the course of applying the regulators calls attention also to their weak points and to further and more effective possibilities of incentives and, where necessary, stricter regulators. This is what has led me not to lay stress just on the advantages of the measures taken for 1976, but to direct attention also to the problems whose knowledge lay behind amendment of rules. It is not surprising – although not always voiced – that measures have not only advantageous aspects but also disadvantageous ones. And, if this is also considered, it can hardly occur that disadvantages should outweigh advantages. We are sure that no such thing has happened now.

In my opinion a few such questions can already be formulated whose answering may theoretically support a further development of the regulators. Such are e.g. the following:

– How can the obstacles be fought against which have so far made it impossible – in spite of our intentions – that a more flexible price system and more

reasonable price proportions might be established, guaranteeing simultaneously a comparative price stability?

– Where are the limits within which measures taken for restoring equilibrium promote the improvement of efficiency and beyond which they hinder the same? From this point of view it is particularly production taxes and other rules levelling profits that deserve attention, as well as import restrictions. It is not only equilibrium but equilibrium within the framework of dynamic growth that must be maintained.

– The power of measures taken with a view to efficiency must be examined and, if necessary, strengthened. The experience to be gained with regard to the utilization of profit on the basis of enterprise decisions will be important. It must be promoted that more profitable enterprises should develop fast, i.e. development funds should grow in fact in proportion with profit. It is also a subject of continuous examination, whether the desirable requirements of efficiency are realised in the utilization of investment resources allocated by central decision.

– From the point of view of structural transformation it is first of all efficient exports that will be observed, analysing whether the incentives achieve effects of the desirable extent and direction, whether the more rigorous requirements and incentives create together the conditions for driving out non-economic production and sales, because only in this way can it be achieved that the given investment potentials lead to an *important* structural transformation.

The financial regulators affecting enterprises – as uniform economic organizations – have been changed centrally. The consequences of these changes must be felt also by production units and collective working within enterprises. The mechanism within the enterprise, the rules governing interestedness and of accounting, the encouraging and restrictive power of incentives and the relation between collective and personal interests must be revised. Because of the strict regulations it becomes more important for every enterprise that the activities of uneconomic units should cease or be replaced by economic ones, and also that it should be their most economic activity that develops at the highest rate. This interest must be expressed also in regulations within the enterprise. Enterprises are just beginning to bring their inner mechanism up-to-date.

The present period of formulating national economic plans and regulations has now closed, and now they should be implemented and asserted. Our firm economic policy principles and objectives can be realized if consistency will rule in the execution of decisions and in the utilization of further experience and analyses.

СОВЕРЩЕНСТВОВАНИЕ ФИНАНСОВЫХ РЕГУЛЯТОРОВ И НОВЫЙ ПЯТИЛЕТНИЙ ПЛАН В ВЕНГРИИ

Л. ФАЛУВЕГИ

Автор вначале рассматривает причины изменений некоторых элементов системы финансового регулирования в 1976 году. С одной стороны, невозможно сразу создать совершенно новую систему и нельзя заранее точно рассчитать эффект отдельных мероприятий. Поэтому созданная система содержит в себе погрешности, противоречия, устранение которых требует постоянной работы по совершенствованию системы. С одной стороны, существует необходимость не только в изменении методов планирования и регулирования, но и в преобразовании образа мышления, проявляющегося в хозяйственном поведении. И наконец, изменяются также и внешние условия хозяйственной деятельности.

Таким образом, подчеркивает автор, финансовые регуляторы призваны служить достижению одновременно нескольких целей: устранить, или, по крайней мере, смягчить внутренние противоречия существующей системы и усилить структурные преобразования, соответствующие новым экономическим условиям, а также содействовать соблюдению предусмотренных в народнохозяйственном плане пропорций и направлений образования доходов и их распределения.

В статье рассматривается три области изменения регуляторов: их влияние на повышение эффективности; стимулирование формирования более выгодной структуры сбыта, а также мероприятия, влияющие на принятие решений по капиталовложениям.

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B. CSIKÓS-NAGY

PRICE MECHANISM AND TRADE IN THE MEANS OF PRODUCTION IN HUNGARY

After the change of world prices in late 1973 which caused substantial losses in foreign trade, administrative interference has been more and more often used in 1974–1975. At the same time the author holds it that it would be wrong to go back to the pre-1968 system of centralized distribution of products and goods.

The price system will continue to play a major role in preparing and taking economic decisions. Especially important in this respect is the task of maintaining a balance between home and foreign trade prices with a relative stability of prices, though the complicated situation prevailing in the world market may cause a temporary need in a more resolute centralized regulation of price changes.

Control of the trade in the means of production aims in Hungary basically at maintaining the general internal equilibrium conditions. The purpose of the operative control exercised by the government is to prevent or ease domestic supply disturbances even by deviating from the national economy plan; in the case of global tensions: to restrict disturbances to the smallest possible sphere and to control processes according to rationality; and, in general, to influence the trade in accordance with economic policy aims and, if possible, by economic means.

These requirements could be best fulfilled in the years 1968 to 1973, since the satisfactory conditions of the international division of labour allowed an economic growth based on balanced foreign economic relations. In that period national planning could focus its attention on laying down the main objectives of development and determining the centrally financed or supported investments in harmony with the planned distribution of national income, as well as the credit policy preferences in case of developments on bank credits.

The changes in the relative world market prices that took place at the end of 1973 and the subsequent price losses upset the international balance of the Hungarian economy. Therefore, in the years 1974–1975 we were often forced to administrative interventions and various operative measures in the trade. In view of the new world economic price relations, in the fifth Five-Year Plan covering the period of 1976 to 1980 the course of intensified economic growth had to be determined more consistently from the point of view of the expectable changes in the structure of the basic materials used, and of the potential growth of material intensity. Therefore, the following have become the tasks of planning:

a) to strive for a better co-ordination of material processes beside maintaining equilibrium at the macro-level; to consider in detail the size and character of structural changes;

b) to indicate, by asserting the requirements of a rational use of materials, those sections of economy where disadvantageous structural changes have to be prevented;

c) when by setting out from the system of requirements of the national economic plan, tensions are inevitable, to indicate the fields where the tensions may be released.

The fifth Five-Year Plan sets out from the requirement that the internal balance of the economy must be preserved and wants to eliminate gradually the international imbalance caused by foreign trade price losses, it wants to achieve this in a way that between 1976 and 1980 domestic utilization (accumulation and consumption) will rise at a slower rate than the national income. Of course, the gradual elimination of the imbalances requires international credit operations.

In the course of drawing up the plan it has become clear that the balance of foreign trade upset by price losses must be restored basically not by import restrictions but by export incentives. It was the realization of this fact that directed attention to production structure, efficiency, and products salesable on the world market. In the course of this analytical work the opinion was formed that it would not be correct to reintroduce the methods of central product allocation as applied prior to the reform of 1968, because

- it would freeze the production structure that has to be changed as soon as possible with a view to higher efficiency;
- it would cause a lack of co-ordination between product pattern and the structure of the related material supply and would thus lead to an accumulation of unfinished products.

Those who allocate materials must be supposed to be able to judge exactly the effectiveness of production. As a result of the sensitivity to foreign trade of the Hungarian economy, however, economic efficiency can be determined only in the form of internationally measured comparative costs. In approaching efficiency we are, in one way or another, obliged to a joint examination of foreign trade prices and production costs. Both foreign trade prices and production costs are of varying size. Therefore, we are not in a position to centrally lay down for each enterprise the social interest within the system of the production programme or even of the concrete structural transformation programme. Conclusion on efficiency can be drawn only from the results of the enterprise, and the structural transformation process can be organized centrally only in the case of enterprises of key importance.

It is on these recognitions that the two important features of the regulation system inaugurated in 1976 are based: 1. an economically determined price system, which orientates adequately in economic decisions; 2. enterprise autonomy based on responsibility and risk taking, which is restricted deliberately by the regulations of trade in commodities.

On the price system

In the case of central product allocation price has an accounting function only, while in a free exchange of goods it has a balancing function. The connexion between the system of trade in commodities and the price system was well perceptible

– in 1952–1956: when the means of production were centrally allocated, while consumer articles were sold in free trade;

– in 1957: when the compulsory delivery of agricultural produce was eliminated, and the shift to free state purchases had been based by an agricultural price reform;

– in 1968: when the central allocation of the means of production was eliminated, and the system of free purchase and sale was introduced generally and whose conditions had been created by a general price reform.

Since the 1968 reform price has had a balancing function for both means of production and consumer goods and, as such, it has been orientating in economic decisions. In preparing the fifth Five-Year Plan a solution had to be found to further guarantee this role of the price under the changed conditions of the international division of labour. In this country planned price formation assumes adjustment to foreign trade prices for the assertion of the orientating role of the price, since in the Hungarian national economy nearly all productive investments serve either import substitution or the boosting of export. The economy can be thus checked upon only through international competitiveness. Therefore, the commercial rate of exchange plays a price regulating role also in the current plan period.

The connexion between the foreign trade price and the home price was unambiguously determined for export articles. Within this sphere – with the exception of agricultural produce – the sales return of enterprises is determined by the export prices converted at the commercial rate of exchange and the export profitability of enterprises is determined by the return from sales and the financial "bridges" (refunds on exports, export tax, etc.) correcting it. In this way export efficiency can be judged on basis of enterprise profitability and in consideration of the financial bridges. One condition of this is that the import material used for production should figure at the real purchase price in the export calculations.

In this regard a problem has been presented ever since 1968 by the deviating prices of resources coming from the three main relations (home market, CMEA, capitalist market). In the production process the various materials and primary energy sources substitute each other. In this context at least three factors must be considered. Firstly, on the world market the relative prices of materials and sources of energy substituting each other are changing. Therefore, economic exports are possible only with a material- and energy structure changing accordingly. Secondly, demand for certain materials and primary energy can be fully covered by home production and imports from the CMEA countries, while in others purchases on the capitalist markets are important for complementing home supply. Thirdly, there are

branches of production able to produce articles saleable on the world market competitively and, therefore, their accelerated development is a social interest – yet this can be done only by relying on increased material imports from the capitalist markets.

Keeping in view all these factors, the price reform of 1968 established four price centres for the domestic price formation of imported means of production: 1. domestic costs are the centre of price formation in sectors of production developing primarily on home bases, such as agriculture; 2. CMEA contractual prices are the centre of price formation in sectors where production is developing by reliance mainly on material imports from within the CMEA, such as ferrous metallurgy; 3. the capitalist import price has become the centre of domestic price formation in production sectors where materials coming from the capitalist countries have an important weight, and accelerated development is possible only through complementary imports from these countries, such as the textile industry; 4. a "mixed" import price has been introduced in production sectors in which there are considerable imports from both within and outside the CMEA, such are e.g. a few branches of the chemical industry.

The connexion between domestic and foreign trade prices in the above sense had to be established in the course of the 1968 price reform while preserving a comparative price stability. This requirement was formulated in that the rise of the consumer price level – that may take place owing to demand and supply (market) factors – must not surpass a yearly average of 1–2 per cent. It is in view of this consideration that the mixed price mechanism was introduced and has been maintained also in the fifth Five-Year Plan period, in which different forms of prices (fixed, maximized, changeable within limits and free market prices) are applied simultaneously. In the formation of the mixed price mechanism our starting-point was also for the period 1976–1980 that at the strategic points of the national economy price formation must be partly or fully withdrawn from the direct influence of market factors. Accordingly,

1. official price limitation is applied in a wider sphere of consumer goods than in the case of means of production. In the consumption sphere price forms have been selected in a way that those goods and services on which a consumer with an average income spends 50 per cent of his outlays should have guaranteed prices. In respect of the costs of living this provides a price guarantee for 70 per cent of costs.

2. Official price limitation is applied in a wider scope in agriculture than in industry. This is justified because:

The macro-structure of industry is determined from the outset by the existing factory structure, and the process of structural transformation is regulated under strong central direction by the development policy outlined in the plan. As opposed to this, in agriculture there is far-reaching possibility to transform the production pattern through micro-level decisions. Experience gained between 1957 and 1967, after the elimination of compulsory delivery, that an active proved price policy complement-

ed by financial regulators is an efficient method of the planned control of the pattern of agriculture. Industrial worker's wages are guaranteed by the state even if the factory works at a loss. Agricultural workers' incomes are regulated practically by prices and taxation. A considerable part of agricultural produces is sold directly or indirectly (as food industrial product) on the world market. Export needs – with the exception of a few articles – government subsidy. Under such circumstances agricultural price is of primary importance even from the point of view of state finances.

3. In the state sector of the national economy, with the exception of transport and communications, the effect of market value judgement is asserted to the maximum extent, first of all in the processes adding to the value of materials. Therefore the strategic points of official price limitation in the state industry were established in the sphere of energy and base materials. At the same time we set out from the fact that prices formed in industrial co-operation are regulated from the opposite direction by the price of the final product. This is the situation first of all with export articles, whose prices are regulated by the (foreign exchange) prices attainable in foreign trade. But the same applies to consumer goods, since retail prices are limited in a wide sphere even if the same article has a free producer price.

With a view to a more definite protection of consumer's (users') interests, the price mechanism operating under the fifth Five-Year Plan period maintains the instructions issued in 1970–1973. The mixed price mechanism introduced in 1968 applied only a single limitation in the sphere of uncontrolled prices. The notion of unfair behaviour and unfair profit-making was laid down in a government resolution. We thought that this was a sufficient condition of rational market prices in every field, where the market situation was balanced. But the superiority of the seller showed even in such cases where home orders did not exhaust capacity. In such cases enterprises changed over to exports, or even tried to counterbalance rising costs by increasing their prices. Therefore, it seemed reasonable already in 1970 to indicate lines of conduct to enterprises regarding the price policy to be followed. These had no legal sanction, yet enterprises observed them, because in judging fair behaviour (justified profit) these indications were taken for basis by the auditors.

The regulation of prices asserting themselves in inter-enterprise relations is necessary for a more efficient protection of price stability and a proportional price development. If fixed, maximized, and uncontrolled prices exist parallel with each other, contradictions originating in the deviations of the price forms will sooner or later inevitably sharpen. It had been found even before 1968 that "price scissors" developed between mass products and individual articles, because the price limitation of mass products was different from the normative calculation prescribed for the price formation of individual products. The price scissors develop more pronouncedly in the mixed price mechanism. This is because the prices of basic products are fixed not in order that they should change only by official intervention, but in order that they should not change, at least not within short periods.

The instructions issued in 1970–1973 changed the price mechanism in a way that the sphere of products with free prices was restricted to typical market goods (mass products of small value, vegetables, fruit, industrial services performed by artisans), while in inter-enterprise relations contractual prices governed by price policy criteria developed. By this we wished to create higher price stability in the established production, co-operation and commercial relations. We wanted to achieve that the profit redistribution taking place at the expense of enterprises issuing the final product should lessen; that the price policy to be adopted should be laid down in individual agreements or delivery contracts between enterprises for some longer period; that prices should be determined in delivery contracts in accordance with price policy agreements; that the customer should be protected against the economically unfounded price increase of the seller.

Control of the contractual price required a practically interpretable distinction of justified from unjustified price changes. A price change that is expressive of conditions changing objectively with the development of the forces of production and is working as an incentive of production is justified. A price change is unjustified if it is supported exclusively by the superiority of the seller and used for profit-redistribution and profiteering. The criteria of unfair profit have been again laid down in harmony with the above-said.

In selective price policy the importance of official price control has grown. The traditional forms of price control are still valid, since in the mixed price system official prices are used in a wide sphere. The observation of official prices means not only that the price applied is in accordance with official prescriptions but also that the conditions (quality of product, terms of delivery and payment etc.) are fulfilled which allow the charging of the price in question. Price control thus interpreted implies new tasks. Price control now comprises not only cost-accounting but also comprehensive economic tasks, since price reflects demand and supply relations. Measures have to be taken against those infringing upon pricing regulations, but also the causes of disorders have to be eliminated. Coordination of these tasks is attended by the Interdepartmental Committee of Prices and Trade in Means of Production.

It had been a subject of disputes already prior to the 1968 reform, and has been again and again discussed ever since, how the price stability requirement thus formulated can be reconciled with adjustment to foreign trade prices. Yet the price mechanism functioned essentially well up to the autumn of 1973. An important role was played in this by the fact that deliveries within the CMEA were transacted at contractual prices fixed for five years. But at that time price stability was characteristic also of the world market. The price level of capital goods carrying new technology was rising by 1–2 per cent yearly. The price changes of primary energy and raw materials were following business cycles: this movement could be neutralized by the use of self-financing import price funds.

Since the autumn of 1973 inflation has accelerated and within this process the relative prices of basic materials and energy have steeply increased. The new

situation came so unexpectedly that attention was fully absorbed by the avertion of inflation, which was possible only by subsidising the increasingly expensive imports from the budget. At the same time we were aware that this weakened the orientating role of prices in rational economic decisions. Therefore, a revision of price policy became justified already at the end of 1973. The task was formulated in the following manner: while maintaining a relative price stability, the disrupted harmony of home and foreign trade prices must be restored even under conditions when inflation was strong on the world market.

The new price policy conception was worked out in early 1974. According to this, the domestic prices (price proportions) are adjusted to foreign trade prices by repeated revaluations of the Forint and by periodical price adjustments. In this regard also the agreement on the formation of CMEA contractual prices represents a new task. This is because the contractual prices of the CMEA are revised yearly beginning with 1975 and they will follow as so-called "gliding prices" the changes of world market prices based on five-year averages.

The partial producers' price adjustments of January 1975 and 1976 practically restored the harmony of home prices and import prices and thus placed economic calculations on realistic grounds. As a consequence of these measures the import price subsidies remaining in the sphere of the means of production are mostly financed from import price skimmings. This is not to say, of course, that energy and materials are built into economic calculations according to "daily" price changes. It is exactly on account of possible differences in the price level materials that the material-price-difference tax or subsidy was introduced in 1975, which is paid to (or received by) enterprises that sell semi-finished and finished products on the world market by using imported material.

Changing producer prices affect also retail prices. The orientating function of price cannot be interpreted in the closed system of production. We consume about 70 per cent of the national income, and personal consumption is governed by consumers' preferences. The pattern of consumption can be influenced only by modifying relative prices. It would greatly reduce our ability of adjustment to changes in the world economy if we started from the idea that the pattern of consumption can be separated from the production structure. Relative consumer prices that had developed under international conditions entirely different from those of today simply cannot be maintained.

The tasks to be solved during the coming five years, especially those in 1976–1977 are highly complicated:

1. With a view to the fastest possible restoration of the international balance of trade the raising of real income and wages must be kept low temporarily; 2. flexible adjustment to relative world market prices must be guaranteed under conditions of accelerated inflation and unforeseeable price changes on the world market; 3. with a view to an equitable sharing of foreign trade price losses between the budget and the enterprises, the rate of enterprise profit must be lowered. All this

involves the requirement that temporarily a stronger central control should be asserted with regard to price changes. This explains the fact that in the fields where central price adjustments have been effected, the price raising right of enterprises has been suspended for six months; in respect of products with free prices the obligation of a previous announcement of price increasing intentions has been extended to a wider sphere; further, we wish to guarantee that the price formation of new industrial articles should be in harmony with the prescriptions related to reducing the rate of enterprise profit.

Trade in the means of production

The system of this trade valid from 1976 was laid down in the government order No. 33 of 1975. According to it, socialist organizations (state enterprises and co-operatives) may sell their products – within the limits of legal rules – to any socialist organization and may buy them from such organization. According to valid rules and the character of the sales relations the socialist organizations may choose themselves the most suitable form of contract. At the same time the government has the right to regulate trade in a manner deviating from these principles if the national economic interests so require.

The fundamental means of this regulation are the following:

- central allocation
- prescription of quotas
- appointment of the selling organ
- prescription of the obligation to sign a contract
- prescription of a stock level.

The field, condition and method of application are laid down by the Government in the annual national economic plan.

The new financial regulations introduced on 1st January 1976 create together with the implemented price measures adequate conditions for a free trade in goods. Therefore, the more complicated conditions of economic growth notwithstanding, there was no need for a change in the system of trade. The changes in the fundamental means used for regulating of the trade are summarized in the following Table, which shows the number of products (groups of products) subject to the various forms of central regulation:

Number of products (groups of products) subject to regulation

Form of regulation	1968	1971	1976
Central allocation	2	1	1
Purchase quotas for producers' use	28	7	22
Purchase quotas for home trade	13	11	9
Import quotas	17	7	33
Export quotas	22	18	18
Obligation to sign a contract in percentage value of industrial output	15%	17%	20%
Appointment of exclusive purchasers or sellers	50	9	41
Appointment of seller (in multi-channel trade)	–	–	2
Prescription of a minimum stock level	–	6	6
Prescription of a maximum stock level	–	–	1

In accordance with a government resolution central allocation is restricted to meat and is maintained in the form of a so-called regional location. The question is still being examined, whether the central allocation of meat should be maintained, or it could be abolished after the retail price of meat will have been raised from 1st July 1976 as already announced. With a view to increased economy collective, the petrol and gas oil consumption of public bodies has been controlled by rationing since 1975, while the population gets them entirely in free trade. The population's decisions are influenced by the state through prices, and administrative measures are resorted to only in exceptional cases. Such an administrative measure is, for the time being, the prescription affecting the manufacture and sale of oil stoves, according to which oil stoves can be sold without restriction and against assignment only in exchange for old ones, while in free trade the continuity of supply is dependent on the quantity saleable in this way.

The producer's purchase quotas affect the main domestic users of the most important basic and raw materials. The purchase quotas for home trade cover a few consumers' articles in order to guarantee smooth supply to the population. Import and export quotas serve to protect the balance of payments and, if necessary, that of the home market. It is a new feature that in the case of a purchase quota also the obligation to buy it may be prescribed. This serves – mainly in regard of the commodity fund guaranteed for home trade – the protection of production. The main difference between the quota system introduced in 1976 and that of 1968 is in the considerable increase in the number of import quotas. This may be interpreted as a kind of limitation to the process of structural transformation. It curbs the development that would transform the structure of the use of basic materials primarily by enlarging Western imports.

A wider application of import quotas outside the CMEA is forced on us by the reduced purchasing intentions of the capitalist countries and the resulting deterioriation of our solvency. These import quotas may be cancelled from one day to the next, if exports are increasing. This is because Hungarian economic policy starts from the principle – and this must be again emphasized – that the balance of foreign trade is to be restored not by import restrictions but by boosting exports.

The suppliers' obligation to sign a contract covers, as it has done so far, products in the scope of central allocation and those for which quotas are fixed, and serves to secure the material supply of large investment projects, the health service, as well as state reserves, etc. Yet prescriptions connected with obligation of signing a contract will change. Preferred objectives sometimes drew away too much of the resources, thus causing a lack of supply in fields where smooth supply is indispensable for a planned and proportional development. Changes are envisaged which do not lead to unjustified advantages through the principle of priority.

Trade in the means of production takes place, as before, in a multi-channel system. For a rational organization of supply, however, two methods of controlled trade have been applied from 1976:

a) A system of parallel channels of turnover, in which customers can be served – according to the size of their demand or other features – only by a centrally appointed supplier. That is, deviating from previous practice, a selling organization may be appointed even if turnover takes place otherwise through various channels.

b) Single channel turnover (according to established practice).

The limitation of choice from among suppliers within the multi-channel turnover takes place in cases where it is reasonable to manage trade through several selling organizations, yet coordination of demand and supply necessitates a stricter control. The appointment of exclusive purchasers or exclusive sellers (single-channel system of turnover) is justified mainly by constructions related to the mixing of prices, as well as by tasks concomitant with the manipulation of the range of goods, and in some cases by the rational organisation of turnover.

Prescription of a minimum stock level in 1970 serves smooth energy supply for the winter, when adequately decentralized stocks help to overcome temporary transport difficulties. Putting an upper limit on stocks may take place according to necessity. In order to put a limit on the speculative accumulation of rolled steel the Minister of Finance decreed it in 1975 that 10 per cent of the difference in value should be paid on the excess over the 1973 stock as supplementary charges on assets. For the regulation of keeping of stocks it may be necessary in the future with a few enterprises to fix an upper limit on stocks (in the form of prescribing the number of days for which stocks may be held) for a few raw materials and semi-finished products that are usually scarce.

There are also operative means of control available. The economic reform of 1968 reckoned from the outset with the occurrence of a situation in which the relation between the sectoral control organizations and enterprises could not be kept within the limits of the normative prescriptions of economic law. That is why it was laid down in the enterprise law of 1967 that in case of operative interventions with disadvantageous consequences on the financial results of the enterprise the intervening organization has to compensate for the damage. Up to the autumn of 1973 such interventions had moved between narrow limits, but the world market situation that has changed unfavourably for us has necessitated a specific system of

means for operative interventions. The main feature of the new order concerning the system of trade in the means of production is exactly that this specific system of means is now built into the system of regulators with legal validity but under government supervision.

All these regulators are to be used only when and where it is indispensably required by the social interest. It is also generally characteristic of the system of trade that the sphere of application of each kind of regulator, thus the extent of restricting enterprise independence, is flexibly changeable in both directions according to the worsening or improvement of equilibrium. This is exactly why the concrete system of trade in the means of production already announced for 1976 has not become an organic part of the fifth Five-Year Plan.

Measures taken with a view to a more rational use of materials and energy

It is because of the increase in the relative prices of raw materials and energy that the Hungarian national economy suffered price losses in foreign trade. Therefore, an increasedly parsimonious use of materials and energy is an indispensable condition of restoring the balance of foreign trade. From this point of view the price measures of 1975–1976 have the following significance:

- they make enterprises financially interested in a rational use of energy in the context of the relative prices of material energy, semi-finished products and finished products as recently formed on the world market;
- as a function of the relative material and energy prices thus interpreted they select from among production branches (enterprises, products) when judging export efficiency.

Therefore, in general it may be expected that the financial rules and prices introduced in 1976 will provide a suitable framework for an efficient transformation of the production structure and for selective development. There may be, however, such specific tasks as cannot be solved by economic regulators. First of all there must be a way to distinguish resources available at home and possible to enlarge from those coming from imports. In the sphere of imported materials and energy carriers priority must be given to those available within CMEA cooperation and other ones. It must not be forgotten that the Hungarian production structure is expressive of adjustment to needs within the CMEA. The real difficulty is to expand our ability to earn convertible currency and to surmount the obstacles to it.

That is why it seemed necessary – at least temporarily – to work out parsimony programmes and to include them in the regulation system. Such programmes are laid down in the fifth Five-Year Plan for nine groups of products. They are: energy, non-ferrous metals, synthetic materials, wood, paper, wrapping materials, chemical fertilizers, plant protectives, industrial sugar. These programmes are linked to the system of trade in the means of production in a way that certain measures

simultaneously put a limitation on turn-over. Such is e. g. the rationing of petrol and gas oil for public bodies. The initial hypothesis of macro-level programmes is the following: an important condition of restoring the balance of the foreign trade is the elimination of material waste and the adoption of such procedures of material substitution which allow a fuller utilization of the domestic resources and of the import possibilities offered by cooperation within the CMEA.

МЕХАНИЗМ ЦЕН И ТОВАРНОЕ ОБРАЩЕНИЕ В ВЕНГРИИ

Б. ЧИКОШ-НАДЬ

Автор исходит из требований, предъявляемых в период V пятилетнего плана (1976—1980 гг.) к системе цен и товарного обращения. Автор отмечает, что вследствие изменения цен на мировом рынке в конце 1973 года, причинившего значительные потери во внешней торговле, в 1974—1975 гг. все чаще стали прибегать к административному вмещательству.

Однако, было бы неправильно возвращаться к существовавшей до 1968 года системе централизованного материально-технического снабжения и распределения продукции.

Автор считает, что система цен и в будущем будет играть значительную роль в подготовке и принятии хозяйственных решений. Особенно важной задачей с этой точки зрения является сохранение согласованности между внутренними и внешнеторговыми ценами при относительной стабильности цен, хотя сложная обстановка на мировом рынке может временно вызывать необходимость в более решительном централизованном регулировании изменения цен.

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GY. HAJPÁL

INCREASE OF NATIONAL WEALTH IN HUNGARY IN THE YEARS 1960–1974

In Hungary the Central Statistical Office has regularly, in recent years computed and published data on the national wealth of the country. Based on these computations the author describes the increase of Hungarian national wealth since 1960, reviews the principal structural changes, and explains the theoretical and methodological problems that still have to be solved in connection with these computations.

Modern economics considers its task the analysis of the whole process of social reproduction.

The question of the relationship between factors of production and output arises as a key issue that leads, finally, to an examination of the connections between national wealth and national income. The development of economics in this direction means that the domination of income-orientation that lasted for a century has come to an end and has been replaced by an overall economic conception covering also the wealth aspects of the economy.

In the socialist countries Marx's reproduction theory serves as the theoretical basis of national economic computations. Naturally, this system of computations is adapted to the practical requirements of a socialist planned economy. In addition computations are carried out in Hungary which examine the process of social reproduction, relying on a wider notion of production, in keeping with the ideas of national economic balance-system (System of National Accounts) proposed by the UN.

In western countries the development trends in economic theory since Keynes – what are called growth theories – have formed the theoretical background of national economic computations since World War II. Such theoretical thinking is enforced in national economic computations by the conceptional matrix of the System of National Accounts proposed by the UN. This accounting system is the first national economic computation – apart from Petty's researches three centuries ago – whose main objective is the demonstration and examination of the organic relation between the stock of national wealth and production, that is, between national income and national wealth.

This overall conception of economic computations, however, is not fully applied as yet. In the framework of the national economic balance-system the analysis of income processes is dealt with first of all on the basis of the results of national income computations, both in the socialist and in western countries. The reason is that the development of national wealth computations has lagged far behind the rapid progress of national income computations and thus information on the development of the wealth stock is insufficient in most countries.

In Hungary the Central Statistical Office dealt with the valuation of national wealth already at the beginning of the 1950's. This computation includes the value data of wealth items deriving from accumulation for the years 1952 and 1953.

The Central Statistical Office has lately begun to deal with the questions of national wealth computations more thoroughly within the framework of research connected with the further development of the national economic balance-system in the second half of the 1960's. The first results of investigations in this direction were published in 1971. [1] The computations for the years 1960–1963 (for January 1st of each year) whose detailed results were published in 1974 [2] were a continuation of this work.

In this study I propose to review the results of national wealth computations carried out by the Central Statistical Office. From a wealth of data only results of greater importance indicating the main tendencies of the growth of national wealth are summarized. The data presented are analyzed by the usual statistical methods, therefore, stress is laid on basic tendencies appearing in the dynamics and structural changes of data. We consider the deeper analysis of theoretical and economic policy questions connected with national wealth as a further important and difficult task.

One of the basic problems of national wealth computations is the definition of the notion. This has been often attempted and a variety of notions have developed. National wealth taken as basis for the computations of the Hungarian Central Statistical Office carried out until now has the following contents:

- stock of fixed assets
- unfinished investments
- stocks of the national economy

total of accumulated means of production

- arable land
- live timber stock of forests
- mineral resources

total of natural resources
total of material production factors
durable stocks of households
national wealth altogether.

This notion of national wealth includes all relevant material production factors with a decisive role in the process of production. Therefore, the results obtained allow for an analysis of basic relationships between production and the production factors. The widening of the notion of national wealth – i.e. the extension of computations to newer wealth items – renders possible the further deepening of investigations in this direction.

Sources of wealth formation

The process of wealth formation involves the phase of social reproduction where the replacement of property used up in production and the increase of wealth stock are provided for. From the financial point of view the material costs of production are covered when the amortization of fixed assets stock is looked on as material costs and stocks as at the beginning of the process of production are restored. The social product exceeding this is new value, i.e. the net national product of the period. For the increase of wealth stock, however, the accumulated part of net national product (accumulation) provides a cover.

The analysis of the process of wealth formation shows that the reproduction and increase of the stock of national wealth can result only from the social product. This can be more clearly seen in the case of reproduceable items of net national production but there is a similar situation with natural resources as well. The increase of reproduceable wealth takes place in such a way that a part of the product volume manufactured in the production process is drawn away from consumption and allotted to the increase of wealth stock. There is a different situation in the case of natural resources. Their absolute measure is determined by the natural features of the country. The increase of these resources means no more than improving the utility of available stocks, for example by improving the soil, by exploring mineral resources etc. However, this method of stock increase requires here also the utilization of a part of accumulation, i.e. of goods participating in gross national production.

By 1960 the Hungarian national economy had gone through fifteen years development after the war which could be divided into several characteristic stages. As a result the total volume of the economy increased to a very considerable extent. In the reconstruction period after the war the production level doubled as compared to the situation in 1946. Consequently, the national income for 1950 already exceeded, by about 20 per cent, the level of 1938. During the 1950's national income increased by another 77 per cent and the volume of the social product increased also at a more or less similar rate. Thus the income sphere of the national economy reached a relatively high development level already by 1960, more than double the situation of 1938.*

The results of economic computations indicate the further favourable development of the national economy also in the years after 1960.

The volume of the gross national product, the most comprehensive economic index has increased by 126 per cent since 1960 during the same period and the net national product did so by 114 per cent. Therefore, the sources of wealth formation have increased to a very great extent during the fourteen years examined.

* Development between 1938 and 1960 is presented on the basis of data on social product and national income respectively. For the period after 1960 the time series of the social product is replaced by the gross national product (gross output) and data on national income by the net national product.

Table 1

Increase of the gross and net national product

Denomination	1960	1965	1970	1974
	At 1968 prices in 1000 million forints			
Gross national product (gross output)	405.0	525.8	717.0	914.5
Net national product	168.0	205.0	278.9	358.8
	Index: 1960 = 100			
Gross national product (gross output)	100.0	129.8	177.0	225.8
Net national product	100.0	122.0	166.0	213.6

The increase in gross national product to a greater extent than the net national product raises several problems closely connected with the development of national wealth and the resulting changes in the structure of gross national production. These changes result from the fact that, because of the rapid increase of the stock of fixed assets, the materialized labour input of production largely increased the costs of live labour. The increase of stock also meant that in the period examined both the costs connected with the maintenance of the stock of fixed assets (amortization, service) and the operating material costs connected with the running of fixed assets increased at a very fast rate. All this is, therefore, connected with the change in the organic composition of capital. The extent of the shifts in proportions is well illustrated by the fact that the capital equipment ratio of live labour has increased by more than 100 per cent since 1960. Western papers deal with the consequences of economic development of such nature within the framework of the examination of "production tours".*

From the point of view of the development of the sources of wealth formation development of the rate of accumulation is of special importance.

Changes in the rate of accumulation allow one to say that, since 1960, an increasing part of available resources has served to maintain and increase the stock of assets of material production and non-material activities. This permanently increased until 1970, thereafter a decrease in the rate of accumulation took place owing to considerations of economic policy. However, the rate of accumulation for 1974 has already reached that of 1970 once again.

Table 2

Rate of gross and net accumulation in value added (percentage)

Denomination	1960	1965	1970	1974
Gross accumulation rate	26.8	27.8	32.1	32.4
Amortization	9.8	11.4	11.2	11.4
Net accumulation rate	17.0	16.4	20.9	21.0

* Western economists still largely rely on *E. Böhm-Bawerk*. See e.g. [3]

The absolute total value of accumulation is jointly determined by the development of gross and net national production as well as of the rate of accumulation.

In the period examined the increase in the volume of accumulation exceeded that of gross and net social production. Gross accumulation increased also after 1970, but net accumulation temporarily diminished.

Table 3

Gross and net accumulation
(At 1968 prices, in 1000 million forints)

Denomination	1960	1965	1970	1974	Index: 1960 = 100
Gross accumulation	50.1	64.5	100.8	131.4	262.2
Amortization	18.4	26.4	35.0	46.3	251.6
Net accumulation	31.7	38.1	65.8	85.1	268.5

It can be seen from the above that sources available for the increase of national wealth increased at a more rapid rate than the gross and net national product and exceeded to an even greater extent the growth rate of current consumption, i.e. the living standards.

Purchases by members of the households are the source of durable stocks accumulated in the consumption sphere of the national economy, more precisely in households.* The total of this expenditure amounted to 174,000 million forints in 1974 and exceeded by about 110 per cent the 1960 level. In the meantime, however, the structure of consumption considerably changed, too. The percentage of expenditure on durable consumer goods was 25 per cent in 1974 as against the 19 per cent in 1960.**

The increase in national wealth

As a result of the economic development mentioned above the wealth stock of the national economy increased to a great extent already during the fifteen years before 1960. By 1950 war damage was mostly restored, the stock of reproduceable production means more or less reached the level of 1944 and thus it was by about 20–25 per cent above the 1938 stock.***

* These stocks are not included in the national economic balance-system as wealth items, since expenditure on consumption is regarded as equal to effective consumption in any period.

** The notion of durable consumer goods in national wealth computations does not coincide with the same notion in consumption statistics. In national wealth all consumer goods suitable for use over a period of at least a year are ranked among durable consumer goods regardless of their value. According to consumption statistics, however, only durable consumer goods of long duration and high value belong to this group.

*** In the years 1938–1944 – as a consequence of a major war effort – the stock of assets of certain industries and transport as well as the machine and live stock of agriculture increased extraordinarily.

Investments at an often artificially forced rate of the 1950's increased the volume of the reproduceable items of national wealth by about 55 per cent. In the same period important raw material exploration took place and the territory of forests increased considerably. As a result the total volume of national wealth in 1960 was already basically greater than a decade earlier. If the unchanged area of arable land is taken into consideration as well, then the global value of national wealth shows an increase of about 30 per cent between 1950 and 1960. At the same time the increase in the global value of national wealth amounted to more than 50 per cent already as compared with 1938.

The items of the national wealth in 1960 as shown in Table 4 represented a value of 1,121,000 million forints calculated at 1968 prices. The percentage of the stock of consumer goods of households was 6.6 per cent in this value, while that of the productive national wealth, i.e. the wealth value of production factors 93.4 per cent. Such a distribution was characteristic of medium developed countries in this period. At that time in the developed capitalist countries consumer stocks amounted already to 10–15 per cent of the national wealth. [4]

Table 4

Composition of the national wealth of January 1st, 1960
(at 1968 prices)

Denomination	1,000 million forints	Percentage
Net value of fixed assets	447.1	39.9
Unfinished investment	14.6	1.3
Stocks	148.5	13.2
Total accumulated means of production	610.2	54.4
Arable land	363.9	32.5
Live timber stock of forests	23.8	2.1
Mineral resources	49.9	4.4
Total natural resources	437.6	39.0
Material production factors together*	1047.8	93.4
Durable stocks of households	73.3	6.6
Total national wealth	1121.1	100.0

* This is taken from Marx, who distinguished between means of production and labour, called by him the personal factor of production. However, this item contains, in this study, also the stock of assets of non-material sectors beside the means of production of the material sphere, although I know that these cannot be regarded as means of production in the terms of Marxist economics. In the gross and net national product, however, the stock of assets of non-material sectors has a part as well.

In the 1960 volume of production factors the percentage of items deriving from accumulation amounted to 58.2 per cent while that of natural resources to 41.8 per cent. Although the percentage of accumulated means of production was considerably higher than in 1950 (when this amounted to 47.7 per cent) still it was very low as compared to the highly developed industrial countries.

The process of wealth formation has continued at an accelerating rate after 1960. Both the total of the items of national wealth deriving from accumulation and

household stocks have developed to a very considerable extent. An important change took place in the distribution of arable land; mineral resources significantly increased while live timber stocks of forests did so only to a smaller extent.

Table 5

Increase of the main parts of national wealth (at 1968 prices, in 1,000 million forints)

Denomination	1960	1965	1970	1974	Index: 1960 = 100
		on January 1st			
Accumulated means of production	610.2	771.6	1002.8	1303.0	213.5
Natural resources	437.6	484.1	497.5	489.0	111.7
Material factors of production total	1047.8	1255.7	1500.3	1792.0	171.0
Durable stocks of households	73.3	95.8	133.6	180.0	245.6
Total national wealth	1121.1	1351.5	1633.9	1972.0	175.9

The global sum of national wealth increased by 75.9 per cent in the period 1960–1974. The volume of material production factors – i.e. national wealth participating in the production – increased by 71.0 per cent during the fourteen years examined. This average wealth increase, however, included a 113.5 per cent increase of the stock of accumulated means of production and a 11.7 per cent increase in the volume of natural resources. Such a deviating development resulted in that the wealth items deriving from accumulation had already a share of 72.7 per cent in the value of production factors by 1974, as against 58.2 per cent of 1960. These data indicate the considerable improvement of the supply of the country with means of production since 1960.

There have been considerable deviations in the increase of the stock of the two main items of the stock of accumulated means of production, i.e. fixed assets and stocks – or using the terminology of theory: the instruments and objects of work, respectively, – since 1960. The net stock of fixed assets increased by 110.0 per cent

Table 6

Increase in the accumulated stock of fixed assets (at 1968 prices, in 1,000 million forints)

Denomination	1960	1965	1970	1974	Index: 1960 = 100
		on January 1st			
Gross value of fixed assets	791.9	967.0	1210.5	1552.6	196.1
Net value of fixed assets	447.1	548.1	695.9	940.5	210.4
Unfinished investment	14.6	31.8	64.5	83.9	574.1
Stocks	148.5	192.5	242.4	278.6	187.6
Accumulated means of production	610.2	771.6	1002.8	1303.0	213.5

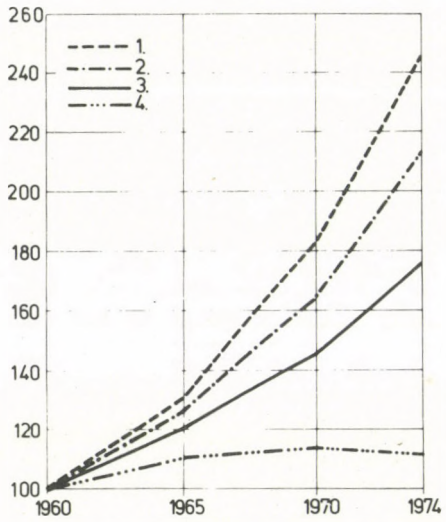

Fig. 1. Increase of the main items of national wealth. (Index: 1960 = 100).

– – – – – – durable stock of households;
—·—·—· accumulated national wealth;
———————— national wealth altogether;
—···—··· natural resources

while the volume of stocks by 87.6 per cent. The favourable change in the age composition of the stock of fixed assets – the renewal of the entire stock – is indicated by the fact that at the same time the gross value of the stock of fixed assets increased only by 96.0 per cent. It is no favourable phenomenon – but partly an unavoidable consequence of the permanently increasing investment activity – that the stock of unfinished investments increased almost sixfold in the period examined.

Of the three main parts of national wealth durable consumer stocks of households increased to the greatest extent since 1960. 1973 stocks (January 1st, 1974) were by 145 per cent higher than in 1960. This rapid increase resulted in the percentage of household stocks in national wealth increasing to 9.0 per cent from the 6.5 per cent in 1960 by the end of the period examined.

Considerable and favourable changes took place in the material-technical composition of the stock of fixed assets – accumulated instruments of work – since 1960. The proportion of machines has increased for example.

The proportion of machine investment has permanently increased in the value of new fixed assets established after 1960. As a result of this process the share of machines in the net value of the fixed assets stock has increased from 17.0 per cent in 1960 to 21.6 per cent by 1974. Despite this considerable structural change the share of machine stock is still low in Hungary as compared to developed industrial countries.

Table 7

Material-technical composition of the net value of the fixed assets stock (at 1968 prices, in 1,000 million forints)

Denomination	1960	1965	1970	1974	Index: 1960 = 100
Real estate	371.2	439.3	547.7	737.3	198.6
Machines	75.9	108.8	148.2	203.2	267.7
Total fixed assets stock	447.1	548.1	695.9	940.5	210.4

The volume of factory buildings has increased most rapidly of the individual parts of the stock of improved real estate. The increase in housing has lagged behind building investments for production purposes despite the increased housing programme. The stock of roads and bridges increased to the smallest extent, the effects of this could be felt in problems connected with the underdevelopment of the infrastructure.

Within machine stock the stock of machine tools increased most rapidly. The development of the vehicle park was much slower. The slowest increase could be observed in the case of power engines.

All these changes which took place since 1960 resulted in a considerable transformation of the composition of fixed assets stock. This transformation had a favourable effect both on the increase of the volume of the social product and on the development of the intensity of the economy.

The increase in stocks continued after 1960 at a rate corresponding basically to that of the previous decade.

Table 8

Increase of stocks (at 1968 prices, in 1,000 million forints)

Denomination	1960	1965	1970	1974	Index: 1960 = 100
Materials and floating equipment	66.8	86.0	111.2	137.2	206.4
Commodities and finished products	38.0	55.1	68.3	78.7	207.1
Livestock	26.5	25.6	26.1	22.9	86.4
Other stocks	17.2	25.8	36.8	39.8	231.4
Total stocks	148.5	192.5	242.4	278.6	187.6

The relative measure of stocks – with regard to the volume of production – has been one of the unfavourable aspects of Hungarian economic development already since 1950. No relevant change took place in this field in the period after 1960. Although the total stocks of the national economy increased at a somewhat slower rate than production, this however, resulted from the unchanged stock of animals and from the slow increase in agricultural stocks in general. In other sectors of the economy the increase in stocks has been relatively rapid also after 1960 and

exceeded, in many fields, the rate of development of production. Therefore, the great volume of stocks has continued to be a problem.*

As has already been mentioned, a concomitant phenomenon of increased investment activity is the extraordinarily rapid increase in unfinished investments. This increase – six times as high as stock – resulted in investments in process amounting to 5.4 per cent of the stock in function in 1974 as against 1.9 per cent in 1960.

It can therefore be said that the rapid increase in accumulated items of national wealth has been one of the achievements of economic development since 1960.

In the period after 1960 there ocurred considerable changes also in the natural resources as regards stock prepared for economic utilization.

Table 9

Increase in the value of natural resources (at 1968 prices, in 1,000 million forints)

Denomination	1960	1965	1970	1974	Index: 1960 = 100
		on January 1st			
Cultivated land	286.2	283.5	282.6	282.0	98.5
Urbanized land	77.7	81.8	84.6	86.0	110.7
Total land	363.9	365.3	367.2	368.0	101.1
Live timber stocks of forests	23.8	25.9	28.5	31.0	130.3
Mineral resources	49/9	92.9	101.8	90.0	180.4
Total natural resources	437.6	484.1	497.5	489.0	111.7

The exploitable land of the country has already been used to the full since the 1880's. This area cannot therefore be extended any more. However, there is a considerable change in the distribution of arable land according to use. During the last two decades the arable land of the country has decreased by 580,000 hectares, partly in favour of forests and partly in that of uncultivated (urbanized) land.

Since 1960 cultivated land has decreased by about 125,000 hectares. This change led to only a 1.5 per cent reduction in cultivated land, but, at the same time, increased the territory of uncultivated land by more than 10 per cent.

The volume of the live timber stocks in forests has increased by 30.0 per cent since 1960. This increase has been brought about by the 17 per cent increase of the territory of forests and the about 11 per cent increase in the timber stock per territory unit. The timber stocks of forests exceeded 190 million cubic metres in 1974. This quantity of wood is recorded in national wealth with a value of 31,000 million forints (at 1968 prices) on the basis of a valuation made bearing in mind the costs of forest

* Julia *Zala* [5] dealt with this question. She pointed out that the growth rate of stocks in Hungary is much more rapid than in the developed capitalist countries.

plantation and maintenance as well. The same quantity of timber has a value of about 100,000-million forints if the producers' prices of timber are taken as a basis, i.e. including the costs of cutting.

The mineral resources of the country are taken into consideration in the national wealth in terms of the current quantities explored and found suitable for extraction. Stocks not explored yet are regarded as reserves which cannot be reckoned with among the natural resources of the economy as yet.

The total quantity of mineral resources explored and suitable for extraction has increased by about 80 per cent since 1960. The explored quantities of bauxite and other ores increased to the greatest extent. The oil and natural gas wealth of the country increased considerably as well.

The value of the stock of mineral resources of the country explored and suitable for extraction amounted to 49,900 million forints in 1960 and 90,000 million forints in 1973, both computed at 1968 prices, assessed by the national wealth computation method of the Central Statistical Office. This wealth value was obtained by various mineral raw materials being evaluated on the basis of the net income contents of their producers' prices. In this way a sum of 198,600 million forints was reached for 1974. This sum was regarded – taking the rate of extraction into consideration – as an annuity of 50 years and the present value was stated at a 4 per cent discount rate. Given such a computation the value of mineral wealth on January 1st 1973 amounted to 90,000 million forints. The value of the mineral wealth of the country explored and suitable for extraction was about 850,000 million forints on January 1st 1974 calculated at producers' prices.

So far I have dealt with those items of the national wealth which participate in the gross national production and therefore form material factors of production. Let us examine now which changes took place during the same period in the volume of labour – in the number of active earners – participating in the production process as the personal factor of production.

The number of active earners increased by 7.3 per cent in the 14 years between 1960 and 1974. This is a much slower rate than in the 1950's when the labour force increased by 17 per cent in ten years.

Therefore, the development of the material factors of production was ten times as high as the increase in the human factor, (the growth in the number of workers and employees since 1960). This development at a differing rate has

Table 10

Increase in the number of active earners

Denomination	1960	1965	1970	1974
Number of active earners, in thousand	4735	4649	4980	5074
as a percentage of 1960 figures	100.0	98.2	105.2	107.3

fundamentally changed the structure of the forces of production and resulted in a considerable increase of the organic composition of capital. Its effect is expressed first of all by the improvement of the capital equipment ratio of labour.

The capital equipment ratio as one of the important indices of economic development has increased at a permanently accelerating rate in the last 25 years. In the 1950's the yearly increase was about 3 per cent. During the 1960's the yearly increase reached 5 per cent and it amounted to 6–7 per cent in the 1970's.

In the years since 1960, when the economy entered the period of intensive development, the increase in labour productivity has been the most important source of economic growth. When relating the national income to the number of active earners the following picture can be obtained concerning the development of labour productivity since 1960.

Table 11

*Increase in the capital equipment ratio of labour**
(at 1968 prices)

Denomination	1960	1965	1970	1974
Per capita accumulated assets stock, in thousand Ft	128.9	166.0	201.4	256.8
as a percentage of 1960 figures	100.0	128.0	156.2	199.1

* Stocks are included

Table 12

Increase of the productivity of live labour
(at 1968 prices)

Denomination	1960	1965	1970	1974
Per capita national income in thousand forints	35.5	44.1	56.0	70.7
in percentage of 1960	100.0	124.2	157.7	199.9

Table 13

Changes in the capital and production coefficient

Year	Accumulated fixed assets stock	Net national production	Capital/ production coefficient
	at 1968 prices, in 1,000 million Ft		
1960	610.0	168.0	3.63
1965	771.6	205.0	3.76
1970	1002.8	278.9	3.59
1974	1303.0	358.8	3.63

The productivity of live labour increased in the 1950's by a yearly 4.2 per cent, in the 1960's by a yearly 4.6 per cent, while in the 1970's already by a yearly 7 per cent.

In the period examined the capital production coefficient ranged between 3.63 and 3.76, i.e. it remained practically unchanged. According to available data for previous years – for 1938 and 1950, respectively – this important index was about the same at that time. In this way we can say that the capital production coefficient has shown a relatively great constancy in Hungary.

Distribution of national wealth among the sectors of the economy

In the sectoral distribution of the items of national wealth deriving from accumulation considerable changes took place in the years after 1960. These changes resulted in the fundamental modification of the sectoral structure of the entire national economy.

It can be stated from the changes in the sectoral distribution of accumulated assets stock that in the period after 1960 material production increased at a more rapid rate than servicing. This can be explained by the level of economic development and by the fact that in the period examined economic policy gave preference to increases in the production of material goods meeting primary demands. Naturally, this resulted in some parts of the national economy, the infrastructure in the first place lagging behind. This may become an obstacle to further economic growth in later years.

Table 14

Sectoral distribution of accumulated production factors and active earners
(percentage)

Sectors	Accumulated production factors		Active earners	
	1960	1974	1960	1974
Industries	23.6	32.9	34.0	43.9
Agriculture	23.4	20.4	38.9	23.3
Service industries	21.2	18.1	12.8	16.3
Total material*	68.2	71.4	85.7	83.5
Non-material branches altogether	31.8	28.6	14.3	16.5
National economy altogether	100.0	100.0	100.0	100.0

* Here and in the following the material sector includes industries (industry and building industry), agriculture (agriculture, sylviculture and water-supply) as well as the service industries (transport, communications and commerce)

In the fixed assets stock the share of the material sector increased to particularly great extent. An interesting aspect of development is that, within the material sector, the share of industry in fixed assets increased at a slower rate than that of agriculture, which is first of all the consequence of the change-over to socialist large-scale farming. The share of industry in stocks increased from 27.1 to 46.6 per cent during the period examined, while the percentage of agricultural stocks decreased from 42.7 to 24.7 per cent, which can be explained first of all by the inadequate position of livestock.

In natural resources, changes can occur only in the sectoral distribution of land, while the sectoral localization of live timber stocks and mineral wealth cannot change owing to their specific utilization. In the period examined 1.5 per cent of the total arable land was transferred from the agriculture to other branches of the economy in consequence of the increase of urbanized areas. This seemingly small change, however, means the final withdrawal of large crop lands from agricultural production, therefore it deserves, as a process, much more attention than its absolute measure would seem to warrant.

The economic development brought about also a modification in the sectoral distribution of the labour force. Since 1960 changes in this field have been more considerable than the shifts in the sectoral distribution of material factors of production. (See Table 14). The share of non-material sectors increased here. An important part of the roughly 7 per cent increase, since 1960, in the figures for gainfully occupied population went to swell the number of workers and employees of non-material sectors. However, this development brought about only slight changes in the distribution of the labour force between material and non-material work.

In the sectoral distribution of active earners more significant shifts took place among the individual sections of material production. The share of industrial branches was 43.9 per cent in 1974 as compared to 34.0 per cent in 1960. The share of service industry considerably increased as well, from 12.8 to 16.3 per cent. At the same time, however, there was an extraordinarily significant decrease in agriculture: its share was 38.9 per cent in 1960. This diminished to 23.3 per cent in 1974. If we

Table 15

*Changes in the material and human factors of production**

Branches	Accumulated assets stock in 1974 in percentage of 1960	Number of active earners
Industries	296.8	138.4
Agriculture	186.1	64.2
Service industries	182.9	136.5
Total material production	223.5	104.4
Non-material production	192.2	123.5
Total economy	213.5	107.2

* Without natural resources

examine the dynamics of change, then we can see that the work force of industry increased by 38.4 per cent as a consequence of increasing industrialization. A rise of almost the same size took place in the staff of service industries as well. This large-scale increase was covered overwhelmingly by a more than a third decrease of the number of those employed in agriculture. It resulted only to a small degree from the increase of the total number of active earners.

We can obtain an interesting picture of the development of the economy if we compare the development of the material and human factors of production of particular sections of the economy since 1960. The data of Table 15 indicate that there were considerable deviations in the development of the production factors of the individual branches of the economy.

This development at a differing rate has basically modified the capital equipment ratio of live labour in the individual branches of the economy. A remarkable consequence of development is that differences between sections concerning the capital equipment ratio of labour have decreased to a great extent since 1960.

Table 16

*Development of the capital equipment ratio of labour**
(at 1968 prices)

Sections	in 1960	in 1974	Index:
	(1,000 forints/head)		1960 = 100
Industries	89.6	192.1	214.4
Agriculture	77.3	224.1	289.9
Service industries	214.4	287.0	133.9
Total material sections	102.6	219.5	213.9
Total national economy	128.9	255.8	198.5

* Computed on the basis of total accumulated national wealth

Simultaneously with the above changes in the sectional distribution of factors of production the distribution of net national production has considerably changed as well.

In the period of 14 years examined the share of the material sections of production and of the servicing industries, respectively, in net national production remained almost unchanged. Within the material sections the results of industrialization policy can be felt, as a consequence of which the leading role of industry has strengthened.

The relationship between the development of the factors of production (Table 15) and that of net national production (Table 17) can be stated also as a breakdown according to the sections of economy. This relationship can be observed explicitly in the productive sections, i.e. in industry and in agriculture.

To sum up the following characteristic features of the wealth formation processes of the fifteen years since 1960 can be pointed out:

Table 17

Distribution of net national production among the sections of the economy
(at 1968 prices, as percentages)

Sections of the national economy	1960	1974	1974 in percentage of 1960
Industries	41.4	47.4	246.5
Agriculture	27.7	18.4	141.3
Service industries	20.6	24.6	257.2
Total material sections	89.4	90.4	215.8
Non-material sections	10.6	9.6	194.9
Total economy	100.0	100.0	211.3

– Wealth formation was at a high level throughout the period, the rate of the yearly average wealth increment exceeded the results of earlier periods. The global volume of national wealth – the joint value of reproducible wealth items and natural resources included in the computations and calculated at unchanged prices – increased on the average by a yearly 4 per cent. In the 1950's the measure of wealth increase amounted to a yearly 2.8 per cent while in the period between the two World Wars it remained under 2.0 per cent.

An even more favourable picture of the period examined can be obtained if the development of accumulated national wealth is examined. The value of these items – fixed assets and the stocks of the economy – increased by yearly 5.4 per cent on the average during this period. The yearly increase of these items amounted to 3.6 per cent in the 1950's and to 2–3 per cent between the two World Wars.

– Given the high level of wealth formation the growth rate steadily increased, apart from a few exceptions, in the period examined.

– The distribution of national wealth over the economy has considerably changed since 1960. This change created the increase of the share of industry and the building industry, respectively, with the simultaneous decrease of the role of agriculture.

– The increase of reproducible wealth items was much more rapid than that of natural resources, thus there was a considerable structural transformation in the composition of national wealth.

Further tasks

The valuation of natural resources in connection with the computation of national wealth can be regarded as solved only in part.

Natural resources are freely put at the disposal of the society. They do not contain any labour in their in situ state. They therefore have no value in terms of the Marxist labour theory of value. Natural resources receive their value by the labour necessary for their utilization.

At the same time a great part of natural resources is available only in limited quantities, therefore they must be utilized expediently. This creates an imperative necessity – independently of the economic system – both under capitalist and under socialist relations.

In a capitalist economy the owners of natural resources – first of all of land and mines – take a share of the output of production making use of limited stocks. This income is called *rent* in economic theory. When utilizing resources rent appears as a claim for payment and this expense item exerts its effect through prices in favour of a rational utilization of resources. In capitalist countries the valuation methods of natural resources are based mostly on rent.

In the socialist countries the overwhelming part of natural resources is in socialist ownership. In this way the conditions for rent have ceased. Thus the utilization of natural resources means no payment of that sort for the economy.

It is undoubted, that from the point of view of the rational use of natural resources a price system where the use of resources was not completely free is advantageous even under present conditions. Such an expense item would stimulate, on the one hand, the rational utilization of resources, and on the other it could form an income for the socialist society that could be used for the exploration, maintenance and replacement of natural resources. This income, much like rent and spent on community purposes could form a basis for the evaluation of natural resources under the conditions of socialism as well.*

In our computations each item of national wealth was valued on the basis of the total stock available. If the results obtained in this way are used with the examination of the relationship between national wealth and national income, then this means the assumption that the total stock of all items of national wealth participates in the reproduction process with the same activity.

However, a more thorough analysis of these relationships shows that individual wealth items take part in production in different ways. There is a wealth item, i.e. the fixed assets stock, whose total stock permanently participates in economic circulation. However, the total stock is used up only gradually, over several periods, thus it can offer useful performance for a longer time, when in particular periods a part of its value becomes a component of the value of products. Another item, the stocks of the economy, however, will be completely used up and replaced several times over one examination period (one year), therefore it renders possible the realization of several production processes during this time. There is such a wealth item, too, – mineral wealth – which participates in the production process only with a small share (2–3 per cent) in each production period. At the same time, the overwhelming part of stock is completely passive. Other wealth items,

* The income (sale receipts) resulting from the utilization of natural resources was analyzed from this aspect within the framework of our computations, too, and when valueing resources the income part similar to rent included in the income was taken into consideration wherever possible.

again, e.g. labour, behave in a way deviating from the above examples during their participation in the reproduction process.

The question can be raised whether such wealth data which were established ignoring the above particularities of their role, are suitable for use in the analysis of the reproduction process. A detailed examination of this question is not considered our task here. However, it cannot be doubted that these questions are worthy of attention and they must be dealt with connected with the practical application of the results of national wealth computations. Computations made with the consideration of these points of view would lead to results differing from the above wealth data, of considerable significance in case of certain wealth items. The examination of the question is, therefore, undoubtedly justified, at least in principle, and important especially if the examination of relations between factors of production and production outputs, using exact mathematical methods is set as an aim.

The interest in questions of national wealth experienced in recent years and the development of the methods connected can be attributed first of all to the following main reasons:

1. The spreading of the balance-system of the economy and the development of its methodology increased scientific interest in wealth formation. If regarded from the wealth aspect we can say that the balance-system of the national economy – as shown also by the conceptional matrix forming its basis – indicates the changes in the wealth stock available at the beginning of a given year as produced by income processes taking place during the year. Taking these into consideration it determines the wealth stock at the end of the year. Therefore, the balance-system of the economy – after all accounts of the entire system have been settled – gives a picture of economic circulation also from the wealth aspect. This results also from the close connection between the macro-economic conception of the balance-system of the national economy and the micro-economic one of the system of enterprise accounts.

2. In most countries the complete balance-system of the economy has not been elaborated yet. Within the framework of the balance-system the examination of the outputs of current production, the processes of income distribution and the utilization of incomes is going on based on the data of national income computations. These analyses deal first of all with questions connected with consumption and the shaping of standards of living. They give information on the wealth situation of the economy only to the extent as changes in wealth are directly connected with current income processes (accumulation, amortization). Changes in wealth for other reasons (e.g. sorting out, elementary damage) are not dealt with in these analyses. Therefore, these cannot give a full picture of the changes and the current volume of stocks. At present, the balance-system of the economy does not provide complete information on the achievements of economic development realized in the wealth sphere.

3. The results of national wealth computations serve as the basis of the wealth accounts of the balance-system of the economy. Thus a complete balance-system of

the economy can be drawn up only if there is continuous accounting of national wealth as well, in addition to national income computations.

4. The fast economic development of recent decades, whose rate was much more rapid than that of previous periods, and the resulting large-scale wealth formation increase the importance of accounting of national wealth. Since the costs of wealth maintenance increased because of this serious burdens for the national economy resulted.

5. In connection with the development of the economic mechanism one of the tasks to be solved is the improvement of the wealth economy with enterprises. For this purpose the results of national wealth computations give some help in the elaboration of economic incentives.

★

A comprehensive study of the wealth sphere of the economy with a thoroughness corresponding to the requirements of modern economic analysis necessitates the clarification of further problems. These tasks can be divided into two main groups:

– the extension of the sphere of examination, drawing new wealth items into the computations;

– the further development of accounting methods which requires the development of basic statistics and the clarification of some questions of principle.

In connection with the extension of the examination the question of the notional definition of national wealth arises. The clarification of this notion is first of all a theoretical question and thus the task of economic theorists. For the purpose of practical computations the general definition can be considered suitable, according to which all material and intellectual goods having some role in the economy and participating in the fulfilment of human needs, belong to national wealth.

This wide notion of wealth makes no distinction between free and economic goods. In a national economic approach free goods (e. g. solar radiation or water) can be regarded as wealth, since they have some effect on the economic situation of the country and the success of labour. The role of such free goods may differ from country to country, therefore free goods may also cause differences in the economy of the individual countries, even in case of an otherwise identical wealth situation. There is no way to evaluate free goods, but certain methods of quantitative measurement (e.g. the determination of the number of sunny hours per year, the quantity of water available) can be applied here as well. This conception keeps in view as well that the dividing line between free and economic goods, respectively, is not eternal. Nowadays, free goods e. g. water or air are becoming economic goods.

Such comprehensive definitions of the notion mean that, when making examinations connected with concept-formation, no distinction should be made between economic goods according to whether their accounting (evaluation) is

possible at present or not. Economic goods have their role in the economy, therefore it cannot be debated, in principle, that they form a part of national wealth even if they cannot be included in actual computations at present yet (e. g. because of the lack of available data).

A further task, given such a wide notion of wealth, is to decide which items should be included in the current national wealth computations. When determining this the practical importance of the accounting of the individual wealth items as well as the role of the results in economic computations must be kept in view. Following this the difficulties of accounting and its labour-intensity must be examined. Wealth items which have an important part in economic analyses must be included in the computations even if their accounting causes some difficulties and only a certain ranking can be achieved by accounting (valuation). From the point of view of the exactness of accounting it can be adopted as a general principle that data with an exactness of ranking, too, may provide some help for wealth investigations, therefore they are more advantageous than their complete absence.

On the basis of such considerations the following wealth items should be drawn into the sphere of computations – beside items included in the above computations – given the further development of national wealth computations:

Natural resources:

a) water-supplies
b) waterways
c) fish and game stocks

Reproducible goods:

d) patents and royalties
e) cultural wealth
f) labour (manpower).

a) Nowadays water gradually turns into a commodity and the scarcity of available supplies is more and more perceptible. The first task is a quantitative accounting of supplies. A knowledge of water-supplies may already further a rational economizing of water-supplies. The valuation of supplies in money terms is mainly for the sake of including water in complex economic computations. Only an exactness of ranking can be striven for.

b) Available waterways may replace other means of transport (railways and public roads). When examining waterways their length and the traffic they can bear must be examined within the framework of quantitative accounting. The final purpose of the investigations is to determine the value of investment in railways and public roads which can be replaced by waterways. When carrying out the valuation the relative cheapness of transport on waterways must be kept in view. This raises the value of waterways.

c) Fish and game stocks can be regarded almost completely as economic goods at present. The income resulting from hunting and fishing is included in national income. In its realization stock participates as the most important factor of

production and its inclusion in national wealth is justified for that reason alone. The data necessary for accounting in quantity and value are generally available.

d) Patents and different royalties are goods of an intellectual nature which participate in the production process as factors of production, and are therefore part of the productive items of national wealth. Their application increases output, therefore their returns can be spoken about, too. Their consideration within national wealth makes the accounting of production factors more comprehensive. Either the purchase costs or the production (experimental) expenses connected with their establishment must form the accounting basis.

e) Cultural wealth includes the material of collections made with an artistic or scientific purpose, or those of historical character, memorials (statues) located in public places as well as buildings considered historic monuments. This is wealth of a consumption character and therefore has no role in production. Its task is to satisfy higher intellectual needs of individuals and of the nation as a whole. This wealth includes also items of extraordinarily high value and represents, in its totality, a considerable sum.

In the accounting of cultural wealth the first task is to make an inventory in quantitative units. The wealth items taken into account should be divided into groups according to value, by rough estimation. The average unit value within the groups can be stated by valueing items which are relatively easily appreciated and representative from the point of view of average value. The wealth items in individual groups can be taken into account with these average values. Considering the nature of this wealth an exactness of ranking must be considered satisfactory.

The valuing of this item cannot be regarded as important task since it does not participate in production and consequently does not directly influence economic development. The results obtained would be merely of interest, satisfying scientific curiosity. However, longer time series would provide some practical help also in judging the economic development of the country.

f) Labour is part of national wealth according to the newest ideas, but already as argued by Petty. Valuation is necessitated by the fact that data enable the summing up of all forces of production – means of production and labour – if this is necessary in national economic computations.

The valuing of labour is possible on the basis of expenditure. Two methods can be conceived:

1. taking all expenditure into consideration, i.e. the total costs of breeding and education;

2. taking the costs of professional training into consideration (these costs can already be regarded as economic investment).

There are no insoluble questions of principle in connection with the accounting of labour as part of national wealth. The statistical material necessary for the accounting in quantity (staff) and the valuation in money is mostly available. However, there are some interesting, complicated and hardly answerable questions

of principle to be solved in connection with the determination of the volume (in value) and the use value of labour.

With the valuation of labour (human capital) national wealth computations are extended to all the three fields of factors of production – land, capital, labour – therefore its realization would mean a considerable progress from the point of view of development of both national wealth computations and economic analyses.

Another group of questions to be clarified are of a methodological character. Let us mention some of the more important ones as examples:

1. Valuation of fixed assets stock at the price level of the accounting year. The valuation of fixed assets stock is made at prices of various moments – partly that of the purchase and partly that of the last revaluation – in the stock taking of enterprises. These wealth items are taken into consideration in such a way in the statistics of fixed assets and then, taken from there, also in national wealth. This method makes the interpretation and proper use of value data at current prices difficult. The elaboration of a statistical method should therefore be attempted that enables the continuous conversion of data of fixed assets statistics so that the entire stock can be expressed at the prices of the accounting year.

2. The effect of technical progress on the fixed assets stock. A consequence of technical progress from the economic point of view, speaking roughly, is that new fixed assets will produce more cheaply than old ones. Thus there are individual pieces in the stock producing at different cost levels. This is not taken into consideration either by stock data at current prices or by those at unchanged prices. Such computations which would bring properties of different age to a common denominator from the point of view of the level of production costs, i.e. economic output, would considerably improve the utilization of data.

Depreciation allowance (amortization) is also connected with technical progress. A part of amortization covers intellectual obsolescence, a consequence of technical progress. The amortization rates determined on the basis of the financial requirements of enterprises (taxation) do not always correspond to economic requirements which result in the development of a gross-net proportion objectionable from the point of view of economic computations.

3. Valuation of the stocks of the economy. The stocks of the economy are made up, in present statistics, of items valuated at prices developed in the different phases of circulation (retail trade, wholesale and cost prices). This differing valuation is justified in some cases, but often objectionable from the economic point of view. In such cases an adequate correction of stocks statistics as well as the valuation of certain stocks in a way deviating from that of stocks statistics can be justifiable.

The examination of the optimum volume of stocks arises as a problem of a quantitative character in connection with the stocks of the economy. Such an examination may produce a certain progress from the point of view of the analysis of the stocks of the economy and their role in the reproduction process. A similar task

closely connected with the above is the examination of frozen stocks and the record of their volume and location.

4. Valuation of arable land. There are several questions here, which must still be clarified. These questions arise mostly then if arable land is taken into consideration in the various concrete national and enterprise computations as a factor of production.

a) the valuation of cultivable land takes place globally at present, therefore the unit value obtained expresses the average value of all cultivation; the valuation of different types of cultivation should be dealt with;

b) there are considerable deviations between the value of soil of different quality, i.e. fertility, and the determination of them and the calculation of corresponding unit values would increase the practical applicability of land-value figures (the same problem arises also in connection with soils of differing location);

c) in connection with the valuation of uncultivated land the task is the creation of a statistical basis, the further development of the collection of statistical data on the ground-prices.

5. Valuation of the live timber stock of forests. There are global value data available concerning the live timber stock of forests. A further task to be solved yet is valuation detailed according to species of tree and age distribution. Such computations would provide help for the planning of the raw material supply of the country.

Other benefits resulting from forests should be examined as well, from the point of view of their measurement – eventually on the basis of quantitative indices.

6. Valuation of mineral wealth. In the present computations mineral wealth is valued by four methods. The net wealth value is included in national wealth statistics, in a discounted form. It cannot be doubted that the other computations would provide some valuable information on mineral wealth. The meaning of the results obtained by the various valuation methods should be examined together with the possibilities of their practical applicability in national economic computations concerning mineral wealth. The value of mineral wealth should be determined also by the method of returns capitalization.

The value of raw material extracted yearly shows, in the wealth approach, how the mineral wealth as a resource participates in the reproduction process in particular years.

7. National economic computation methods with the utilization of national wealth figures. For a further development of national wealth computations questions should be dealt with which – in case of the usual delimitation of tasks – do not strictly belong to the sphere of national wealth computations. Such tasks may arise under the present circumstances of a socialist planned economy first of all in connection with the further development of the system of economic incentives aimed at improving the resources management of enterprises.

The methodological questions of such national economic computations should be dealt with, too, which make use also of national wealth figures regardless of their objectives. Thus the requirements national wealth computations have to satisfy can be revealed and taken into consideration when developing accounting methods. On the basis of the examination of the methodology and objectives of various national economic computations even a parallel accounting (valuation) made by different methods may become necessary in case of certain wealth items.

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РОСТ НАЦИОНАЛЬНОГО БОГАТСТВА ВЕНГРИИ В 1960—1974 гг.

Д. ХАЙПАЛ

Статья написано на основе данных, опубликованных в вышедшей в 1974 году публикации Центрального статистического управления, в которой излагаются также и связанные с обследованиями важнейшие теоретические вопросы и применявшиеся методы.

Рост национального богатства Венгрии стал возможным благодаря достижениям общественного хозяйства и значительному увеличению валового внутреннего продукта. В этот период произошел значительный рост накопления, составляющего основу образования богатства. В 1974 году объем валового накопления более чем на 160%, а объем чистого накопления почти на 170% превысил уровень 1960 года.

Важнейшая имущественная позиция народного хозяйства — фонд накопленных средств производства возрос на 114%. Среди накопленных средств рост основных фондов составил 110%, а запасы возросли почти на 90%. Исключительно большим ростом инвестиционной деятельности объясняется то неблагоприятное явление, что в исследуемый период объем незавершенных капиталовложений возросло почти в шесть раз. О развитии народного хозяйства в интенсивном направлении свидетельствует тот факт, что доля машин и оборудования среди основных фондов в рассматриваемый период возросла с 17,0 до 21,6%.

Рост природных ресурсов с 1960 года можно считать благоприятным. Возросла доля более ценных застроенных территорий, однако параллельно с этим произошло сокращение обрабатываемых площадей. В 1974 году пригодные для использования минеральные ресурсы страны возросли на 80%, по сравнению с 1960 годом.

Крупный прогресс в жизненных условиях и материальном потреблении населения выразился в значительном росте количества товаров длительного пользования в домашних хозяйствах. С 1960 г. эти фонды возросли на 146%, следовательно в значительно большей мере, чем другие, так называемые производственные позиции национального богатства.

Среди народнохозяйственных отраслей с 1960 года в наибольшей мере возросло имущество промышленности и строительства. Доля этих отраслей в накопленных средствах производства в 1974 году составила 33%, по сравнению с 24% в 1960 г. Одновременно доля сельского хозяйства сократилась с 23% до 20%. Сдвиги этих пропорций отражают быстрый темп индустриализации страны.

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INTEGRATION OF THE CMEA-COUNTRIES AND THE SOVIET UNION*

What is the role of the Soviet Union in the economic integration of the socialist countries? What is her role in the international division of labour developing among them as planned? What factors determine the mutual interestedness in the further developing of economic integration in the medium and long run of each participant? These questions are dealt with in the article.

Relying on a thorough analysis of the new phenomena in the international relations of the socialist countries, the CPSU (Communist Party of the Soviet Union) and the fraternal communist parties have theoretically established the necessity of the transition to socialist economic integration. The integration policy jointly elaborated by the fraternal parties has passed the test of time. This guideline completely conforms to the acceleration of the objective process of internationalization taking place in the economic life under the circumstances of the scientific and technological revolution.

The implementation of the goals and tasks outlined in the Comprehensive Program of the socialist economic integration has promoted the further strengthening of the economic potential of the socialist community and the stabilization of the material basis of the political unity and concord of the fraternal socialist countries. Further reserves of the mutual division of labour were explored which was reflected, among others, by the significant increase of the growth rate of foreign trade and the over-fulfilment of the original targets of mutual deliveries agreed for 1971–1975. The exchange of goods of the CMEA countries increased from 33.5 thousand million roubles in 1970 to 71 thousand million roubles by 1975, i.e. 2.1-fold.

The experiences gathered during the realization of large-scale common plans resulted in the activation of many-sided co-operation and established the conditions of elaborating a co-ordinated plan of multilateral integration measure approved by the XXIXth session of the CMEA for the period 1976–1980. Presently there are about 30 important joint CMEA projects under construction in the branches of fuel-energetics, metallurgy and other sectors of the industry. Considerable progress has taken place in the field of bilateral co-operations. Hundreds of new specialization and co-operation agreements were concluded on production and scientific and technological co-operation. Some countries have elaborated long-term development programmes of mutual co-operation.

* On the basis of a lecture read at a meeting of the Hungarian Economic Association, February, 1976.

Speaking about the importance of the further development of socialist economic integration, L.I. *Brezhniew,* Secretary General of the CPSU emphasized at the Party's 25th Congress: "The matter in question is not only the considerable mutual economic advantages, but also a task of great political importance: viz. the strengthening of the material basis of our community."

One of the characteristic features of socialist economic integration is the fact that in addition to countries with small or medium industrial potential an economic giant, the Soviet Union is also involved. Her powerful economy contributes 70 per cent of the entire industrial and agricultural production of the CMEA countries, and within this 96 per cent of oil, 85 per cent of natural gas, 78 per cent of their tractor, 71 per cent of their car, 62 per cent of their machine-tool, 66 per cent of their cement, 66 per cent of their cotton fabric, 70 per cent of their grain crop and milk production and almost the whole of their cotton production.

The question arises, how the dominant role of the Soviet Union influences the process and prospect of socialist economic integration. In connection with this question speculations are published in great numbers in the Western and also in the Chinese press.

It is asserted, for example, that the Soviet Union has no economic interests in integration and is guided solely by political considerations.

Others state that the integration serves solely the interests of the strongest participant, i.e. the Soviet economy, while the other countries are wronged.

They doubt the possibility of the multilateral development of integration relations, since in case of the existence of such a vast economic centre of gravitation as the Soviet market some participants of the integration prefer having bilateral relations with the Soviet Union. In brief, the part of the Soviet Union in the realization of the plans of socialist economic integration has to be examined objectively. This must be done if only in order to separate problems made-up artificially from the real ones resulting from the particular situation of the Soviet Union within the community of CMEA countries.

The enormous sizes of the Soviet economy make its participation in all large-scale integration endeavours of the CMEA countries desirable and necessary. At the same time, the Soviet Union is not in an easy position because she is expected to make the greatest efforts and to bear the greatest responsibility.

What is the place of the Soviet economy in the international economic integration?

Regarding the quantity and assortment of the products manufactured the Soviet Union somewhat lags behind the U.S.A. (reaching about 80 per cent of the American industrial and agricultural production), but her dynamic and first of all unbroken economic growth is an immense advantage as against the U.S.A. In the last 15 years the growth rate of Soviet industrial production amounted to about an annual 8 per cent with but insignificant fluctuations. (In 1975, one of the most difficult years, the growth rate amounted to 7.5 per cent.) In the U.S.A. the yearly

average growth rate of industrial production was half of that of the Soviet Union in the same period, moreover, a considerable decrease in production was experienced in the years 1970 and 1974–1975.

Despite the fact that the volume of the national income produced in the Soviet Union amounts only to two thirds of that of the U.S.A. the Soviet Union invested in her economy in the course of her latest Five-Year plan as much as or perhaps a little more than the U.S.A. This means that with other conditions equal, the Soviet Union has more possibility for a dynamic economic growth.

The Soviet Union has a unique position in the world considering the supply as regards the most important raw materials and fuel resources. More oil, coal, iron ore, industrial timber, cement and artificial fertilizer are produced in the Soviet Union than in the U.S.A. or any other country of the world. It must be noted, however, that not all natural resources are readily accessible and inexpensive to exploit. The exploitation of most of them is accompanied by increasing costs. In case of such a large-scale exploitation the factor of limitedness and inreproducibility of several natural resources is becoming of increased importance.

As far as the quality of soil and climatic factors are concerned, the Soviet Union is in an essentially more unfavourable situation than the U.S.A. and Western Europe. The proportion of areas less favourable for agricultural production where the yearly average temperature is under + 5°C amounts to 10 per cent of the sown area in the U.S.A. and to 60 per cent in the Soviet Union, respectively; 700 mm or more precipitation a year falls to 60 per cent of the sown area in the U.S.A. while only to 1 per cent of that in the Soviet Union.

In the international co-operation Soviet scientific and technological potential obtains increasing importance. One fourth of all scientific workers of the world are to be found in the Soviet Union. The Soviet Union has a leading part in several fields of science and technics: in metallurgy (continuous steel casting), electric energetics (atomic reactors, gas-turbine equipments for peak-consumption) and astronautical technics. A considerable scientific basis is at our disposal promoting technological progress, and this can be advantageously utilized not only in the Soviet Union, but also in other socialist countries.

The joining of the large productive as well as scientific and technological potential of the Soviet Union in the international economic integration may have a similarly positive effect as the connection of an especially big capacity into an energy system consisting of small and medium electric power stations. There will be considerable possibilities for manoeuvring, whereas the most important consequence will be the increased safety and stability of the functioning of the entire system.

The role of the Soviet Union in international economic co-operation and first of all in the system of socialist integration depends not only on the size of her national economy and the purposefulness of its development but also on the extent of its joining in the international division of labour. This latter condition determines the

place of external economic relations in the economic development of the Soviet Union.

In the Soviet Union external economic activity is rapidly expanding and becomes of great importance in several branches of the national economy. For example, in 1974 18 per cent of oil, 19 per cent of iron ore, 13 per cent of paper articles, 8 per cent of cellulose, 26 per cent of cars, 36 per cent of cameras and 30 per cent of thread of cotton were exported. According to data obtained from the input–output balance of 1972, 3 per cent of the total industrial production and 0.6 per cent of the agricultural production were sold on external markets [1].

The Soviet Union has two relatively abundant basic export sources at present, namely, fuel and raw materials, as well as resources resulting from scientific and technological achievements and up-to-date technologies. The items mentioned above form one of the basic conditions of deepening mutually advantageous co-operation with the CMEA countries.

The pattern of the international division of labour corresponding to the interests of the Soviet Union and the other socialist countries can be characterized, in general, as follows: Soviet raw materials, fuel and products of the scientific and technological sphere, within the science-intensive technics, are exchanged for machines and equipments, part units and component parts, consumption goods and foodstuffs.

The socialist countries have for years relied in their economic co-operation on the vast industrial and natural potential of the Soviet Union. The export of Soviet energy sources to these countries increased sixfold between 1961 and 1974. In 1974 exports amounted to 130 million tons (converted to conventional heat-value). Expenditure on investments alone aimed at the increase of the export of oil and natural gas, exceeded 6 thousand million roubles.

It should be mentioned that while the crisis of the capitalist world economy is especially painfully felt in the field of raw materials and fuels, in the framework of the Council for Mutual Economic Aid the problem of supplying the member countries with raw materials and energy is practically solved by the co-ordination of the plans for the period 1976–1980. In the forthcoming Five-Year Plan period Soviet fuel-energetic deliveries to the CMEA countries will increase. For example, the volume of fuel deliveries betwen 1976 and 1980 will amount to 815 million tons (converted to conventional heat-value), i.e. it will be 43 per cent more than in the previous Five-Year Plan period. Within this, the export of oil and its derivatives will amount to 411 million tons during five years. By the end of the Five-Year Plan period the gas deliveries of Orenburg (15 thousand million m^3) will start. Within five years the CMEA member countries will get 117 million tons of raw material with iron content from the Soviet Union, i.e. 23 per cent more than in the past five years. The export of rolled goods from the Soviet Union will significantly increase (in the years 1971–1975 the Soviet Union exported 22 million tons of crude iron and 27 million tons of rolled articles).

Considering the significant capital-intensity of the exploitation of fuel and raw materials our CMEA partners contribute by investments to projects serving the extension of the export of certain branches in the Soviet Union. For example, during the years 1976–1980 the investments of the CMEA countries contributing to the integration projects in the Soviet Union will amount to 4.5 thousand million roubles.

As can be seen from these data, the division of labour realized between the CMEA countries in the fuel and raw material branches has grown to such huge dimensions that without common long-term programmes of co-operation, without the unification of efforts and means no progress could be achieved.

Besides the energy sources and raw materials the mutual exchange of machines and equipments will significantly increase in the current Five-Year Plan, this being of outstanding importance from the point of view of technological development. The exchange of machines and equipments between the Soviet Union and the CMEA countries as well as Yugoslavia, respectively, will reach a value of 51 thousand million roubles in this Five-Year Plan period, which means a 73 per cent increase as compared with the previous five years, while Soviet exports to these countries will increase by 80 per cent. The delivery of machines and equipments from the Soviet Union to the CMEA member countries enables the solution of several problems of energetics, metallurgy, agriculture and other national economic branches of the fraternal countries.

Let us just mention that the equipments to be delivered for the installation of electric power stations, including atomic power plants will provide a total power of 17.6 million kW in the current Five-Year Plan period, i.e. 1.8 times more than the export of the previous five years. In the manufacturing of equipments for atomic power plants the Soviet Union co-operates with the CMEA countries. This co-operation based on the co-ordination of plans has an important part in the realization of the programme connected with the construction of atomic power plants.

The export of tractors, passages, cars, agricultural and other machines from the Soviet Union to CMEA countries is significantly increasing. Between 1976 and 1980 the Soviet Union will export more than 200 thousand tractors, more than 160 thousand lorries – including more than 30 thousand lorries with big load-bearing capacity from the products of the KAMA Motor Works – and 1.3 million passenger cars.

Although the Soviet machine industry considerably contributes to the solution of the most urgent problems of socialist integration, because of her huge internal demands the Soviet Union is still not able to satisfy a part of the machine requirements of the other socialist countries.

The strengthening of the export orientation of the Soviet industry cannot be attributed exclusively to the increase in demands on the part of the socialist countries. This process expresses the growing internationalization of economic life and corresponds to the fundamental economic and political interests of the Soviet

Union. Brezhniew spoke about this very convincingly in his report at the 25th Congress of the CPSU: "The ever increasing utilization of the international division of labour in the interest of the development of all countries irrespective of their economy and development level is a particularity of our age. Similarly to all other countries, we, too, strive for the utilization of the advantages resulting from external economic relations, for their application as new possibilities of the successful solution of economic targets, time-saving, the rise in the effectiveness of production as well as for the acceleration of scientific and technological progress".

It should be added that the new Five-Year Plan stipulates for the intensive development of the Soviet economy, the rise in labour productivity and the greatest possible improvement of the quality of production. This stimulates all of us to participate in the socialist economic integration and the international division of labour more actively than previously.

It is a topical task even for the huge national economic complex of the Soviet Union to concentrate investments and production in the most effective fields – as for example some export branches. It is worth while for the Soviet Union, too, to save investments by cancelling the increase of the manufacturing capacities of products which can be imported more advantageously.

Integration accelerates and makes cheaper scientific and technological development in several fields in the Soviet Union, too, and also furthers the expansion and technical reconstruction of several advanced industrial branches, for example that of the chemical industry, vehicle industry, transportation, textile and food industry, as well as raising of the living standards of workers and employees.

The strategic goal of socio-economic development according to which the living standards of workers and employees should steadily rise, postulates a continuously increasing supply in consumption goods on the Soviet market. This, in turn, determines for a long time to come the interests of the Soviet Union connected with the importing of consumption goods, the enlargement of assortment and the co-operation based on the processing of raw materials, i.e. her interestedness in effective economic integration realized with the CMEA countries in this field.

The great importance of planned economic co-operation with the socialist countries in the successful economic development of the Soviet Union can be seen from the very weight of the deliveries of CMEA countries in the utilization of a number of important products in the period 1971–1975. For example, a great part of domestic demands was satisfied by products imported from these countries, namely 50 per cent of crawler cranes, 40 per cent of ships and loaders, 35 per cent of railway carriages, 25 per cent of printing machines, 10 per cent of buses and 15–20 per cent of furniture, shoes, factory tailored clothes, fruits, wine, canned fruits and vegetables. The enumeration could be further continued.

In the new Five-Year Plan period the role of socialist integration will further increase in the solution of many economic problems of the Soviet Union. The exchange of goods with the other CMEA countries will increase from 86 thousand

million roubles of 1971–1975 to 128 thousand million roubles in 1976–1980, i. e. by 48 per cent, calculated at constant prices, and it is well-known that the volume of deliveries determined in agreements are as a rule overfulfilled. Thus for example, according to the long-term agreement concluded on the basis of the co-ordination of Five-Year Plans, the Soviet–Hungarian exchange of goods will increase from 11.2 thousand million roubles to about 17 thousand million roubles during the years 1976–1980, i.e. by about 50 per cent. An even faster development is envisaged, however, by two agreements concluded after the signing of the long-term agreement. In the course of the realization of these agreements some further increase can be expected.

These data prove that significant progress was made in the development of mutual economic co-operation. Despite all the difficulties connected with the price relations of export and import goods as well as several precarious raw material balances both in the Soviet economy and the economies of other CMEA countries, the conditions of dynamic economic development are basically ensured already for all participants of the integration in the new Five-Year Plan period.

In the period after 1980 a further increase of the role and importance of socialist economic integration is to be expected in the realization of the economic and social plans of both the Soviet Union and the other socialist countries. This trend is substantiated by numerous factors in force over a longer period and first of all by the deeply rooted political and economic interestedness of all participants of the integration. This results also from the co-ordinated strategy of mutual economic co-operation determined by the Comprehensive Programme of socialist economic integration.

As far as the place of the Soviet Union in the integrated socialist community of the future is concerned, this largely depends on her own general socio-economic development strategy and partly on her external economic strategy giving priority to socialist integration.

The high-priority objectives of the intensification of social production, and on the basis of these, the accelerated increase of welfare, require the maximum utilization of international economic relations, especially of the possibilities and advantages resulting from the co-operation with the socialist countries. International co-operation will become increasingly necessary from the point of view of technological development, the improvement of the quality of products, the proper supply of the home market and mainly of the increase in the effectiveness of new investments.

The more intensive joining of the Soviet economy in the international division of labour and the socialist economic integration, as well as the more active utilization of the resulting advantages postulate first of all the development of branches – mostly of the processing industry – with high efficiency and producing for export as well as the enlargement of the international specialization and co-operation relations of the Soviet industry. The Soviet Union strives to achieve this first of all

with the CMEA countries on the basis of long-term plans and programmes based on joint desicions. These large-scale programmes are aimed at the solution of such problems of pivotal importance as the supply with fuel, energy, raw materials and foodstuffs, the meeting of requirements for machines and equipments in the various fields of industry, as well as the expansion of transport and communication.

The policy aimed at the more rational utilization of energy sources and the more complex processing of raw materials as well as the emphasis laid on quality instead of increasing the volume of manufactured products will obviously influence the growth rate and structure of Soviet exports in certain commodity groups. The import needs of the Soviet economy will be determined by the fundamental tasks to be fulfilled in the future. These are, among others, the technical reconstruction of the light and food industries, the continuation of the industrialization of agriculture, the mechanization of manual work, first of all of auxiliary, storing and loading work, the improvement of the technical equipment of the commercial and servicing sphere as well as the chemical industry and the transport and communication. It seems that the import of machines and equipments from the CMEA countries can be increased in these fields, at the same time, however, also the requirements with regard to quality and technical standards of the products to be imported will be obviously raised.

An essential condition of the intensification of Soviet external economic activity is the further development of planned control and management, the introduction of an effective system of independent accountancy as well as the strengthening of the economic independency of the units concerned, parallel with the increase of their responsibility in the development of their external economic relations. The conditions are ripe for the introduction of these measures, and their realization will have very favourable effect on the future of the socialist integration of the CMEA countries. The 25th Congress of the CPSU paid special attention to the fact that "the realization of the measures jointly taken with the fraternal countries and the fulfilment of obligations undertaken towards them are solemn duties of the Planning Boards, ministries, supreme authorities, associations, enterprises and all those related to the given field of action".

The Soviet Union does and will do its best in order to develop the process of socialist economic integration in a way advantageous for all participating countries and to strengthen mutual confidence and unity in the relations of the socialist countries.

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СОВЕТСКИЙ СОЮЗ И ИНТЕГРАЦИЯ СТРАН-ЧЛЕНОВ СЭВ

О. БОГОМОЛОВ

Одна из особенностей социалистической экономической интеграции состоит в том, что в ней участвует наряду со средними и небольшими по размерам промышленного потенциала странами экономический гигант — Советский Союз. Огромные масштабы советской экономики делают ее, с одной стороны, желанным и необходимым участником во всех крупных интеграционных начинаниях стран СЭВ, а с другой стороны, ставят ее в нелегкое положение такого участника, от которого зачастую требуются наибольшие усилия и на которого приходится наибольшая ответственность.

Советский Союз в настоящее время располагает двумя главными видами относительно избыточных ресурсов для экспорта — топливно-сырьевыми и интеллектуальными, выраженными в научно-технических решениях и современной технике. Это представляет собой одну из фундаментальных предпосылок углубления взаимовыгодного сотрудничества со странами СЭВ на длительный период. В самом общем виде схема международного разделения труда, отвечающая как интересам СССР, так и других социалистических стран, заключается в обмене советского сырья, топлива и продукции научно-технической сферы, включая наукоемкую технику, на обширный ассортимент машин и оборудования, узлов и деталей, товаров народного потребления и продовольствия.

Ориентация советской экономики в десятой пятилетке (1976—1980 гг.) на интенсивный путь развития, повышение эффективности производства и всемерное улучшение качества работы во всех звеньях заставляет активнее, чем раньше, участвовать в социалистической экономической интеграции и международном разделении труда.

И для крупного народнохозяйственного комплекса Советского Союза актуальна задача концентрации капитальных вложений и производства на наиболее эффективных направлениях, какими являются многие экспортные отрасли. И для Советского Союза имеет смысл экономить капиталовложения за счет отказа от наращивания производственных мощностей по выпуску тех товаров, которые можно с большей выгодой ввозить из-за рубежа. И в Советском Союзе интеграция служит средством ускорения и удешевления научно-технического прогресса на многих участках, способствует расширению и техническому переоснащению ряда ведущих отраслей промышленности.

Неуклонное повышение жизненного уровня народа как общая стратегическая задача социально-экономического развития стран-членов СЭВ предполагает постоянное расширение предложения потребительских благ на внутреннем рынке. А это, в свою очередь предопределяет долговременный интерес СССР к импорту потребительских товаров, расширению ассортиментного обмена, развитию сотрудничества на основе переработки давальческого сырья и т. п. Наряду с этим остро ощущается потребность в углублении сотрудничества с целью увеличения производства продовольствия, перевода сельскохозяйственного производства на индустриальную основу.

В перспективе после 1980 г. можно ожидать дальнейшего повышения роли и значения социалистической экономической интеграции в осуществлении хозяйственных и социальных планов как в Советском Союзе, так и в других странах социализма. В этом направлении действует ряд факторов долговременного характера и, прежде всего, глубокая политическая и экономическая заинтересованность всех участников интеграции. Это вытекает также из согласованной стратегии взаимного экономического сотрудничества, закрепленной в Комплексной программе социалистической экономической интеграции.

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REVIEWS

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ECONOMETRIC MODELS AND METHODS: RESEARCH AND APPLICATIONS IN HUNGARY

According to the usual narrow interpretation of econometrics the subject of this discipline is the quantification and verification of mathematically formulated economic relations on the basis of statistical observation and with the tools of statistical inference. According to similarly widespread wider interpretations the topic is more or less expanded, sometimes even to an enormous extent, through loosening one or more elements of the above definition. In the following we shall use a wider interpretation than the narrow one mentioned above and for the sake of simplicity, this will be presented by merely listing the subjects. In the present article the researches in Hungary connected with

- stochastic models of the national economy,
- stochastic sectoral models,
- production functions,
- consumption analysis,
- multivariate statistical analysis,
- analysis of time series and
- some other subjects

will be reviewed.

From the point of view of development in Hungary the great upswing of research work in mathematical economics, and within that in econometrics, in the socialist countries in the 1960's was of decisive importance. The development was especially remarkable in the USSR, Poland and Hungary.

Early Hungarian forerunners will not be dealt with here. There are only very few isolated computations or methodological publications which could be mentioned. An important change took place in the domestic development in the 1960's when the organizational basis for econometric research and application was established. Without claim to completeness we mention some research units which had an especially important part in econometric research in Hungary during the last 10–15 years. They are the following:

- Econometric Laboratory and other units of the Central Statistical Office,
- National Planning Office and its computer centre,
- Institute of Economic Planning of the National Planning Office,
- Systems Engineering Enterprise INFELOR,
- Institute of Economics of the Hungarian Academy of Sciences,
- Research Institute for Agricultural Economics,

- Institute for Economic and Market Research,
- Economic Research Institute,
- Institute for Building Economics and Organization,
- Institute for Industrial Economics and Management of the Ministry of Heavy Industries,
- Department of Mathematics of the Karl Marx University of Economics,
- Computing and Methodological Department of the National Office of Materials and Prices.

Beside these institutions there are several other places, too, where econometric researches and the possibilities of applying econometric methods are dealt with resulting, among others, from the fact that specialists interested in econometrics strive for the application of these methods even without institutional frameworks or support.

In the following the main topics already mentioned will be dealt with. In connection with this presentation it must be emphasized that it will not be complete either from the point of view of topics, research places, utilization or from that of economic levels. As regards topics we should like to mention just as an example that regression analysis with a single equation or input-output techniques are not included in our study; research places and researchers are not completely enumerated, rather only some of them are pointed out; with a considerable part of the methods – e.g. stochastic models – our analysis includes only the national economic and the sectoral levels, but it does not include the enterprise level.

I. Stochastic models of the national economy

Stochastic econometric models belong to the newer ones among the econometric methods. This method originates, as a matter of fact, from the 1940's when already an enormous armory of tools of statistical inference could be applied. From among the pioneers we should like to mention here only the names of Ragnar *Frisch* and Jan *Tinbergen* (the former mainly from the point of view of theory, while the latter rather from that of practice), as well as the researchers gathered round the Cowles Commission, who had outstanding achievements in developing the methodology of stochastic econometric models (mostly by making the classical regression method and theory applicable for the handling of stochastic simultaneous equations). The decades passed since then have brought about an amazing spread of the method and its applications. In the socialist countries the application of stochastic econometric models under socialist economic relations began to attract interest in the 1960's. The first models were constructed in Poland and Hungary, but by the end of the 1960's econometric models were prepared also in the USSR and in all socialist countries. An eloquent proof of the spreading of stochastic econometric

models of the national economy is that at present there also exists an extensive literature on the comparison of models already elaborated.

Econometric models express in the form of simultaneous equations the uni- or multi-directional causal relationships among the variables quantifying the effects, processes and phenomena, asserting themselves within the national economy. (From the point of view of the character of the causal chain recursive and interdependent models are distinguished.) A fundamental characteristic feature of econometric models is that the relations are stochastic, therefore they are better adapted to the character of macro-economic processes appearing as aggregates of innumerable relations than the deterministic models, and lend themselves to treatment with the means of statistical inference. It should be mentioned as well that econometric models are suitable also for the consideration of the dynamics of economic processes, i.e. of effects appearing not in one, but several periods and in various types.

Econometric models have great requirements as regards statistical data. In the overwhelming part statistical time series take the role of variables and the demands for longer time series increase parallel with the size of the models.

The methodology of stochastic econometric models developed from the classical regression analysis and the more and more numerous methods of parameter estimation (the tools for the quantification of models) were established by very extensive methodological researches. There is a double development in this field. On the one hand, more and more precise and refined methods are elaborated whose application, however, often requires preconditions which can be only partly fulfilled or not at all. On the other hand, resulting from the nature of economic life and the limits to the information available, those constructing practical models show a rather great elasticity in disregarding the requirements of preconditions.

The stochastic models of the national economy are the most complex products of econometrics. They aim at relative completeness in so far as they try to give a picture of the totality of the national economy and not of one of its sectors or aspects. They are stochastic and thus prefer probability to the seemingly more exact deterministic character. By means of a sample serving for this purpose they state the structure on the basis of a shorter or longer period instead of one single observation. The price to be paid for these properties is that these models can be constructed only with certain constraints. On the one hand, the drawing of the picture of the national economy requires a lot of abstractions, while, on the other hand, the characteristics of the model require a relatively simple mathematical formulation of the relations (equations and inequalities).

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Firstly, we are going to present the models of the Econometric Laboratory of the Central Statistical Office. The modelling activity of the Laboratory should be emphasized because this was the first place in Hungary where econometric models

were prepared, most of the models – four during hardly one decade – were built here and it was here, too, where the preparation of models was accompanied by a highly intensive methodological research work. Perhaps the simplest way to begin with the reviewing of models constructed in the Econometric Laboratory would be to present some statistical data.

Data on the models

Name of the model	Sample period	Number of equations	Number of variables	Date of publication (year)
M-1	1949–1962	9	19	1965
M-2	1950–1967	26	58	1970
M-3	1950–1968	12	26	1971
M-4	1960–1970	31	51	1973

Model M-1 was the first econometric model of the national economy in Hungary and was ready more or less simultaneously with the first Polish model (these two models were the first ones in the socialist countries). The primary objective of model M-1 was to try out the methods under socialist relations and this task was fulfilled with regard to both estimation, forecast and simulation experiments.

With model M-2 those building the model made greater efforts that the construction of the model as well as its specification should follow the structure of socialist economic life. Model M-2 was characterized by the investigation of production, labour force, consumption, foreign trade and real incomes, the disaggregated treatment of consumption and mainly of production, the application of a macro-economic variable in the production function of agriculture set up for weather factors, as well as by the parallel application of unusually numerous estimation methods. *Ex ante* forecast was carried out by the transformation of the residuals.

Model M-3 had a special aim, namely, a comparison of the parameters of Czechoslovakia and Hungary on the basis of two models identically specified but separately estimated with Czechoslovak and Hungarian data, respectively.

Model M-4 is a type of model hardly applied even abroad; its novelty is the linking of the stochastic model with an input-output model. The joint application of both blocks is especially important from the point of view of forecast computations, when the model provides also a forecast of a small-size input-output table. Further objectives with the model are to eliminate the constant character of the input-output coefficients as well as to establish a two-way connection between the two blocks.

Methodological examinations accompanying the building of the concrete models were aimed mostly at the elaboration and comparison of the specialized variants of different estimation methods, studying multi-collinearity, the problems of models specified for cross-section samples, the comparison of foreign models, etc.

The Laboratory has published the results of its modelling researches in the series "Ökonometriai Füzetek" (Papers in Econometrics), in the series "Laboratóriumi Munkaanyagok" (Laboratory Working Papers), in "Statisztikai Szemle" (Statistical Review) and "Szigma", in different lectures prepared for the meetings of the Econometric Society as well as in the book entitled "Econometric model M-2 of the Hungarian national economy".[4, 7, 9, 10, 11, 12, 13, 16, 26, 28, 29, 31, 32, 33, 34, 42, 47, 48, 51, 54] (In connection with the works listed first of all the names of László *Halabuk*, Katalin *Hulyák*, Zsigmond *Nyáry* and Mrs. Gy. *Kotász* should be mentioned.)

Two econometric models of the national economy were prepared in the Economic Research Institute. The first model (of Zsolt *Ormós*) was published in 1971. It contains 63 variables and 35 equations, the sample period is 1958–1968. The model was prepared first of all with the purpose of forecasting and was characterized by a relatively great number of equations serving for explanation of fixed assets and investments. Similarly to several other econometric models this one has also been transformed several times; the number of equations and variables is larger, the period examined longer in its present form than originally.

The most important characteristic of Sándor Nagy's model consisting of 7 equations is that the main emphasis is laid upon the examination of technical progress. Estimation of the parameters was made on the basis of the data of the period 1950–1970. It must be emphasized in connection with this model that its author used it also for a remarkable analysis of dynamic characteristics and made – partly in connection with this work – also long-term forecasts.[3]

In the course of the preparation of the Fifth Five-year Plan several models of various types were prepared with the purpose of providing preliminary information for the elaboration of the plan. Among the models, very different from the point of view of methodology, information basis, size, etc., but complementing each other, a model of econometric type could be also found. This model was elaborated by the Institute for Planned Economy of the National Planning Office with the collaboration of several departments of the Planning Office as well as of the Econometric Laboratory of the Central Statistical Office. The model consists of 6 blocks and 64 equations. The structure of the individual blocks (production, summary balances, foreign trade, incomes and consumption, investment and fixed assets, manpower) and that of the whole model follow – according to its purpose – as much as possible the classification and balance system of planning. The model was constructed on two types of information basis: on the one hand, on the basis of factual data of the years 1960–1971 and, on the other, on that of time series prolonged with the expected values of plan fulfilment for the years 1972–1975. This approach, rather problematic and bold from a strictly statistical and econometric point of view, is one of the main characteristics of the model. Within the preparation of the five-year plan the specific concrete purpose of the model was to make sensitivity analyses and forecasts.

András *Simon* examined the development of Hungarian foreign trade in recent years by means of econometric method in the Institute for Market Research. His aim was to set up an econometric model of foreign trade. The econometric model consisting of 19 equations and constituting a simultaneous system was estimated on the basis of time series covering the years 1960–1972. The overwhelming majority of the equations of the model (14 equations) are those explaining the foreign trade turnover of five groups of products. The model examines the development of exports and imports of these groups of products broken down according to the turnover with socialist and non-socialist countries, respectively. Beside the foreign trade variables the model has consumption, production, accumulation and stock variables, moreover, it is characteristic of the model that there are several dummy variables in it.

On commission by the National Office of Materials and Prices György *Szakolczai* synthesized a many-sided and extensive mathematical-economic research activity under the title "Econometric model of price planning" with the collaboration of the Econometric Department of INFELOR and the researchers of other institutions. The models of price planning have three stages from the methodological aspect. In the first stage the sectoral price index is prognosticated by calculative equations extrapolating costs, incomes and outputs separately. In the second stage the harmony of the variables prognosticated in the previous stage is established by taking into consideration the quantitative and financial consistency conditions. In the final stage optimum solutions are sought after according to different objectives. Although the final objective of the research project is to forecast sectoral price indices, nevertheless the theoretical and practical applicability of several types of model were examined when elaborating the model. The methods applied can be grouped around two main subjects, namely, the production functions and the aggregated one-sector growth model, as well as the theory of the input-output table. The data basis of the model is not uniform in view of the peculiarities of the different phases and methods. As a matter of fact, data available in the individual fields as well as fictitious data served for basis, broken down into 15–20 sectors. Forecasts were made for the periods 1970–1975 and 1970–1985, respectively. During the whole work concrete conclusions for economic policy were drawn from the numerical results, e.g. concerning the optimum growth rate of the stock of fixed assets, the optimum determination of financial regulators, etc.

Several studies and articles reported on the researches connected with the econometric model of price planning. They were published mostly in mimeographed form.[5]

Margit *Ziermann* and György *Bánkövi,* experts of the National Planning Office and the Computer Centre of the National Planning Office, dealt with the forecast of macro-economic categories by different methods. In the course of this work they developed their model method containing dynamical, recursive relationships with which several experiments were made as well. This method is, as a matter

of fact, an econometric model elaborated, with the purpose of forecasting, describing the relationships between economic variables in the form of such stochastic equations, where the dependent variable depends only on the differently lagged values of all other variables as well as on the time factor. Therefore, as distinct from the usual econometric models, the model does not contain any simultaneous relationships, and thus all information necessary for the forecast can be obtained from the model itself by means of its full recursiveness. The way of specification is different as well, since the adequate form of the equations was chosen by the authors on the basis of mathematical methods, considering the best fit.

The work of the authors was aimed, first of all, at elaborating the method but, for the sake of illustration, they estimated dynamic, recursive relationships utilizing the time series of several macro-economic variables for the years 1950–1970 and made simulation and forecasting computations for the period 1970–1990, too.[27]

Balázs *Szabady* (Demographic Research Institute) elaborated his regional model with the purpose of decreasing the – from a territorial point of view – inhomogeneous contents of the variables of stochastic macro-models covering the whole country. He tried to construct more homogeneous variables by means of an adequate division of the geographical area and set up equations for the individual regions. In the equations of a region also the weighted average of the variables of different regions may be included beside its own variables. The weighting depended on the closeness of the interrelations. For illustration he specified a model for the Hungarian economy in such a way that the 19 counties and Budapest constitute the regions. He specified consumption equations, wages equations, production equations, labour equations, investment equations for all the 20 regions as well as one identity for each. From the six equation groups two contained interregional relations, namely, the consumption and investment equations.[35, 50]

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Stochastic econometric models provide for economic theory and practice enormous possibilities whose utilization is surely still in an initial stage. From the point of view of utilization possibilities a distinction must be made between medium- and long-term models on the one hand and short-range models on the other. In our opinion mostly the utilization of medium- and long-term models may provide various possibilities for the socialist planned economy, for the very reason that the relative importance of regular and controllable tendencies is greater in the long run than the role of uncontrollable and irregular factors.

Some of the utilization possibilities will be mentioned; in all of these application possibilities a mixture of the role of the model as a general source of knowledge and its applicability for some specific purpose can be found in different proportions.

The most general information can be obtained from the models by analysing the values of the parameters. Analysis of the elasticities connected with the parameters regarding production, consumption, etc. is a rich source of information. (A special possibility for analysis is international comparison by means of the models.)

Econometrics has provided the most efficient method up to now for examining the dynamics of economic processes, in so far as it makes demonstrable the development over time of the effect on the interacting economic processes of impulses consciously brought about or appearing spontaneously.

The introduction into the model, i.e. the simulation, of the alternatives, of various effects depending on governmental measures or appearing autonomously is one of the best methods for the preparation of decisions.The determination of the most probable of possible paths gives the forecast. A forecast made before drawing up the national economic plan is one of the means for preparing the plan. The forecast made for the period covered by the plan already in force is one of the methods for verifying the reality and fulfilment of the plan.

Although – as has already been mentioned – the exploitation of the utilization possibilities is at the very beginning, the first steps towards the above directions have already been made.

The situation in the case of short-range models is different. In this context the relative importance of irregular, uncontrollable fluctuations is much greater. Precisely on this account, the possibilities of mathematical treatment are relatively more limited. Therefore, other methods of forecasting and external information not treatable mathematically have a much greater part.

II. **Stochastic sectoral models**

The econometric models of the national economy are usually built in conformity with the purpose of the model. Thus it often happens that, instead of a maximally proportionate description of the national economy, the models lay stress upon some sector or function of the national economy and put the sector or function to be examined so to say to lime-light, or under a magnifying lens. In this way specialized models are created which put, for example, the financial aspects or foreign trade relations into the centre of the models. (Cf. András Simon's model in the foregoing.) The so-called sectoral models which are aimed, as a matter of fact, at modelling the functioning of some national economic sector may be regarded as the marginal case of this accentuation method. In the course of this modelling other sectors are included in the model only to the extent they are significant from the point of view of the sector examined (e.g. in respect of input or output, or with

complementary character). In the following presentation of sectoral models representation is probably very weak as compared with other subjects: altogether two sectoral models will be mentioned.

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The econometric model of the construction industry, made by the Institute for Building Economics and Organization with the collaboration of the Econometric Laboratory of the Central Statistical Office (György *Dukász,* Mrs. S. *Németh* and János *Széplaki,* as well as Zsigmond *Nyáry*), can be regarded probably as the first Hungarian sectoral econometric model.

The linear and dynamic model was aimed at the examination of the investment and maintenance activity of the building industry divided into eight sub-branches, first of all as a function of explanatory variables regarded as demand factors. The overall relations of the construction industry were examined by means of production, employment, productivity, wages and price equations on the basis of a sample of 12 years (1957–1968). The model contains altogether 15 equations, the number of endogeneous variables is accordingly 15 (with 9 exogeneous and pre-determined variables). The dynamic character of the model was expressed by the fact that 6 of them were lagged variables. As an experiment also short-range forecasts were made with some equations of the model.

In the Institute for Industrial Economics and Plant Organization of the Ministry of Heavy Industries the preparatory works for the elaboration of a large-size sectoral model are going on, concerning the chemical industry. It serves a long-term prognostic purpose and thus can be used in planning, too. The difficulties of the task are connected mostly with the special nature of technological relations in the chemical industry. Accordingly, the model wishes to take into consideration the especially strong interdependency of production connections, the non-substitutability of chemical products, which necessitates a very strong disaggregation of the production sphere from the point of view of model specification (100–150 products). Furthermore, also the development lines of the chemical industry for the years 1976–1990 as well as the world tendencies will be taken into consideration.

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We could hardly present examples for sectoral econometric models in the above. A possible reason for the fact that the construction of sectoral models has been so rare up to now may be perhaps that stochastic econometric models were made in the past first of all with general national economic character, while on sectoral level programming models had greater importance. Hopefully, the recognition and acknowledgement of the possibilities inherent in the sectoral models

are merely a question of time. The stressing of a single possibility is perhaps justified here. Within the econometric models there is usually a duality in the specification of relations. The level of production is explained starting from either capacity (labour and capital) or demand (intermediate and final consumption), eventually from both. The examination and expression of this duality and of a hegemony between the two forces, respectively, are justified first of all on sectoral level, since the duality in question is more marked in the individual sectors than for the whole of the national economy.

III. **Production functions**

Production functions express the relationships between the factors and the output of production. They enable a mathematically much more refined approach to the production connections than the econometric models. Such functions are set up both for the individual sectors and for the whole of the national economy; the latter stand very near to the growth models, while in the former the relations of technological character are often dominating. There are several transitions imaginable between the two types. The origin of production functions goes back to the years round 1930. The types of functions elaborated since then are more and more developed forms of expression of the production relations. At the same time, the individual types of functions represent different economic conceptions on the basis of various systems of conditions. The review below contains approaches differing both in conception, type of function and level of aggregation.

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János *Kornai* and Péter *Wellisch* used the method of production functions in those computations by means of which they wanted to determine the value of the "calculative" rate of interest and of the wage rate for their programming computations made with the purpose of perspectivic planning. They wanted to gather information about the theoretical value of the rate of interest and the wages applicable in planning computations by assessing the effects of productive fixed assets and employment on the growth of the national income. Thus, the computation of the production function might be regarded in this respect as the primal part of a programming problem aimed at answering the question what growth of national income can be achieved with the available productive fixed assets and labour. [18]

György *Szakolczai* (INFELOR) et al. dealt, on the one hand, with the examination of theoretical assumptions underlying the production function and on the other hand, they tried to apply a new type of function and even checked it by means of concrete computations on reproduction sectors. The type of function applied is a generalized variant of the CES-function making possible the estimation of altogether 5 parameters by means of an iterative procedure.

The examinations were made in several stages. The data basis for the first examination was the period 1950–1963. The results of concrete function computations were published and interpreted for the whole of the state-owned industry, the light and heavy industries, as well as for 6 industrial groups within them. The results of computations were used later on mainly in planning computations and price planning, first of all as a part of the research project which is a joint undertaking of INFELOR and the National Office of Materials and Prices. This resulted in a continuation of previous computations and in a widening sphere of examinations.

The newer results of these computations made with CES-functions in several variants were published for 17 industrial groups and 6 main groups, of the state-owned industry. The period 1950–1967 served for data basis [6, 20, 43, 44].

Judit *Rimler* made her researches on production functions first in the Computer Centre of the Hungarian Academy of Sciences and from 1968 on in the Institute of Economics of the Hungarian Academy of Sciences.

In the course of her investigations completed in 1967 she examined the development of Hungarian industry by means of production functions relying on the time series of the period 1949–1964. She made her computations with a so-called long (1949–1964) and a short (1957–1964) period. She used four production functions, three of which were of the Cobb-Douglas type and one Constant Marginal Share function. She made her computations for the state-owned industry and its three main sectors (heavy-, light- and food industry).

The additional computations carried out in 1972 referred to the period 1950–1967 of the Hungarian industry. She made her computations again for the state-owned industry and its three main sectors mentioned above and determined the parameters of two production functions of the Cobb-Douglas type. [19, 21]

György *Simon* (Institute of Economics of Hungarian Academy of Sciences) based his examinations on a production function including four production factors. The dependent variable of the function reminiscent of the Cobb-Douglas type is the volume index of production (or national income) while its factor variables are the volume of labour input and productive equipments used, the proportion of the technical staff working in the field of research and development as well as an indicator of the relative supply in technological equipment. The parameters of the function were estimated on the basis of 26 time series for the period 1950–1966, covering the different branches of the Hungarian national economy and industry. He thus obtained estimated results for elasticity with respect to production factors, for productivity and for the marginal rate of substitution, moreover he examined the contribution of the individual production factors to a unit increment of the national income.

In the next stage of the examinations he analyzed the changes in productivity in the Hungarian economy and its individual sectors between 1950 and 1966, and traced them back to the four production factors mentioned above. The changes in productivity were approached by means of various indicators. [22, 23]

In the Research Institute for Agricultural Economics of the Hungarian Academy of Sciences József Sebestyén et al. are engaged in the elaboration of agricultural production functions. Research work was concentrated on relationships asserting themselves partly in the individual sectors of agriculture and partly in the whole of agriculture, as well as on a comparison of the production relationships of several countries.

In the context of this latter subject an examination of 12 countries situated in the temperate zone was undertaken partly on the basis of territorial and partly of time series data. In a further stage of the examinations they elaborated, relying on a cross-sectional pattern including 100 co-operatives (outputs of 1953–1954 and 1954–1955, respectively) such production functions, where the development of the yields of 12 selected plants was examined as a function of fertilizers and manure used per cadastral yoke, the index of green crop situation, the number of co-operative members, the costs of hired machine work, the quantity of water utilized by the plant as well as temperature. Later on they elaborated production functions in the Institute on a cross-sectional data basis of 1965, 1968 and 1970, respectively.

The production function relations of overall agricultural activity were analyzed on the basis of the final accounts of co-operatives and of the balance-sheet data of state farms in 1965, then Cobb-Douglas functions were computed on the basis of balance-sheet data of 1970. (All these computations were made when preparing the Fifth Five-Year Plan.) [17]

Recent research work started in the Econometric Laboratory of the Central Statistical Office are characterized by the following endeavours:

a) prior to concrete computations the researchers wish to deal more intensively with the conceptual and interpretation problems of the methodology of production functions;

b) they wish to use computations to be made in the first stage for a double comparison: on the one hand the results obtained from functions of different type and, on the other hand, production relations broken down according to sectors will be subject to comparative analysis;

c) after the above foundations they wish to make – in co-operation with other units of the Central Statistical Office – estimations for a great number of production functions aggregated on different levels and analyze the results, respectively.

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The above survey gives a more or less adequate picture of Hungarian researches on production functions without aiming at a complete presentation of the subject. The method of production functions as a method of economic analysis is often criticized, perhaps more often than other fields of econometrics or mathematical economics.

Critiques connected with the production functions emphasize first of all the uncertainties of results obtained by production functions, the difficulties of their interpretation and the limiting effect of the conditions applied. Despite the existing difficulties researches on the application of production functions should not be given up, since they provide rich possibilities irreplaceable by other methods for the examination of production relations. Suffice it to refer to the analytical and simulation possibilities regarding the productivity of production factors, their substitution and their optimum combination respectively. All these and similar analyses – which can be carried out at any level – may become indispensable means of economic policy, first of all of investment policy and planning. The solution of certain tasks may have an effect in this direction. Such are the debated questions connected with the interpretation of notions and parameters, as well as the clarification of conceptions related to the individual types of function, further the performing of a very great number of computations with alternative methods for a comparison of the conditions and capabilities of branches disaggregated to differing extent.

IV. **Consumption analysis**

The most important part of the end use of the national income is consumption. Within it such special features can be observed which distinguish this sphere rather sharply from other spheres of the economy. The most important separative characteristic of this sphere is that this is the domain which can be least influenced by central control. Decisions on the utilization of income (e. g. buying or depositing with a savings bank), the composition or tinning of consumption and, in general, those connected with buying or consumption habits belong to the competence of households (consumers). While in the production functions the technological character of the relationships is much stronger, the human, behavioural element is dominant in the income and consumption relationships.

Examinations connected with consumption analysis look back upon a relatively long past. It is expedient to refer to two characteristics of the methods of consumption analysis. One of them is that against a full coverage sampling, especially the so-called household budget method, has a very important part here. The other peculiarity is that – as distinct from other fields – the weight of cross-section examinations is greater here than that of time series analysis.

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At the Department of Economics Statistics of the Central Statistical Office Mrs. L. *Schnell* und Ödön *Éltető* have carried out income elasticity examinations since 1960. The elasticity computations relating to individual consumer goods, groups of articles and services are based, in the framework of household budget

statistics, on the expenditure and income data of 4000 households recorded regularly. The computations were made for 10 consumer goods in 1962, then for 65 in 1969 broken down according to social strata (households of intellectuals, workers, peasants and those with "dual income"*, family size, number of children as well as the type of settlement.

The values of the coefficients of the income elasticity of consumption articles examined were determined by means of an allocation model in the case of the 1962 survey and later on the basis of the so called Engel-curve. Functions of four different types were applied as Engel-curves: linear function, power function, semi-logarithmic function and quadratic parabola. Estimation of the parameter values was made with the least square method.

Ödön *Éltető* and Ervin *Frigyes* (Institute of Planned Economy of the National Planning Office) have dealt with the problems of measuring income distribution and inequalities since the beginning of the 1960's. They examined various distribution and inequality indicators on the basis of the data of income surveys made by the Central Statistical Office in 1962 and 1967, respectively. The distribution of personal incomes was approached with the following theoretical distribution functions: normal Pareto, gamma distributions, two- and three-parameter log-normal distributions. According to their experience the three-parameter log-normal distribution fitted best to the empirical distribution.

Ödön Éltető has recently started a work in connection with a linear model of consumers' expenditure. This so-called Stone-model will determine the demand elasticity of about 40 consumption articles on the basis of time series covering 12–13 years. Parameters independent of the income level (constant) and those expressing demand dependent on the income level are separated in the function. Estimation of the latter is made with an iterative method. Similar computations are made by József *Enyedi* at the Department for Long-term Planning of the National Planning Office to serve planning purposes.[3, 5, 15, 38, 55]

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It can be said also about the examinations connected with consumption and income that they are of double use: on the one hand economic knowledge has been enriched through them by a great deal of detailed information, and, on the other hand, they served as computation basis for the elaboration of planning and economic policy conceptions. With the type of a more profitable efficient and economical type of planned economy coming to the fore there will undoubtedly be an increased interest also in the relationships of consumption, the most important item of the end use of national income. And this, again, may bring about a growing social utilization of the examinations mentioned.

* Meaning families where there are both industrial workers and peasants present.

V. Multivariate statistical analysis

Research themes to be presented in the following are of different nature than the previous ones. To the notions of national economic or sectoral models, production functions as well as of consumption analysis belongs not only the method, but also the subject of the analysis (the national economy, sectors, the population). The methods to be discussed in the following sections are of such nature that their subject is not given; they are suitable for the examination of various objects. Such are multivariate analysis and time series analysis. Multivariate analysis deals with the connection between processes, phenomena and variables. However, while in correlation and regression analysis, regarded already as classical, a relatively few variables are interrelated, in multivariate statistical analysis the functional relationships of a great number of variables, moreover, of sets of variables have to be faced. Another peculiarity of multivariate statistical analysis is that the variables originally having socio-economic contents are replaced by a smaller number of so-called artificial factors which, however, do not have direct socio-economic contents.

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Judit *Rimler* has been engaged for several years in the utilization of factor analysis for investigating the development of the national economy. [14] Her computations covered the period between 1950 and 1966. Starting from 9 groups of indicators and within these from 49 indicators she represented the development level of the national economy by three factors. The examination involved the computation of simple correlation coefficients, covering all variables in turn the measuring of the closeness of relationships within the groups as well as that between the factors and variables.

The examinations made by György *Meszéna* and Mrs. B. *Simon* during which the method of major factors was used for the analysis of the development of the Hungarian national economy, had a similar purpose. In this work the original 36 indicators were reduced to 7 on the basis of a sample period of 21 years. [57]

Rudolf *Andorka*'s and László *Vita*'s investigations carried out in the Central Statistical Office are aimed at examining the development level of settlements by means of factor analysis. They attempt in such a way to assess the main dimensions appearing in a variety of indicators and thus to measure the development level as well as the economic and social characteristics of settlements. This attempt may provide a basis for regional planning on the one hand and is of theoretical importance on the other, since it contributes to the indication of the theoretical dimensions of settlement development. Up to now they have made analyses on the basis of data of three countries as well as for the planning region of South-East Hungary, on the basis of data of 1970. [8, 14]

The Econometric Laboratory of the Central Statistical Office used the method of principal components for a completely different purpose. For the parameter estimation of Model M-2 built here also the method of principal components was applied beside other methods (in several variants). The utilization of principal components for such purpose was described by Zoltán *Vithalmin.*

The paper of Béla *Imrényi* (Econometric Laboratory of the Central Statistical Office) on canonical correlation was published in the same series. The paper presents the theory and an application of the method. No practical concrete application of the method has been recorded as yet. [45, 49]

★

Correlation and regression analyses have been generally used tools of statistical and economic analysis for a long time. Experiments have been going on with the utilization of factor analysis for some decades. The method of canonical correlation has hardly been applied yet. It may be assumed that the widening of experience connected with these methods will considerably improve the possibility of utilization. However, it should be mentioned as well that in the case of most methods of multivariate statistical analysis the difficulties of interpretating the factors derived from economically interpreted variables could not be wholly overcome as yet.

VI. **Time series analysis**

Time series analysis is one of the oldest fields of statistics and econometrics. Traditional methodology concentrated on the breakdown of time series observed into components. From among the separable trend, cyclical, seasonal and irregular factors often only the determination, elimination or extrapolation of one or another component was regarded as interesting, according to the concrete objective. The more recent complex methods of time series analysis are oriented not so much towards the (traditional) examination of time series by components but rather towards the determination of the inner characteristics, "autoregressive processes" of the time series generating them and towards utilizing them for the purposes of forecasting.

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In the Econometric Laboratory of the Central Statistical Office the examination and testing of the econometric methods of time series analysis have been going on since 1964. Earlier, four seasonal adjustment methods as well as the U.S. "Census" and "BLS" methods were presented and applied to Hungarian time series. In the course of later works the range of methods widened in so much as also one of

the simplified variants of spectral analysis and the minimum variance, unbiased estimation developed by D. W. *Jorgenson* were presented. Beside the practical application of newer methods also a comparative analysis was made where an answer had to be given to the question: the selection of which method was justified on the basis of different points of view.

In the Econometric Laboratory examinations with time series analysis are going on at present, too. While earlier mainly the measuring of seasonality was striven for, now more complex time series analyses are made. Two procedures regarded as most up-to-date, namely, spectral analysis as well as the method based on stochastic models elaborated by *Box* and *Jenkins* are reviewed and applied to relatively long time series. These methods give a possibility for forecasting, too.

The results of the time series analyses of the Laboratory were published in the Ökonometriai Füzetek (Papers in Econometrics) – and in the series (Laboratory Working Papers).

Research activity going on at the Department of Mathematics of the Karl Marx University of Econometrics (partly in co-operation with the Institute of Planned Economy of the National Planning Office) must be also mentioned. Although these studies involve several fields of stochastic models and methods some questions of time series analysis have an outstanding role. Such are, for example, the experiments with the application of auto-regressive patterns in connection with forecasting the coefficients of the input-output tables. (See: Publications of the Institute of Planned Economy of the National Planning Office and Szigma). [41,51]

★

The methods of time series analysis can be used mostly for statistical-economic analysis and forecasting. (It often occurs that the individual methods are more suitable for the realization of the one or for the other purpose.) Despite the fact that time series analysis has a long past, the utilization of this method, even that of the traditional means is unsatisfactory in Hungary. There would be much greater possibility for wide-range examinations of seasonal fluctuations: as yet hardly any efforts have been made to investigate the cyclical component. Much less can we speak about the application of more up-to-date methods. As far as the future is concerned, it may be mentioned that in case of an increased spreading of the application of time series analysis a greater role will be given to the complex linking of the analysis of individual time series with models with several variables, too.

Parallel with this it can be hoped as well that when examining the development of economic phenomena the various hypotheses of economic theory will be complemented and checked by empirical examinations to a greater extent.

VII. Other researches

We could go on for a long time with reviewing those researches which have been not included in any of the previous summarizing themes, since the six topics discussed above involve only the most important and typical fields of econometrics. The few themes which will be mentioned below can be regarded really just as examples from the variety of other research fields, especially if keeping in view the fact already mentioned that the subject of econometrics can be interpreted also much more widely than has been done in this study.

International literature has dealt with the new methods of groupings for some years. In the case where grouping is made on the basis of a combinative application of several criteria, the traditional grouping methods of logical analysis are no longer sufficient. In such cases either some method of multivariate analysis (first of all factor analysis) or a new method of classification is applied. The essence of the new method called automatic classification, hierarchical grouping, etc. is to determine the distances between the elements by means of comparing the elements of the population, by pairs. On this basis multilevel (hierarchical) classification can be made automatically, by means of a computer. Its algorithm is suitable for stopping the process of classification at any level. The method was presented by Gábor *Párniczky* in the series Laboratory Working Papers of the Econometric Laboratory of the Central Statistical Office. Practical application of classification methods of the new type is experimented with at the Economic Research Institute where a great number of countries are classified on the basis of a combinative application of several criteria. [52]

One of the most frequently arising problems of econometrics is aggregation. Researches carried out in the Econometric Laboratory of the Central Statistical Office were directed at the general aspects of the aggregation of linear functions, with special regard to the determination of the measure of bias resulting from aggregation and appearing in the parameters (Mrs. Gy. *Kotász*, and Miklós *Szegedy*, Laboratory Working Papers, No. 17). Researches going on at present are related mostly to the harmonization of the macro-function aggregated from micro-relations with the estimated function specified as a macro-relation. These researches involve concrete experimental computations, too. [53]

Also the utilization of information theory in economic analysis has a past of hardly one decade. The examinations carried out in the Econometric Laboratory of the Central Statistical Office were related mostly to the possibility of practical application of two basic notions (indicators), namely, entropy and concentration. The studies published in the Papers in Econometrics and in the Laboratory Working Papers partly reviewed general notions and partly practical computation experiments (Etelka *Corradi*, Mrs. Gy. *Kotász*, Miklós *Szegedy*). Recently, attempts have been made in the Institute of Planned Economy of the National Planning Office to use the same method for investigating the development of investments. [40, 53]

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Perhaps it might be regarded as a deficiency that forecasting has not been dealt with as a special subject. However, a study of the above review may convincingly indicate that forecasting as a practical task is no special methodological subject, but a possibility of utilization for most methods. We have tried to refer to this in the foregoing.

VIII. **Problems and perspectives**

Most econometric research units are destined to promote the work of an institution of higher level from the point of view of national economic or sectoral control. In this way the individual research places and research-workers, respectively, have the most important connections probably with the duties of their own "host" institutions. Connection with other fields of mathematical economic researches is, however, relatively weak. Let us mention two factors. On the one hand, the appearance of econometrics in Hungary was preceded by other methods of mathematical economics (e.g. programming, the input-output method, "planning models" etc.) and thus econometrics has to play to some extent even now the role of a late-corner; its complete emancipation has not yet been realized in the view of some other approaches of mathematical economics. On the other hand, also the fact must be mentioned that for the time being the number of economists familiar with several schools of mathematical economics, and thus able to carry out mathematical economic work of a comples character, is small.

It is an important circumstance that econometrics requires much more statistical data than other fields of mathematical economics; therefore, one of the greatest problems of econometric research work is how to ensure consistent long time series of identical meaning.

Meeting the demand for computer facilities also means a great problem. In general, it can be said that there are considerable differences in the supply of individual research places with computers, but first of all with programming capacity.

It can be taken for certain that the utilization of econometric methods for the solution of economic problems is only at the very beginning. It can be reckoned with that with adequate methodological experience better possibilities will be provided for their utilization at national economic, sectoral or enterprise level.

Here we can think of the increased possibilities of application, in general, in the following fields: prognostication, i.e. forecasting the process seeming most probable in the mirror of external circumstances; utilization in planning, i.e. in the work preceding concrete planning and providing preliminary information; simulation procedures, i.e. the comparison of processes expected in case of adopting different assumptions*; by means of the above contribution to economic policy decisions (here the solution of allocation problems may be stressed).

* The most probable of them has the part of prognosis. Otherwise, simulation procedures may refer both to variables dependent on external factors and to those which can be influenced by economic policy.

The methods mentioned express expectations which seem realistic, but are nevertheless ambitious. Beside them those much less spectacular achievements which result from the spreading application of econometric methods, must not be neglected either. Here we refer to such research issues which may eventually widen our knowledge on the past without direct forecasts for the future. Especially the possibility of widening general knowledge regarding economic relationships should be emphasized that can be promoted by the econometric activity in certain cases having possibly no direct practical use.

Considering the longer perspectives, the teaching of economics with a mathematical direction faces an important task. On the one hand, we deem it necessary to increase the weight of disciplines based on probability theory within the teaching of mathematics and, on the other hand, we feel pressingly topical the beginning and development of a somehow integrated teaching of mathematics and economics.

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BOOK REVIEWS

NYILAS, A.: *A népgazdaság fejlődése 1968–1974 között* (Development of the national economy between 1968 and 1974). Budapest, 1974. Kossuth Könyvkiadó. 82 p.

Analyses of Hungarian economic development are usually concerned with a medium-range plan period or several interrelated ones. This work, however, does not cover plan periods, but – using the authors' words – "the period chosen for subject of analysis is seemingly arbitrary". Selection of the period is in fact only seemingly arbitrary, since the starting year of the analysis is 1968 which, although naturally not a turning-point, is an important stage of Hungarian economic development owing to the changing of the economic mechanism. What throws a new light on this analysis and may arouse specialists' attention is exactly that the author starts from the overall reform of economic control and management and tries to present the development of a seven-year period which provides already adequate experience.

Apart from the period chosen for basis of an analysis, presentation of the economic development of a country usually confronts authors – in an extreme formulation – with an alternative of two possibilities. One possibility is to present the widest possible spheres of economic and social processes in many details. This possibility, undoubtedly attractive, is concomitant, however, with a "descriptive" character and the staying in the background of interrelations, especially if the volume itself of the work – as is the case here – sets a limit to an examination of the relations of too many details. The other possibility is to give up the claim to describing "everything", to determine with conscious discipline the most characteristic fields of development, and leave a larger space for analyzing the relations and driving forces of the economic processes.

The author chose the latter – let us add, more exacting – possibility. He restricts the presentation of the seven years' development practically to the main elements of the production and distribution of national income (GDP). He examines these placed in economic interrelations, analyzing causes, and he points out also the weak spots in the mechanism of economic control, offering, if necessary, international comparison to inform the reader as best as possible. In the final account the author goes much beyond a mere description of development data, and offers a scientific analysis.

The book is divided in two main parts: in the first part economic growth is surveyed, in the second one utilization of the national product is accounted for.

The author breaks down economic growth to its elements: he answers the question, to what extent the seven years' economic development can be traced back to the rising level of the two main resources: labour (employment) and fixed assets, and how these available resources were utilized by the economy. He comes to the conclusion that for the whole of the seven years the main source of economic growth was growing productivity, while the efficiency (exploitation) of fixed assets declined.

The structure of the Hungarian economy and changes therein are discussed in a critical tone. (One must admit that the author is right in saying that with the prevailing price system and the system of income collection (taxation) the structure of the national economy and the proportion of sectors within the national income are difficult to interpret, and one can receive a reliable picture only of the tendency of the structural changes. The author goes on to treat the most characteristic features of the development of production sectors (industry, building industry, agriculture, transport and communications, home trade), the development of their efficiency, and their problems. As a consequence of the size of the country, its level of economic development, and its relative scarcity in materials, foreign trade turnover is of great importance in the economic growth of Hungary. Therefore, the economic reform set it as a primary aim that foreign trade should contribute to the acceleration of economic growth more effectively than earlier. For this reason it is not by chance that a relatively extensive part of the book is dedicated to the role of foreign trade in the development of the country. The chapter treating this subject presents in detail the intensification of Hungarian participation in the international division of labour, the changing composition of exports and

imports, and the development of trade with the most important foreign partners. In this chapter a particular attention must be paid to the analysis of the disadvantageous change in the terms of trade, and to several conclusions pointing to the future, drawn from the "revolution" of capitalistic world market prices of 1973–1974.

The second part of the book is a survey of the utilization of the national product. First the author presents the changing proportions of consumption and accumulation and examines the reason for the fluctuations of these proportions. He gives a clear idea of the interaction between production and the utilization of the output, the place of the foreign trade balance in the process, and the effect of the losses originating in the deteriorating terms of trade.

The author proceeds to examine the development of the two most important elements of home consumption: investments and personal consumption between 1968 and 1974. He supports by convincing arguments and data that investment activity remained the most sensitive spot of the Hungarian economy also in the period under examination. He proves by various computations – confronting investment inputs with national product – that the efficiency of investments deteriorated every year, with one or two exceptions, even if not to a considerable extent. He finds the reason among other things in that the efficiency of individual investments is often not satisfactory, the period of implementation being too long.

The other main element of home consumption, personal consumption is treated in detail: as a matter of fact, the author tries to give a comparatively comprehensive analysis of the development of the standard of living, with special attention to the important changes brought by the economic reform in income policy and living standard policy from the year 1968. This chapter wants to show how the two fundamental requirements of socialist income policy could be fulfilled: on the one hand, stimulation of production, on the other hand a more equitable distribution of incomes, better adjusted to socially justified needs. The sensitive reaction of public opinion to the raising of the consumer price level is well known. The author starts from this factor to deal in detail with the effects of price increases, with the often "objective" judgements of changes in price. The author finishes by reporting on the changes – not in every respect favourable – in the pattern of consumption.

It must be remarked that the data of the last year of the period investigated, those of 1974, are inexact. This must be because at the time of writing the book no final data for that year had been available, only "expected" ones. In a few cases these have changed quite considerably.

L. MEIXNER

CSERNOK, A. – EHRLICH, É. – SZILÁGYI, GY.: *Infrastruktúra, korok és országok.* (Infrastructure; ages and countries.) Budapest, 1975. Kossuth Könyvkiadó, 390 p.

The complicatedness of the subject is marked by the fact that the conception under examination has several interpretations, and the authors of the present work could not but dedicate the first chapter of their book to the clarification of the concept. They list the various interpretations to be found in international literature and state the difficulties of a clear definition (extremely heterogeneous elements being involved). And, although not considering it exclusive, they formulate, naturally, their own definition, according to which "Infrastructure is interpreted as the part of national wealth that does not serve directly either the production of goods or their consumption but that has to provide, at a given level of economic development and according to current technological requirements, an undisturbed scope of movement for the processes of production, distribution and consumption: a so-called vascular system" (p. 15).

After this the subject is discussed in the following chapters: "II. Infrastructure from the aspect of production factors" (giving a survey of the labour- and investment situation of the sector); "III. Infrastructure as a whole" (in which the authors present in detail the statistical and comparative method applied in the book, as well as the results of computations carried out with it, and the development of infrastructure relative to industry); "IV. Structural changes of infrastructure – infrastructural fields" (comparative examination of the levels of public transport, communications, housing, the health service, education); "V. A few conclusion" (this is to summarize the results of examinations, incl. suggestions for Hungarian development policy).

All this is, however, only a half of the volume since, beside the usual notes, an extremely rich "Appendix" presents the international data available on the subject treated in the book, which were used by the authors and from which they worked out their system of indicators.

This leads us to one of the great values of the book. The authors tried, namely, to make their collection of data as complete as possible. To indicate what this amounts to, suffice to mention that they extend their investigations to a span of a hundred years and – wherever possible – to thirty countries. In appreciating the difficulties of the data collection another great value of the work is also included: the subject attracting such great attention in our days had been approached by the authors historically and by the method of the widest international comparison. This approach and methodology have provided broad and solid grounds for our previous knowledge of infrastruc-

ture and have complemented it to a very large extent. I think that a serious scientific discussion of the subject has become possible only thanks to these efforts.

However, the authors had to surmount serious difficulties in order to complete their efforts. This is because a long-range international comparison of the heterogeneous concept has been methodologically unsolved so far. How could e.g., the Belgian and Bulgarian infrastructure be compared, what is it that is commensurable beside the proportion of labour employed in the sector? (The authors prove in detail, why it is not realistic to draw comparisons relying on indicators of national wealth or the "value of output" of the sector.) This difficulty was, however, cleverly surmounted by applying Bennet's method of comparison of international standards of living (comparison relying on physical indicators, in which the country in the most advantageous situation, according to the individual indicators provides the basis to which indicators of other countries are compared). It can be added that the method has been further refined by utilizing the results achieved by other Hungarian researchers. The method involves, namely, a risk of distortion since the particularly outstanding indicator of a country in a historically special position may distort the level of the other countries to appear irrealistically low. The authors applied a simple but efficient method: instead of the country indicator outstanding for such reason they took for basis the indicator of the second country, and considered the outstanding indicator equally as maximum). I would like to add, how much it is to be appreciated that the authors dedicated almost a whole chapter to the explanation of the method applied. This is a study in itself. Their sincerity is to be particularly noted by which they expound, beside advantages of the method, also its weak points (e.g. lack of weighting between certain subsectors in averaging). They do not want to make false appearances. They make it clear that the result can be only a limited one, but they exploit the potentialities inherent in it to the utmost.

The book is supported by a high-quality, extensive, ingenious and thorough statistical work. As a result, while examining each important partial field of infrastructure the infrastructural development of a country will be finally expressed by a single synthetized indicator, which enables a tracing of the historical development of the countries under examination from the 1860s up to our days. The method is justified because, as much relativeness there is in the synthetized indicator relying on physical basis, it will be finally by all means suitable for expressing the main tendencies. This is all what the authors want. It is exactly by following these tendencies that they arrive at the main point of what they have to say: the creation of a type.

Relying on their analysis the authors distinguish three main types on the hundred years' international development path of infrastructure. The first one, called the "preceding type and judged as individual and irreproducible, appeared first of all in the historical development of England. In this instance a certain framework had been set up already before a large-scale industrialization, e.g. towns with large populations came into being, with relatively large-scale housing, material means and institutions needed to supply towns had developed, that is, in the transition from feudalism to capitalism taking several centuries the richest countries had built up larger frameworks for their economies than the production sectors could entirely fill. Thus the fast industrial development starting later found especially favourable conditions in the previously built up infrastructure.

The second type whose most characteristic representative is the United States (also Canada is listed under this type, as well as a few West-European countries) had not accumulated such wealth as would have allowed a previous building up of infrastructure. As a consequence of this fact as well as of a few concrete historical effects the construction of infrastructure started simultaneously with industrialization. In this case the authors talk about a "type developing in a parallel", and connect it to the new results of technical progress appearing in the late 19th century and to the structural and technological rearrangement of infrastructure. This type is found naturally more developed, such as keeps directly in line with the requirements of industrialization. (It is also explained here that in the historical period of development of this latter type the countries of the "preceding" type had already used up the potential reserves of the earlier built up frameworks and shifted themselves to the way of parallel development.)

Finally, the third type is the socialist industrialization: the development path of European socialist countries following World War II. In this model, as a result of conscious central intervention and economic policy the overcoming by own efforts of earlier economic backwardness demanded a maximum concentration of production factors to the benefit of productive sectors. Therefore, no adequate means could be spent on the development of infrastructure, and this was consistently followed by development policy. Infrastructural development was necessarily and consciously retarded, one may say postponed, in the most intensive period of industrialization. Therefore, East-European socialist countries represented a "subsequent" type of development – using the authors' expression – from the aspect of the sector under examination. It is otherwise the authors' opinion that this way will be followed in the future by countries lagging behind in development and trying to catch up and therefore replacing spontaneous processes by conscious planning. They do not think, however, that this way can be followed for longer than 10 to 20 years, since "it is inherent in the 'subsequent' development type that

an intensive development of infrastructure is only *put off*. Beyond a certain point the rate of economic growth can be maintained only by an increased quantity and changed composition of infrastructure. With this type the making up for lacking infrastructure is the burden of such a period in which labour and capital reserves potentially existing and consciously brought to the surface at the start of industrialization are getting exhausted."

The types outlined above are considered by the authors as the central motif of their work, summarizing the lessons of the international comparative analysis covering a long time series. I myself hold highly important and valuable their effort at typification. It indeed much promotes a better understanding of processes. Their computations, their data, and the conclusions drawn therefrom are convincing and useful exactly for this reason. Yet in certain respects I think it disputable that the types outlined above are justly separated. I wish to start exactly from the authors' statement. I have already mentioned that it is emphasized in the case of the "preceding" types that it soon turns into the parallel-line type of development, and is not repeated later. Now the following statement can be added from the end of the 3rd chapter of the book: "There occur in the development of every country phases in which the realization of certain infrastructural needs – particularly of those which are recovered only after a long time – is postponed. In such instances the economy consumes infrastructural reserves that created in preceding periods. There are other cases in which large-scale infrastructural development (e.g. town-building, a full structural transformation of public transport, etc.) uses up a considerable part of the country's resources, and then the rate of economic development is temporarily slowed down. If, therefore, differences may exist between the economic and infrastructural levels of a period in respect of one country or another, taking a long view, a harmonious movement of the two will be prevailing...".

This quotation seems to contradict the concept of types. Here we have learned that there are periods in the development of *every* country that are of the "subsequent" type. We have also learned that in other cases the "preceding" development is characteristic. To make it clear, it is not so much different *types* but rather different *development periods* in respect of infrastructure that are to be distinguished between the different countries or groups of countries. I would like to illustrate this by the Central East-European development that is the nearest to us. Doubtlessly, in the period of socialist industrial development after World War II as treated by the authors, countries of this region are to be listed in the "subsequent" type. In this case, however, the earlier development history of the countries in the area would be left out of consideration. This is because the "subsequent" way of development became possible for a time in that particular development period exclusively owing to the fact that previously, in the period of capitalist economy, the Central East-European countries bore the marks rather of the "preceding" type. In this region from the second half, or rather the last third, of the 19th century the evolution of modern capitalist economy and the concomitant large amount of capital imports were not coupled, as is well known, with a fast industrialization but mainly with a modern capitalist transformation of agriculture, transport, communications and, in general, a building up of an infrastructure at a higher level than the overall development standards. In Hungary e.g. infrastructure absorbing over 50 per cent of investments achieved, in respect of some of its indicators, such as railway density, the most advanced West-European standard in the period preceding World War I. In the case of the railways such framework was constructed as provided – at least as in terms of quantity – the conditions of transport for production sectors for more than 50 years. Thus, from the point of view of industry infrastructural branches developed previously and represented a comparatively higher level. At the time of starting fast industrialization it was exactly these precedents that provided certain realistic grounds for the postponement of a further development of infrastructure, and gave the semblance, even stronger than realities, of the "superfluousness" of developing this sector. In the period of a suddenly multiplying industrial development a "subsequent", postponed development of infrastructure would have been simply impossible without the "preceding" way of development of an earlier period.

When I say that instead of types rather periods ought to be mentioned, I do not mean, of course, that the development of each country or groups of countries was in the same period at the same time. Periods show in fact important regional differences and contradictions, so that in the same historical age the various countries or groups of countries could be in widely differing periods from the aspect of infrastructural development. In the economic development of the last century infrastructure shows generally three large different phases. In the first one: the second and last third of the 19th century, transport, communications, education and housing, etc. characteristic of the 19th century were created for about 50–75 years and efficient on the whole up to World War I. It is obvious that the construction of this played an extremely important role in the large-scale growth of production taking place in advanced countries from the middle of the 19th century until World War I. In the period between the two World Wars, however, as an element of the shocks of capitalistic economy an extensive structural crisis took place in both industry and infrastructure, necessitating a full transformation of the already "outgrown" structure. One might formulate this simply by saying that this was the period in which advanced countries built up the 20th century infrastructure: new systems of transport and communications,

energy network, modern health service, etc. And this seems to have provided space for production growth for appr. 50 years, since without it the upswing of capitalistic economy after World War II could be hardly understood.

We now witness the process which, based on a fast development of production, renews again infrastructure as a framework for the further development of the 20th century and perhaps already for the production development of the 21st century.

Obviously, these large waves of development perceptible in history could not sweep along all countries of the world and particularly not simultaneously. The industrialization of Eastern Europe had been so much lagging behind in the period preceding World War II that industrial development started in the 1950s could advance best in the infrastructural framework of the 19th century. This is because here the wave of renewal between the two World Wars was only partial, which is amply proved by the facts given in the book.

All this, I think, does not weaken the authors' message, but rather supports it. It does not make any difference whether we say that the "subsequent" development type is to be inevitably turned into parallel-line development, or that in the alternating "preceding" and "subsequent" types new periods of changes not to be postponed have been recurring. The facts shown in the book, the backward tendency to be found in the whole of infrastructure, showing particularly strong in certain partial fields, have made it undoubtedly a historical necessity that development of this sector should be emphasized in the socialist countries of Eastern Europe. That no longer too strictly locked doors are forced here is shown by the facts contained in the book when they prove clearly that the relative deterioration process of infrastructure, clearly observable in the 1950s, stopped in more than one fields from the 1960s. This truth is not yet a commonplace unnecessary to repeat. This is proved convincingly by the fact that in respect of investment allocation propositions as well as of labour structure and the development level of infrastructure, a catching up and, together with it, the foundation of the safe development potential of the productive spheres are still before us – looking at it again as reflected by the data available.

By the preceding I could not, of course, present in detail the extremely rich volume that offers so many lessons. How thought-provoking it is, e.g., – and I am taking one of the many subjects almost at random – that in the qualification structure of the employed a real revolution took place in our country between 1950 and 1970. While in the earlier period almost 80 per cent of those employed did not have even eight years of primary education, in the last period their share went down to 38 per cent. At the same time, it is a conspicuous fact that the rate of those participating in higher education is under 7 per cent in Hungary, which is far below the rate of 7–14 per cent in East-European socialist countries, and that of 10–16 per cent in West-European capitalist countries, and the 16–18 per cent in the North-European countries. It also deserves attention that while in these latter groups of countries – not lastly owing to the fast development of infrastructural branches – the share of classical education has intensively grown after World War II (in 1965 over 70 per cent of students were in the faculties of arts, pedagogy, law and economy), in Hungary – obviously in connexion with fast industrialization – technical and agricultural studies are prevailing: their proportion hardly went down between 1955 and 1965 and is not far from 50 per cent of the total number of students. These are exciting and interesting facts which, when placed into the historical development process and in extensive international comparison, inspire the drawing of such conclusions as press for further examinations filling new volumes.

Beside statements regarding partial fields of infrastructure within a country is also highly thought-provoking: the presentation of the most backward and the most advanced fields of infrastructure, and how big the gap is between leading and backward fields.

The authors do not talk much: they are sparing of words. They let facts talk instead, while their conception emerges strongly in their grouping, computations and drawing of conclusions. On top of all this the authors even formulate suggestions for the development policy of infrastructure in Hungary. The change that is inevitable could be realized by increasing the rate of acculumation by about 2–3 per cent and decreasing at the same time productive investments by about 5 per cent since this could augment infrastructural investments by about one quarter. Despite a certain slackening of the growth rate this is indispensable from the point of view of both production and living standards policy.

The field of examination is very wide, ranging from abstract statistical and methodological discussions to practical economic policy propositions, and from the 1860s to the decades that are coming. Specialists will surely receive the book with pleasure, because it marks an important new achievement in Hungarian economic research.

I. T. BEREND

HAGELMAYER, I. – BÁNFI, T. – BOROS, I.:
Az aranydeviza-rendszer kudarcai és tanulságai
(Failures and lessons of the gold exchange standard) Budapest, 1975. Közgazdasági és Jogi Könyvkiadó. 308 p.

The book examines the international monetary system from historical and logical aspects. It describes, how international finances have been changing from the times of currencies based on the

gold standard up to our days, what essential changes were brought about by the birth of state monopoly capitalism, by the functioning of its armory of tools and the development of economic-political power relations.

The interrelations of a few fundamental questions of the quantity theory of money are analyzed, such as relation between money and gold, the mutual interrelation of national currencies, i.e. role of rates of exchange, and problems of international liquidity regulation.

The statement is made that gold does not fulfil its function as a measure of value, not even indirectly, as a group of economists is inclined to assume and, therefore, it is not money. The devaluation or revaluation of currencies having gold parity is motivated by different factors, but none of these is the development of productivity in gold production.

It is shown in the book that the accumulation of gold has an inflationary effect on the economies. If the central bank buys from home producer, supply on the commodity market will decrease (since gold accumulating with the central bank does not mean supply of goods), and demand will increase (since the central bank creates money, and it enters circulation). If the central bank buys gold from a foreign producer for foreign exchange, the money flowing into its home economy that has been already "drawn out" by the accumulation of foreign exchange claims will be further conserved, and in such a manner that, as a result of the transaction, the amount of international claims will be increased (gold exchange conversion does not eliminate debts: also claims in foreign exchange remain as well as gold as balance receivable from undefinable debtors).

The conversion into gold of credit balances in foreign exchange by the central bank is reasonable only if the holder of the claim is anxious about the stability of the currency and renounces the income brought by interests on the outstanding claims merely to avoid a possible devaluation. Another potential reason may be the accumulation of outstanding claims on undefinable debtors in preparation for payment of debts of the given economy that may arise later in uncertain relation. It is therefore clear that the surviving role of gold in international settlements is the consequence of monetary uncertainties and an unsatisfactory regulation of credit relations. It is to be added that also such interests are involved here that are similar to the market relations of any common article; accumulation of gold with monetary purposes raises demand for gold, and the maintenance of this demand may be in the interest of all those for whom the selling of gold provides the possibility for gaining comparative advantages, or constitutes an important possibility for financing their deficit in trade.

The mutual relations of national currencies is analyzed in the book in connexion with a pivotal point of the gold exchange standard (which was in fact a dollar standard system from the very outset): the fixed rates of exchange.

The theory of equilibrium rates of exchange is described, according to which balanced economic growth requires balance-of-payments equilibrium; and rates of exchange are to serve this aim. However, this difficult task can be fulfilled by rates of exchange only if the task does not really exist. The rate of exchange is an equilibrium rate – as is proved in the book – if the balance of payments is anyway in equilibrium.

If the set of aims and means of national economic policies leaves space for lack of equilibrium, or even holds it desirable, if the assertion of automatisms between foreign and domestic monetary relations and the related deflatory measures are not rendered acceptable by economic policy aims raised to the rank of requirements, then the "equilibrium rate of exchange" can do but one thing: adapt itself to the changed economic power relations. The result will be an official change in the value of currencies. The artificial maintenance of fixed rates in cases when their reaction on foreign trade and on the balance of payments is practically none, will provide better grounds only for speculation. Actual economic problems will present themselves in much sharper form, and their crisis-like "solution": the modification of parity will become inevitable.

Since the mutual relation of currencies is not the function of a third factor: gold, independent of them, the way in which the change of parity will be effectuated is also relative, how the balance upset will be restored: whether a currency revaluation will take place in countries having permanent active foreign trade balances, or a currency devaluation will take place in countries with deficit in their balance of payments.

The book stands for flexible rates of exchange, because it holds their application reasonable exactly with a view to making speculations uncertain and to mitigate them. The opinion is expressed that in such a system "the basic principle is change, while the extent of change is nevertheless automatically restrained".

The question of firm or flexible rates of exchange is closely linked to that of international liquidity. State monopolistic interventions gradually drove out the automatism that used to regulate the relation between domestic and international liquidity. The outflow of either the dollar or of any other currency into international circulation does not force a reduction of liquidity creation at home. With fixed rates of exchange a deterioration in the balance of payments cannot be expressed in the lowering of rates of exchange, which could stimulate exports and slacken imports; tensions and imbalances accumulate. An important part of reserves must be used for the protection of rates of exchange; a country with a deficit will be in need of large amounts of credit. The international need for liquidity finds expression in a scarcity of means. This is what has led to the creation of the SDR

construction: to the augmenting of international credit possibilities, to an attempt at tapping the countries able to supply the means. The fact that the construction does not provide a radical solution to problems of the international monetary system is explained mainly by the lacking relation between national and international liquidity creation and by the resistance of potential creditors to the "attempt at tapping".

It was not the aim of the book to investigate questions of the quantity theory of money in more concrete contexts of economic policy. It is only indicated that the fundamental cause of the recurrent crises of the international monetary system is inherent in the real sphere, it is of a structural nature. As a result of uneven development import requirements are lagging behind export capacities, that is, sovereign national economic policies are not adequately co-ordinated.

No prescription is made out by the book for the diseases of the monetary system, but an exact diagnosis is given. It presents by various illustrations, where the experiment of state monopoly capitalism has led to: creating by sacrificing the value of money to such surplus demand which enables to avoid economic crisis and unemployment. But the spirit has escaped from the bottle, and there is no technical means, no "apprentice" to order it back; the price of its functioning must be paid by someone.

K. B.

GYÖNGYÖSSY, I.: *A nemzetközi pénzmozgások és a valutaválság* (International financial transactions and the monetary crisis.) Budapest, 1975. Közgazdasági és Jogi Könyvkiadó. 201 p.

The crises of the capitalist monetary system were preceded and followed by enormous financial transactions. In his book István *Gyöngyössy* analyses the mechanism of these money flows and sketches a systematic arrangement of the connections between the phenomena observable in practice.

As an introduction the author gives a brief and concise summary of the essential features of the Breton-Woods monetary system and the main rules regulating its operation.

He describes the contradictions presenting themselves from time to time in the system of gold exchange standard, arising from the privilege of the countries with key currency. This privilege allowed these countries to balance their surplus in imports of goods and services with their own currency. The national currency flowing to foreign countries in this way, augmented the reserves of national banks, on the one hand, and served to finance international trade, on the other hand.

The book describes in a rather special and clear way the assymetry within the monetary system between obligations assumed by countries with key-currency – first of all by the USA – and those assumed by other countries. In return for the guaranteed convertibility of $ into gold the other countries with convertible currency undertook to protect and keep at a certain level the rates of exchange. They were even ready to intervene on the market in case of need. Official exchange rates were fixed between the $ and the different currencies. Thus protection of the exchange rates was assured by the central banks of other countries. This acquitted the USA from the obligation of intervention and, as a consequence, there was no need for the USA to accumulate any considerable currency reserves.

All the more important is the role of currency reserves in the economy of other countries with convertible currency. The author deserves credit for the functional analysis of connections between reserves, the balance of payments and fixed exchange rates (or floating within limits). Reserves are to cover the temporary deficit in the balance of payments and to protect the exchange rates: however, in general, they can hardly fulfil this function without other additional credits – whatever their size compared to imports.

The book introduces balance sheets drawn up on the basis of different principles, and the difference between such definitions as foreign exchange-position and external financial-position. The clearing up of the latter definition is of especially great importance for economies without own convertible currency as these countries are excluded from the possibility of using their own currency in their foreign financial relations. He introduces the methods used by the banks for rendering assistance to each other and the practice of swap-loans and deposits. It is worth to mention the conclusion drawn by him about the intervention of banks. Intervention is determinated not only by the regulated obligations but also by the individual interests of the national economy of the given country. Namely, exporters and importers can realistically calculate their receipts and expenses only by relying on more or less stable exchange rates.

In order to avoid a fall in foreign trade, banking institutions are expected to carry on market activities in a manner which restricts the fluctuations in exchange rates.

A separate chapter is devoted to the description of the activity of Euromarkets. Every bank deposit which is recorded in a foreign currency, that is to say not in the currency of the country where it is deposited, is called Eurocurrency. The author points out that wider possibilities for credit transactions reduce the possibility of applying a national restrictive credit policy.

Individual national home markets are connected with each other through monetary and capital flows. These transactions may be either so-called unilateral ones without any cover or may be covered transactions assuming reciprocal operations. The balance of payments and, therefore, all characteristics of the international financial situa-

tion: the reserves of central banks, the cash-rates, the interest rates are influenced by money flows without cover (exchanges) which occur partly because of world trade, partly because of speculation for changes in exchange and interest rates. It should be mentioned: the latter is not condemned so severely by the author as it is by the general opinion common in economic circles. To provide an explanation for his point of view, he mentions that efforts at safety and speculation can hardly be distinguished from each other: besides, intensification of problems has its particular indicating and catalytic function.

There is an interesting part in his analysis which shows that there is much more speculation for devaluation than for revaluation. Possibilities of individual banks to issue banknotes are much wider than reserves.

In case of speculation for devaluation it is first of all the reserves that must be taken into account, which must be thrown on the market (home currency must be re-purchased in this way). Domestic emission with more flexible and wider limits is however regulated by the risk of imported inflation and this may force a revaluation.

There is a conclusion worth to mention which the author refers to when speaking about flexible exchange rates. It is just the uncertainty of foreign trade judgements – due to moving exchange rates – that brings about efforts at applying complicated reservation clauses to preserve values. And this results in a tendency towards the extension of state control (e.g. by undertaking guarantee) – in a more or less indirect way, against the maximum of liberalism used as a slogan of the international monetary system.

The author sums up the measures used by the state in order to control short-term transactions: purchase of foreign currency, credit policy of the central banks, discount and interest rate policy, credit restriction. He underlines that credit policy cannot be efficient enough without other components of the national control system (e.g. taxes). Life is more complicated than patterns and models in text books. These patterns can never be found in reality in a pure form, they appear changed by practice. The rather wide scope of administrative interventions blurs the differences and renders impossible to draw a strict dividing line between free and restricted foreign exchange policies.

After an analysis of international and domestic financial position he comes to the conlcusion that internal liquidity is not related to the external one in such a close and automatic manner as assumed by the international monetary system. The problem derives mainly from the contradictions arising from time to time between the requirements of monetary policy and anticyclical policy: domestic credit policy cannot serve "two masters" at the same time, it cannot implement simultaneously an inflationary and a deflatory policy.

The last part returns – to close the train of thought – to the international monetary system and draws conclusions in a few sentences from previous studies and outlines some basic requirements of the future monetary system.

K.B.

MENSONIDES, J. – KUHLMAN, J. A. (ed.): *The future of inter-bloc relations in Europe.* New York, 1974. Praeger Publishers. XIV + 217 p.

This collection of political, military and economic studies on the inter-bloc relations in Europe aims at a global approach to the fundamental problems Europe is facing recently, and will be more so in the coming decades. Some of the reasons which justify the present publication may be found in the changing European political atmosphere: the studies were written on the eve of the Conference on Security and Co-Operation in Europe. Other motives can be found in the sometimes drastically changing economic conditions European states, both in Western and Eastern Europe, are living in and have to live with in the future. However, the conclusions are new or correct for the present-day reader only to a limited extent, for the most part of the changes occurred after the edition of the book. This is especially true for the economic analysis, where one can find plenty of commonplaces (which were not so before 1974), or vague prospects (which were, perhaps, more realistic and credible at the beginning of the seventies). In our short description we will concentrate on the economic matters and on some of the "speculations" about a modified European role in a changing global context by 1984 (the date set by the authors).

Part I gives an analytical picture on the two main blocs in Europe, and tries to measure the possible degree and direction of the transformation of inter-bloc relations. Charles *Kegley* empirically examines systems changes in Europe, concluding that there is little reason to expect an era of transition from bloc structures to a genuine pan-European framework. Charles Lewis *Taylor* analyzes the power profiles in Europe, entering detailed military and economic date. Special attention is paid to the alternatives of Western Europe vis-á-vis the American (U.S.) presence in the Western part of the continent and to the consequences of a Soviet–American nuclear agreement.

After introductory remarks in Part I, Part II contains two specific studies in military subjects: "Military constraints in East–West relations" by Richard *Staar* and an analysis of the Warsaw Pact Conference proposal written by Robert *Donaldson.*

We are more closely interested in economic problems concentrating on the consequences of integration in both parts of Europe on East–West

economic relations (a study by William *Welsh*) and the prospects of the European economy from the point of global resources (a paper written by Dennis *Pirages*).

Welsh examines the probable impact of the socialist integration on East–West economic relations, without extending his analysis to the other factor, i. e. the Western European integration. For a more detailed and comprehensive analysis he collects information on three categories of events and behaviour: systemic change, especially economic change; leadership perceptions of how these systemic changes ought to be handled; and the perceived implications of these methods of handling changes for the future of socialist integration. A sophisticated factor analysis helps in comparing the behaviour of two socialist countries, Bulgaria and Hungary in the period 1956–1969. The main findings of the research refer to price, wage, living standard and integration aspects and expectations in both countries, and are subdivided into problems motivated mostly by economic or by ideological factors. This analysis, although it might have been true for the sixties, has a very limited value for our decade, and the methods used do not seem to guarantee, to support any major real correlations stated.

Pirages deals with energy, resource and environmental problems, and points to the necessity of drastically modifying human behaviour in the near future, as a precondition of survival.

The general thoughts of this chapter are based on Meadow's report (The limits to growth), considering a rather exponential than linear energy and mineral consumption, as well as population growth. He considers, that the economics of the situation, rather than depletion dates, has very important political consequences. "Over the next few decades the changing resource balance will be an extremely important factor in reshaping and undoing political alliances. Formerly resource-rich superpowers will find themselves hard pressed to maintain existing levels of resource throughput. In addition, the increasing costs of resources will have very important internal political implications." Dealing with the European resource situation, the study states – based on data of the sixties – that from the socialist countries Poland, Romania and the USSR produce more energy than is consumed domestically, whereas the other countries are nearly self-sufficient. This opinion as far as most of the socialist countries are concerned could hardly be shared by the reviewer even if only the data of the sixties are referred to. For Western Europe the author deems that the possibilities of greater self-sufficiency are not favorable, in spite of certain chances of nuclear power utilization. Thus, dependence on outside sources of supply makes most of the European countries very vulnerable to political pressure. As to the Soviet Union, he puts a negative shift in the Soviet energy balance due to technological factors at the year 2000 (however, this problem is considered already actually as one of the most important ones, and could be foreseen in the early seventies, too.) As to Western Europe, it cannot be excluded, that the democratic forms of government, derived from the favourable economic conditions of the past two decades, will be eroded by the changing political and economic environment. From a more theoretical perspective, which can become a practical everyday problem, the global resource crisis calls into question the whole school of thought that equates political stability and democracy with industrial development. This perspective is obviously time-bound. When industrial expansion took place without regard for environmental considerations, there was such a relationship among these variables but this relationship was anchored in the economic abundance with which political leaders could meet the rising demands. From a different perspective it would appear that in future societies a very high level of industrial development might lead to precisely the opposite outcome, which bears no correlation to increasing affluence and many indicators of democracy.

Political issues are treated in two chapters. James *Kuhlman* investigates the German problem from the standpoint of the politics of the GDR towards the Western countries, while L. *Mensonides* describes Bonn's "Ostpolitik".

In conclusion we can read Gordon *Tullock*'s contribution about some salient features of postwar Europe, in the framework of a "neoclassical view" on political developments, and Walter *Barrows*' speculations on a multipolar 1984. The latter parts from the balance of power situation as a prerequisite of European peace, as indicated by the history of the continent. On the global scale, the author predicts a pentagonal balance system, in whose core the "high politics" (military-strategic-political equilibrium) of the United States and the Soviet Union will dominate. He thinks that a neo-Metternichean vision cannot materialize, because of huge power inequalities among the five major actors. One of the crucial questions remains, how Europe can adjust itself to the multipolar game and develop its internal resources for successfully playing it. The author thinks that a balance of power system in 1984 would be disastrous for Western Europe, leading to disintegration and several political problems. He doubts if the EEC could develop an autonomous policy and overcome the serious structural and institutional problems it is facing today.

After mentioning the prospects for Eastern Europe, the author summarizes, that "if the political culture were to coalesce around the classical balance of power notions of 'realpolitik' and shifting military alignments then both the Eastern and Western components of Europe would lead a precarious existence at best. If, on the other hand, European statesmen can encourage the acceptance of values stressing the cooperative and interdependent side of international realities, they will have enhanced Europe's chances for playing an active role in the emerging system". Nevertheless, the manyfold analysis and the ultimate conclusions do not support the latter alternative strongly and credibly enough. The authors' view is rather sceptical, and by subordinating economic issues to politico-military problem this may not seem strange. The question remains, however, how strong, and consequently autonomous, self-asseting, economic factors in the course of the coming decade could become, and how much they will be able to modify the iron rules of political (and sometimes military) balance of power relations, still established in the classical framework constructed by both historical past and postwar experiences.

A. INOTAI

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A vállalat kereskedelmi funkciói (Duties of the enterprise in trade.) Budapest, 1975. Akadémiai Kiadó. 75 p. (A szocialista vállalat 4)

A vállalati alapok optimális kihasználása (Optimal utilization of enterprise bases.) Budapest, 1976. Akadémiai Kiadó. 144 p. (A szocialista vállalat 5)

MARTON, Á.: Az osztrák és a magyar fogyasztói árpolitika és áralakulás 1945–1972 (Price system and formation in Austria and Hungary, 1945–1972.) Budapest, 1976. Akadémiai Kiadó. 206 p.

NYILAS, J. (ed.): Integration in the world economy. East–West and inter-state relations. Budapest, 1976. Akadémiai Kiadó. 275 p.**

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* We acknowledge the receipt of the enlisted books. No obligation to review them is involved.

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Z. ROMÁN

PRODUCTIVITY AND GROWTH IN THE HUNGARIAN ECONOMY

The Hungarian economy is listed among the medium-developed countries on the basis of per capita income level. The rate of active wage-earners being higher than in more advanced countries, the lower per capita income is a result of lower productivity. The growth rate of the Hungarian economy was higher after World War II and in a long perspective than in most of the advanced countries. Among the sources of growth a greater role was played by extensive factors: the growing number of earners, increasing technological equipment, and the substitution of machinery for labour. Further growth requires a purposeful raising of productivity and efficiency.

Development level of Hungary

The level of development of a particular country is judged according to general practice by per capita national incomes (or GDP). To compare them, the indicators have to be expressed in a uniform currency. As it is known, this can be achieved only with considerable uncertainty. Thus, ranking countries by development level cannot reflect slight differences and it reflects even great differences only roughly as the conversion of the indicators into a uniform currency is especially uncertain in the case of countries greatly differing in the level of development.

The simplest way of expressing value indicators in a uniform currency is conversion at the official exchange rates. However, a number of surveys have unequivocally borne out that this method is not reliable. The solution is either elaboration of detailed price indices or approximation on the basis of physical indicators. In Hungary, the latter solution was offered first in Ferenc *Jánossy*'s work [16]. Later Hungarian data were included in two further computations; *Heston*'s [14] offering similar and *Beckerman*'s [3] offering different (and — concerning Hungary — hardly acceptable) results.

According to the computations of Ferenc Jánossy, per capita national income in Hungary was 400 dollars in 1960. The computations performed by Attila *Csernok* in the Central Statistical Office, using various price-coefficients [6] gave very similar results, 440 dollars. Comparisons of the development level of the Hungarian economy with those of the Western countries for later years have been setting out ever since from these computations, by applying the relevant indices of growth. However, the ICP comparison organized by the UN with a large apparatus [21] makes some corrections necessary. In the case of six countries appearing in both comparisons, the data of the UN show smaller differences between the development levels of Hungary, the USA and the UK.*

* The UN comparison included three further countries. The values of their per capita GDP indices were 14 per cent in the case of Kenya, 18 per cent in that of India and 40 per cent in that of Columbia, relative to the value of the indicator of Hungary.

Table 1

Hungary's relative level of development according to various approximative computations (percentages)

Country	Jánossy—Ehrlich: per capita national income 1960	Beckerman: per capita consumption 1960	Heston: per capita national income 1963/65†	
			a)	b)
Hungary	100	100	100	100
Italy	125	250	135	177
Austria	185	310	163	199
German Federal Republic	220	400	160	205
Britain	275	480	180	330

Source: [16], [3], [14]
† On the basis of regression analysis using a) two, b) several variables.

Table 2

Relative levels of per capita GDP (percentages)

Country	Computations of Jánossy—Ehrlich for 1968 a)	UN comparison for 1970 b)
United States	248	414
France	186	177
German Federal Republic	185	208
United Kingdom	150	224[c]
Japan	153	165
Italy	114	109
Hungary	100	100

a) Source: [21], p. 8
b) Source: [7], p. 363
c) 1969 data

A comparison (organized by the CMEA) concerning five European socialist countries, using price coefficients and three approximative computations based on physical indicators, gave rather similar pictures. (see Table 3).

The Soviet Union is usually placed before Hungary in such comparisons. According to computations published in the Soviet Union ([37], p. 86), per capita national income in the USA is about 80 per cent higher than that in the Soviet Union. If we accept the above quoted UN comparison, indicating that per capita GDP is 2.5 times higher in the USA than in Hungary, than an indicator of 140 per cent may be attributed to the Soviet Union in the above table. This looks appropriate as regards ranking but the value is higher than various unofficial estimates. Yugoslavia may be inserted into the ranking after Rumania. We can find different data for the relative development levels in other sources, but, at least in the case of Hungary, they support the above ranking.* Relying on the above, a ranking by per capita national incomes can be established for the countries most often mentioned in comparisons made from a Hungarian viewpoint as follows:

Table 3

Levels of per capita national income in some European socialist countries (percentages)

Country	CMEA comparison based on price coefficients 1969	Mrs. Kőszegi and Szilágyi 1964	Szilágyi 1969	Ehrlich 1968
Czechoslovakia	133	149	150	140
German Democratic Republic	144	147	150	156
Hungary	100	100	100	100
Poland	90	92	92	104
Bulgaria	90	87	97	92
Rumania	90	73	80	81

Source: CMEA comparison: [13]
Mrs. Kőszegi and Szilágyi: [19]
Szilágyi: [36]
Ehrlich: [7] p. 363

Mrs. Kőszegi and *Szilágyi* deem an upward correction necessary in the case of the German Democratic Republic. The computations of *Ehrlich* were made on the basis of GDP data

Apart from the countries deriving their high income from oil, from among the Western countries the upper group comprises Canada, Australia, New Zealand, and Iceland as well. A few smaller countries precede Hungary in the order of rank, but the greater number of countries, including the socialist countries not yet mentioned, and, with a great lag, the developing countries, are behind Hungary.

Economic growth is usually described by using a single indicator, per capita national income (or GDP), although the *qualitative* aspects of growth, development proper, are not adequately reflected by this indicator. When comparing per capita national incomes, we speak of differences in development levels, although what we really measure is a level attained in (quantitative) growth. Between growth and development; among per capita national income, living standards and conditions, there is a close correlation, but their "development" is not parallel.

Solution to the problems indicated by (justified) criticisms made in recent years on the traditional methods of measurement for the rate and level of growth is sought mainly in two directions: 1. instead of national income or GDP a better indicator is searched for the complex measurement of development; 2. instead of a single indicator, a set of socio-economic indicators is used. The former method is yet under research; an example of it may be the "measure of economic welfare" (MEW) of D. *Nordhaus* and J. *Tobin*. Computing this indicator, military and urbanization expenditures were deducted from the sum of the national product while the value of leisure time and non-market activities was added ([24], p. 509—531).

* Such data are, among others, those of J. *Krejci* [22] for Czechoslovakia, L. *Zienkowski* [40] and P. *Bezyk*—A. *Czepurko*—S. *Góra* [4] for Poland, of Steven *Stajic* [35] and I. *Vinski* [39] for Yugoslavia.

Hungary's place in an order of rank based on per capita national income data, 1970

Western countries	European socialist countries
USA	
Sweden	
Denmark, Switzerland	
France, Norway, Federal Republic of Germany	
Belgium, Luxemburg	
Holland	
United Kingdom, Finland	
Austria, Japan	German Democratic Republic, Czechoslovakia
Italy, Ireland	Soviet Union
Hungary	*Hungary*, Poland
Greece	Bulgaria
Spain	
Portugal	Romania
Turkey	Yugoslavia

Between 1970–1975 the order somewhat changed: e.g., the US, Sweden and Switzerland came more or less to the same level; however, the picture has not changed from the aspect of Hungary

There has been greater progress in the field of socio-economic indicator systems. In Hungary, long-range planners, and statisticians are engaged in the problem.

The different components of living standards and conditions can be surveyed from many aspects with the help of socio-economic indicators, but there is no reliable method available for establishing on their basis a single comprehensive indicator. In one of our surveys, ([32] ch. VII) the relative level of 23 indicators were quoted, characterizing the living standard and conditions of Hungary and the 6 developed Western countries contained in the UN study from many aspects (although by far not completely). None of the 23 indicators followed exactly the relative level of the GDP data and this very well reflects that the population and the governments of different countries attribute different importance to the various spheres of living standards and conditions. This survey of data indicates that the differences in living standards are usually smaller than in per capita national incomes. This emerges rather unambiguously from the data on food consumption, health care and public education, though it must be added that such indicators do not reflect *qualitative* differences in supply and the services provided adequately.

In their analysis of the Hungarian infrastructure, Attila *Csernok*, Éva *Ehrlich* and György *Szilágyi* [7] also attempted to establish a comprehensive level indicator by using an improved version of *Bennett*'s method. According to these data, health care and educational–cultural facilities are more advantageous in Hungary than what would follow from a comparison of the per capita GDP data with those of any of the six countries surveyed. The standards of telecommunications and housing (with equipment) are, however, definitely worse. The main average

Table 4

The level of infrastructure in some countries in 1968 relative to the Hungarian level, according to computations by Csernok, Ehrlich and Szilágyi

Infrastructural sphere *	USA	France	FRG	UK	Japan	Italy	Hungary
Transport (8)	2.7	1.6	1.4	1.8	2.0	1.1	1.0
Telecommunications (1)	8.3	2.3	3.0	3.6	2.7	2.3	1.0
Housing and its equipment (3)	3.2	1.8	2.3	3.0	1.9	1.9	1.0
Health care (4)	1.3	1.0	1.1	1.1	1.3	0.9	1.0
Education and cultural facilities (7)	1.5	1.2	1.1	1.2	1.1	1.0	1.0
Main average	2.3	1.4	1.5	1.7	1.5	1.2	1.0
Per capita GDP on the basis of the UN comparison	2.5	1.9	1.9	1.5	1.5	1.1	1.0

*Sources: lines 1—6: [7], line 1: p. 104; line 2: p. 114; line 3: p. 119; line 4: p. 131; line 5: p. 139; line 6: p. 270; line 7: [21] p. 8

In the parentheses the number of indicators used for the individual infrastructural spheres are shown

coincides with the GDP index in the case of one of the six countries; it is slightly lower in two and somewhat better in three countries.

The detailed data of the UN comparison (see Table 5) also bear out that in comparison to more developed countries, the positions of food consumption, health care and education are better, that of transport and telecommunications is worse in Hungary than would be indicated by the level of per capita GDP.

Table 5

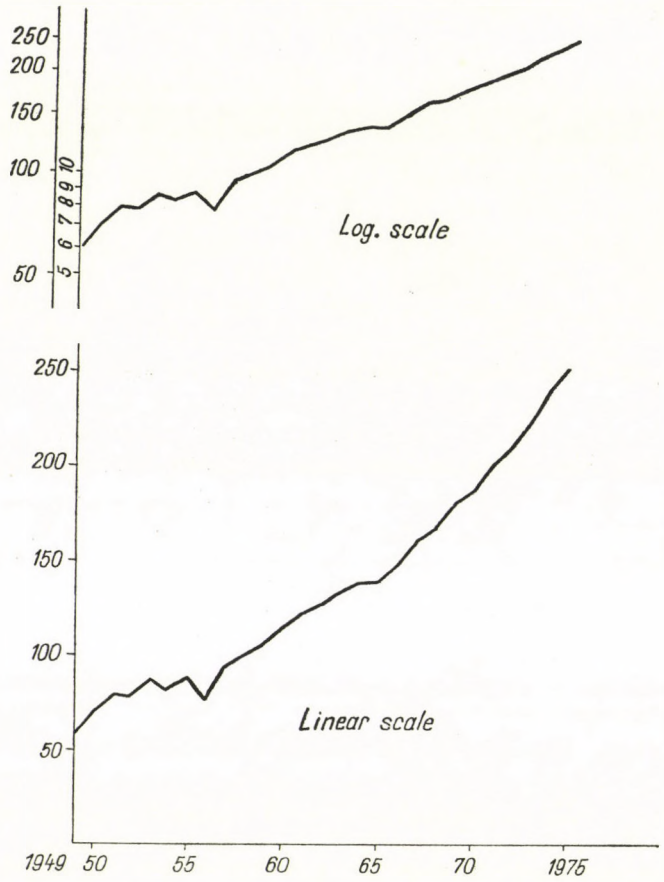
Personal consumption as percentage of the level in Hungary in 1970

Country	Food consumption	Clothing	Transport and telecommunications	Health	Recreation Education		Personal consumption, total
Kenya	29	6	18	11	6	24	15
India	36	6	17	8	2	23	20
Columbia	51	24	93	14	20	60	44
Hungary	100	100	100	100	100	100	100
Italy	157	111	211	96	82	106	120
Japan	108	129	224	145	110	99	126
UK	153	152	354	108	173	118	162
Federal Republic of Germany	130	183	300	133	166	104	160
France	187	151	310	123	158	98	177
USA	185	269	870	111	246	178	261

Source: [21] p. 190

The level of productivity in Hungary

The level of productivity for the whole of the economy can be most simply measured on the basis of the total or per capita national income. Per capita national income can be regarded as a resultant of two factors, of productivity (national income per active earner) and of employment (ratio of active earners to the whole population). On the basis of the UN comparison the following relative productivities can be derived (rounded figures):



The method of accounting active earners is not uniform in different countries, but as much can be stated that the ratio of active earners to the whole population is higher than in Hungary only in a few socialist countries (Bulgaria, Poland, Rumania), while it is considerably lower in several Western countries. Thus, the lower per capita national income in Hungary may be attributed to the lower level of productivity. The rank according to the per capita national income may be accepted as an approximate rank according to the productivity as well.

Table 6

The level of productivity in Hungary compared to some developed Western countries in 1970

Country	Per capita GDP	Ratio of active earners	GDP per active earner
USA	2.5	0.9	2.8
France	1.9	0.9	2.1
Federal Republic of Germany	1.9	0.9	2.1
Japan	1.5	1.0	1.5
UK	1.5	1.0	1.5
Italy	1.1	0.8	1.4
Hungary	1.0	1.0	1.0

Source: Column 1: [21] p. 8; Column 2: [25] pp. 51—52

This could be best verified if the computations of GDP and national income were based on both production and consumption data, and also by productivity comparisons for all main branches of the national economy. Unfortunately, neither way of verification is available. The level of productivity was examined in several comparative studies regarding Hungarian industry, but only a few, rather approximative estimations have been made for agriculture, and there is not any evidence concerning other sectors of the national economy.

The first comparison of Hungarian and Czechoslovak industrial productivity was made on the basis of 35 physical indicators; later studies, using a simplified product-series method, then more detailed ones, have borne out that productivity in the Czechoslovak industry is some 60—70 per cent higher than in the Hungarian industry. A more detailed comparison, using the so-called product-series method, the industry of the Federal Republic of Germany was made for the year 1959 (about 1000 series of products of 58 industrial branches were examined). The results of the computations showed a productivity twice as high in the industry of the FRG on the average, and this figure has been often quoted ever since, updated on the basis of growth rates.

The Working Group for Productivity of the CMEA made between 1960—1971 two, methodologically very thoroughly founded comparative analyses based on physical indicators (labour input per unit product), but did not succeed in coping with the problem of low representation. The number of products compared was 132 in the more detailed analysis concerning the year 1964, but the 65 engineering products examined represented only 2.6 per cent even in the best case, that of Czechoslovakia. For this reason, the Hungarian publication analyzing the study drew the conclusion: "The data concerning engineering and the chemical industry can by no means be accepted as characteristic for the whole branch. Consequently, as the data of these two important branches are uncertain, the final averages computed for the whole industry from all products (branches) examined cannot be regarded as characteristic, either. This, of course, does not diminish the value of the individual data, nor does it change the overall picture that the productivity level of the Hungar-

ian industry is considerably lower than that of the industries of the Soviet Union, Czechoslovakia and the German Democratic Republic; slightly lower than that of Poland and that it is not, or only slightly higher than productivity in the Bulgarian industry".

Later, the Central Statistical Office made two further comparisons, with the industries of Austria and Yugoslavia. The former study was published in 1968 [2] the latter in 1973 [17]. According to data for the whole industry, the productivity of Austrian industry is 30–40 per cent higher than that of the Hungarian industry; the productivity of the Yugoslavia and the Hungarian industry is on a similar level. Approximately at the same time, another comparison was made between the productivities of the Czechoslovak and the French industries (using mainly physical indicators). This allowed to determine, by way of linking, the levels of productivity for four countries: Austria, Czechoslovakia, France and Hungary [1].

Three bilateral comparisons do not help to check the results of the computations for the four countries, but, in the case of Hungary, they provide the extra possibility of comparing Hungarian and French industrial productivities indirectly. The index number turned out to be 208 per cent – similarly to the productivity of the industry of the Federal Republic of Germany.

A recent publication of the Central Statistical Office gives the dollar values of value added per employee for 14 countries ([15], p. 82). According to this publication, in 1972 industrial productivity was 98 per cent higher in Austria, 195 per cent higher in France, 161 per cent higher in the Federal Republic of Germany than in Hungary. Lacking appropriate methodological explanation, we can only suppose that these computations applied the official exchange rates; they do not seem reliable enough to invalidate the above quoted relative levels.

According to a survey made in CMEA framework, which could claim high representation, as nearly 400 Hungarian enterprises were included, the Hungarian manufacturing enterprises *estimated* that their level of productivity was 60 per cent of the leading European level. An interesting feature of the survey was that the questions embraced non-quantifiable features of productivity such as the up-to-dateness of products and technologies. The scale for the qualification of the products was, whether, in their opinion, the products attained the world standard, approached the world standard, or were considerably below it. Although the concept of world standard cannot be precisely defined and its approximation cannot be measured unambiguously, it is nonetheless remarkable that, according to the own, critical, qualification of the enterprises, one fifth of Hungarian manufacturing products, were on a world-standard, two fifths approximated it and a further two fifths were considerably below it ([29], p. 73).

While the Hungarian Central Statistical Office achieved an international reputation in the field of industrial productivity comparisons, only a few computations were made – in cooperation with an other institute (the Agroinform) – concerning the productivity of agriculture; the production of 36 products was expressed in a common indicator, using their dollar prices. More detailed analyses of Hungarian researchers are usually based on these figures. Table 7 quotes from two studies – the book by *Mrs.* Katalin *Falus-Szikra*, published in 1975 (11) and the yet unpublished study of János *Sipos* [34].

Although the two computations give somewhat different results for a few countries, they rank Hungary in the same place in the order of the socialist countries; productivity of the Hungarian agriculture is lower than that of the German Democrat-

Table 7

Two computations on the level of productivity of the Hungarian agriculture

Country	Percentages of Hungarian production expressed in US dollars		
	1968 value added	1970 gross output[a]	1970 gross output[b]
	per agricultural earner		per hectare
German Democratic Republic	161	209	171
Czechoslovakia	159	154	125
Hungary	100	100	100
Poland	82	78	132
Bulgaria	75	71	119
Soviet Union	69	.	.
Romania	38	26	54
Average of 6 Common Market countries* (not weighted)	279	.	.
Weighted average of 8 Common Market countries**	.	231	149

Source: a) [11], p. 23; b) [34]

* Weighted average is about 210 per cent

** The data of the six above mentioned Common Market countries were complemented by the data of Great Britain and Denmark

ic Republic and Czechoslovakia, but it is higher than in the other socialist countries (especially Romania). A similar order may be established on the basis of the number of population per agricultural earners. The yield per acre is better in comparison with more developed countries, and worse in comparison with less developed countries, relative to the level of productivity of labour.

Thus, according to the data available, the lag of the Hungarian agricultural productivity behind more developed Western countries is probably greater than that of the industry (especially of manufacturing), although the differences of the indicators showing data per employed (active earner) should be corrected downward in the light of the quality of Hungarian industrial and agricultural products. In comparison with socialist countries, it is industry that seems to be behind agriculture. The contradiction is only a seeming one as, on the whole, agricultural productivity in the socialist countries is farther behind Western countries than industrial productivity. Otherwise, it is fairly general that in an international context the differences in the productivity of agriculture are greater than in manufacturing — as a result of, among other factors, the differences in natural endowments, because of hidden unemployment etc.

The productivity comparisons of the Hungarian industry were mostly extended to the analysis of the major branches and to the factors causing the differences in the productivity level. They indicated rather unambiguously that relative productivity in mining, electric energy production, metallurgy and, perhaps, in engineering is lower than the average, while in light and food industries better than average. Within these large branches, however, there are great differences by sub-branches. A comparison with the Federal Republic of Germany showed that concerning the engineering industries the difference in productivity was twofold in the iron- and metal-ware and the electrotechnical industries, more than threefold in machine, and fourfold in vehicle manufacturing.

Quantitative data on the *causes* of lower productivity in the Hungarian industry have not been achieved as yet through statistical comparisons. It is known that the differences can be traced back to

– the low extent of mechanization and technical equipment of labour;
– the smaller scale of production;
– the lower standards of management and organization;
– disadvantageous natural endowments in a number of branches etc.

However, the role of these factors cannot be quantified or even estimated as to their order of magnitude. This is due partly to the general limits of such statistical analyses, partly to the fact that the surveys have been based, so far, mostly on easily accessible, aggregated data. For example, technical equipment of labour has been measured mostly by per capita consumption of electricity and the scale of production through the size of enterprises by number of employees. In certain cases these indicators seem to explain the differences in productivity, but in other cases they contradict them. No wonder that we sometimes encounter such references in the reports of the Central Statistical Office as: " . . . this phenomenon is presumably related to the greater influence of factors on productivity other than the per-unit electricity consumption" ([17], p. 6). "An unambiguous correlation between the differences in productivity and the differences in employment by plant sizes would be hard to establish. More information would be needed for a more thorough study of the question than had been provided for the comparison of the four countries." ([2], p. 25). We can learn more about the causes of the lower productivity of the Hungarian industry only from more thorough surveys, e.g. from more detailed inter-firm comparisons.

Hungarian economic growth and its sources

Economic growth after World War II and its sources can be surveyed on the basis of relatively reliable data since the 1950s. The national income computations for the first three-year plan period (1947 – 1949) still followed the method of Mátyás *Matolcsy* and István *Varga* and the Hungarian Institute for Economic Research of the time. The Central Statistical Office took over these computations in 1949, adopting the concept of national income generally used in socialist countries.

Since 1950, the average growth rate of per capita national income has been rather levelled as regards the longer period – it has been around 5 per cent annually – but in the first half of the period it fluctuated excessively. Great fluctuations were

caused by political events and by the since mitigated variations in the harvest results. Surveying the whole period (see Figure 1), we find that the linear scale graph is becoming ever steeper, indicating greater absolute increments, and the log-scale graph shows an even growth after 1957, which is somewhat higher after 1967.

Economic growth acceleration after World War II was a general phenomenon, thus, the 5-per-cent annual growth rate of the Hungarian economy should be compared not with earlier periods but with other countries. In the twenty-year period between 1950/52—1970/72, out of the other 32 countries examined, a 5-per-cent or greater annual growth was achieved by the socialist countries surveyed and in the West by Japan, the Federal Republic of Germany and Austria, and by three South-European countries: Greece, Portugal and Spain. *On the whole, Hungarian economic growth was rather slower than that of the other socialist countries, definitely faster than that of the Western countries, and more or less similar to that of the similarly developed countries.*

Regarding a really long term, 100 years, the average annual growth of per capita national income in Hungary can be estimated to be 2.2 per cent [30]. Such data can be compared with those of other countries only with high uncertainty. According to our data (see Table 8), the Hungarian figure is significantly lower than the rate of economic growth in the Soviet Union and Japan, it is similar to the growth in Sweden; however, it is greater — to varying extent — than the growth of the Western countries on which data are available. *In the long run, Hungary's position improved, approached the more developed countries.* This was a result of the fast development achieved by the socialist planned economy following the losses of the two World Wars and the poor growth of the economy during the period between them.

Quantification of the sources of economic growth is usually based on three time series — those of production, labour and capital — and on their combination. In these computations, every other factor appears as a component of the residual, i.e. of productivity, efficiency, "technological progress". The usual delimitation of the changes in output attributed to the changes in the quantity and in the efficiency of inputs is usually founded on several hypotheses, and the sources of growth are calculated according to this conceptual framework. Production functions can be constructed to distinguish also the contribution of labour and capital inputs to the growth of production (for the Hungarian economy see [33] and [27], among others), but I think this procedure is not well-founded theoretically (see for details [31]).

The sources of Hungarian growth in the period after World War II, more exactly in the period between 1950/52—1970/72, are surveyed below. The analysis is based on the data of the Central Statistical Office. Productivity indices for agriculture and the whole of the economy have not been published by the Central Statistical Office. When complementing the data, a more detailed examination of basic time series and their consistence revealed several points of uncertainty as regards the change of labour inputs and their distribution among the branches of the economy. Therefore, our calculations on the sources of growth, especially on the contribution of the sectors of the economy can be regarded as only approximative.*

* This analysis extends and, following the correction of basic data, corrects as well the earlier publication of the author on this subject [28].

Table 8

Compound average annual growth rates in 33 countries (per cent)

Country	National income (GDP)	Population	Per capita national income (GDP)	
	1950/52—1970/72			In the long run
European socialist countries				
Bulgaria	8.4	0.8	7.6	.
Czechoslovakia	5.7	0.7	5.0	.
Yugoslavia	6.2	1.1	5.1	.
Poland	6.9	1.3	5.6	.
Hungary	5.6	0.5	5.1	2.2
German Democratic Republic	6.5	−0.4	6.9	.
Rumania	9.2	1.1	8.1	.
Soviet Union	8.3	1.4	6.9	3.5
Other European countries				
Austria	5.2	0.3	4.9	.
Belgium	3.8	0.5	3.3	1.5
Denmark	4.1	0.7	3.4	1.9
United Kingdom	2.8	0.5	2.3	1.2
Finland	4.7	0.6	4.1	.
France	5.1	1.0	4.1	1.6
Greece	6.3	0.7	5.6	.
Holland	5.1	1.2	3.9	1.2
Ireland	2.6	0	2.6	.
Norway	4.2	0.8	3.4	1.9
Federal Republic of Germany	6.0	1.0	5.0	1.8
Italy	5.3	0.7	4.6	1.3
Portugal	5.3	0.1	5.2	.
Spain	6.2	1.0	5.1	.
Switzerland	4.2	1.4	2.8	1.7
Sweden	4.1	0.7	3.4	2.3
Turkey	5.4	2.7	2.7	.
Countries of other continents				
Argentine	3.8	1.5	2.3	1.0
Australia	4.8	2.1	2.7	1.0
Brazil	6.1	2.9	3.2	.
United States	3.5	1.5	2.0	1.8
India	3.6	2.1	1.5	0.7
Japan	10.0	1.1	8.9	2.8
Canada	4.6	2.2	2.4	1.8
Mexico	6.5	3.4	3.1	1.6

Source: [30]

The main data concerning the sources of growth in the period 1950/52 – 1970/72 are contained in Table 9.

Comparison with data of earlier periods provide little help also in this case, in the evaluation of the sources of growth, of the rate of growth of productivity, since in the period after World War II not only the growth of the national income but also that of productivity generally accelerated. International comparisons can

Table 9

Hungarian economic growth and its sources in the period 1950/52–1970/72

Indicator	Average annual growth compound percentages	Contribution of individual factors in percentages to the growth of		
		national income	per capita national income	productivity of labour
National income	5.5	*100*		
Population	0.5	9		
Per capita national income	5.0	(91)	*100*	
Employment	0.5	9	10	
Share of active earners in the material sphere	0.1	2	2	
Number of active earners in the material sphere	1.1	(20)	(12)	
Productivity of labour	4.4	(80)	(88)	*100*
Substitution	1.2	18	20	27
Total factor productivity	3.2	62	68	73

be better used. Data on *labour* productivity are relatively available. In the period 1950–1970, in the CMEA countries productivity improved in the whole economy to similar extents in Czechoslovakia and Poland, definitely better in Bulgaria, Rumania, the German Democratic Republic and in the Soviet Union. According to a survey of the Secretariate of the ECE (10) between 1950/52 and 1967/69 7 countries out of 14 developed market economies showed less improvement in productivity; its rate of growth was similar in Holland, Norway, and Sweden while Austria, France, the Federal Republic of Germany and Italy achieved a greater improvement. (Of course, Japan, which is not represented in this survey, would belong to this latter group.) Productivity of labour improved better in every one of the 4 less developed "South European" countries. Of the 25 countries represented is the table, productivity contributed about four-fifths of the growth in Hungary and in five more countries; this contribution was greater in 14 countries, and smaller in five countries (Denmark, Switzerland, United States of America, Poland, and the Soviet Union.) On the whole, the improvement of productivity in Hungarian economy does not seem to be outstanding.

Only sporadic data could have been collected concerning total factor productivity (combined efficiency of labour and capital inputs (see Table 10). According to the approximative computations of the author concerning the CMEA countries, in the period between 1950–1970, the growth of total productivity was the lowest in Hungary; it lagged somewhat behind Czechoslovakia and Poland, and much behind the remaining four countries.* The well-known computations of E. *Denison*, concerning 9 developed Western countries, deal with a shorter and earlier period – 1950–62; in this period the improvement of total productivity was smaller in

* The change of the ratio of output per fixed assets (capital) was worse only in Bulgaria and the Soviet Union (0.3 and –0.7 per cent annual change, respectively), than in Hungary (0.6 per cent), however, the productivity of labour increased much more considerably in these countries.

Table 10

International comparison of the growth rates of total and labour productivity and their contribution to economic growth

Country	Period	Average annual growth of			Contribution to growth of			
		national income, GDP	labour productivity	total productivity	employment	labour productivity	Of the former: substitution	total productivity
		compound percentages			in percentages			
Bulgaria a), b)	1950—1970	9.3	9.3	6.3	0	100	32	68
Czechoslovakia a)		6.0	4.7	3.7	22	78	16	62
Poland a)		6.8	4.4	3.7	35	65	11	54
Hungary a)		5.6	4.7	3.3	16	84	25	59
Democratic Republic of Germany a)		7.2	6.7	5.5	7	93	17	76
Rumania a)		9.3	8.4	6.3	10	90	22	68
Soviet Union a)		8.7	7.2	4.6	17	83	30	53
Belgium c)	1950—1962	3.2	2.6	1.9	19	81	20	61
Denmark c)		3.5	2.6	1.8	26	74	20	54
United Kingdom c)		2.3	1.6	1.3	30	70	17	53
France c)		4.9	4.8	3.5	2	98	24	74
Holland c)		4.7	3.6	2.6	23	77	19	58
Italy c)		6.0	5.4	4.3	10	90	18	72
Norway c)		3.5	3.3	2.4	6	94	24	70
Federal Republic of Germany c)		7.3	5.2	4.5	29	71	9	62
USA c)		3.3	2.1	1.4	36	64	22	42
Yugoslavia d)	1953—1972	9.9	4.2	3.2	58	42	10	32
USA e)	1948—1969	3.9	2.3	1.8	41	59	13	46
France f)	1950—1970	5.4	5.2	4.0	4	96	22	74
Japan g)	1953—1965	9.6	7.9	6.1	18	82	18	64
Federal Republic of Germany h)	1950—1967	6.3	6.0	4.5	5	95	24	71

Sources: a) [20], complemented with estimations concerning employment. Growth of total productivity according to the author's estimation, using 1/3—2/3 weight of labour capital inputs and resp. b) 1952—1970 data. c) [8]; d) [5]; f) [23]; e) [21]; g) [26]; h) [38]

6 countries, similar in France, and greater in the Federal Republic of Germany and Italy than in Hungary. According to data in Table 9, the growth rate of total productivity in a longer run was similar in Yugoslavia and, together with Japan, it was higher in France. About 30 per cent of the improvement in labour productivity in the Hungarian economy is due to substitution by fixed assets, according to the data available, this ratio was higher only in the Soviet Union.

We may proceed in the analysis of the sources of growth of the Hungarian economy by examining subperiods and major sectors of the economy. When we examine the growth rates of the total economy by two or three subperiods (see Table 11), we find that the improvement of the productivity of labour accelerated;

Table 11

Growth of national income and productivity in Hungary by sectors in different periods (Compound average annual growth rates, per cent)

	1950/52–1970/72	1950/52–1960/62	1960/62–1970/72	1950/52–1957/59	1957/59–1966/68	1966/68–1972/74
National income						
Industry	7.4	8.0	6.8	6.5	8.5	6.6
Construction	6.6	6.9	6.2	5.8	6.3	6.9
Agriculture	0.6	0.5	0.7	2.3	−0.2	1.5
National economy	5.5	5.4	5.5	4.8	5.6	6.3
Productivity of labour						
Industry	3.9	3.5	4.4	1.6	5.4	5.2
Construction	3.5	5.4	1.4	5.1	2.6	2.0
Agriculture	2.2	1.6	2.7	3.0	2.2	3.2
National economy	4.4	4.0	4.6	3.2	4.9	5.2
Total productivity						
Industry	2.3	2.2	2.4	0.4	3.6	2.6
Construction	2.3	4.4	0.1	4.0	1.6	−0.2
Agriculture	0.6	0.8	0.3	2.2	0.6	−0.3
National economy	3.2	3.2	3.1	2.6	3.6	3.1

Source: the author's own computations based on the data of the Central Statistical Office, with some corrections concerning labour input

the role of the substitution of labour by fixed assets increased; the improvement of total productivity was the same in the two ten-year periods, and out of the three subperiods it was the greatest in 1957/59–1966/68.

Growth itself – the increment of the national income – was realized mainly in industry. A comparison of the three sectors of the economy shows that the improvement of the productivity of labour as well as of total productivity was considerably less in agriculture than in the two other sectors. A computation with actual labour inputs rather than with the number of active earners (thus, if, among other things, the agricultural activity of non-agricultural earners were also taken into account) would show even greater differences.

Detailed international data are available only for the rise in the productivity of *industrial* labour. With regard to CMEA countries, in the period between 1950–1970 ([20], p. 45–52), the productivity of labour showed the lowest rate of increase in Hungary. According to data published by the Secretariat of the ECE for the period 1950/52–1967/69 ([10], p. 13), the growth rate of the labour productivity in industry was higher in 11 Western countries, similar in 4 countries and lower in 3 countries (Denmark, Switzerland, USA). Although in recent years the growth rate of industrial productivity has been higher in the Hungarian industry than earlier, – and this is an important improvement – this does not affect long-term averages. The data on the growth of total productivity computed or collected for some countries show smaller differences but, because of the decrease of the output/fixed-assets ratio, Hungarian industry is at the bottom of the list.

The indices of the productivity of construction and agriculture are less reliable than those of the industry and fewer comparable data are available. We can deduct only as much that also the rise of productivity in the Hungarian construction industry was lower than in other CMEA countries. ([20], p. 45–52), for Western countries detailed data are not available. The improvement of the productivity of Hungarian agricultural labour is far behind that in some Western countries and it was better than in Czechoslovakia and Poland and somewhat less behind that in the other CMEA countries.

We have not dealt as yet with the role of the structural effect of the changes in the relative shares of the sectors of the national economy. This is well shown by Table 11: in the whole of the national economy, the growth rates of both total productivity and labour productivity were significantly higher than in any of the sectors surveyed (in this regard, transport, communications and trade do not have great weight and cannot modify significantly the average figures). The structural effect greatly contributed to the growth rate of production and productivity in the national economy as a whole, but its interpretation (and quantification) raise various problems [31].

This analysis, based on three time series – that of production, labour and capital inputs – could not take into account the role of such factors as production and social relations, the system of the control of the economy, the standard of management, foreign trade relations etc., and, in this regard, the utilization of aggregated statistical data in other analytical methods does not promise considerably greater results, either. Nevertheless, this survey of time series reveal the hitherto extensive nature of the Hungarian economic growth: the relatively less important role of the rise in productivity and relatively greater role of the increase of employment and technical equipment of labour (the substitution of labour by fixed assets). The high growth rate of capital inputs, the slightly improving or even deteriorating value of the production/fixed-assets ratio are not negative features by themselves, but they have to be regarded as such when they are not accompanied by a faster growth in labour productivity and total productivity. Unfortunately, this has been the case in recent years.

Some conclusions

If we distinguish developed and developing countries only, Hungary belongs, beyond doubt, to the group of developed countries. The position of Hungary is roughly in the middle of this group, the recently spreading expression – country of medium development level – should be understood so.

The rate of economic growth after World War II was higher in Hungary (even in a longer run) than in most of the more developed countries. Consequently, the lag became smaller but it persists.

Instead of growth and level of development it would be more appropriate to speak about the growth and relative level of per capita national income. For, in effect, we examine the changes in this indicator, which does not reflect unambiguously change and level of development.

When evaluating achievements, it is also expedient to take into account that in the group of developed countries there is a negative correlation between the level of per capita national income and its increase. Usually, the development of this indicator is faster in less developed countries. The rate of growth of the Hungarian economy is considerable but not outstanding in comparison with similarly developed countries.

The negative correlation between the level and the rate of growth is a result of different factors. The advantageous structural effect due to industrialization usually plays an important role, especially in a definite – lower – phase of development; the fact is also significant that less developed countries can make more use of technological transfer.

The rate of employment is higher in Hungary than in the more developed countries. Thus, the lower value of per capita national income follows not from differences in employment but from those in productivity. The lag of productivity is probably greater in agriculture but there are great differences between individual sub-branches of industry.

Of course, in the lower level of productivity measured by national income per active earner the effect of several factors is reflected: differences in the production relations, in the technical equipment of labour, in the socio-institutional background, in the standards of management and organization etc. The role of individual factors cannot be quantified. The growth of the economy and the improvement of productivity always require long-term harmony between several factors. In specific situations, this or that factor may obtain, temporarily, key importance, but its effect cannot be pointed out separately from other factors and cannot be quantified even in this case.

The fifth five-year plan for the Hungarian economy for the years 1976–1980 envisages a slightly lower rate of growth, together with the simultaneous restoration of the balance of the economy. With regard to the fact that, for several reasons, in most developed countries the rate of growth is expected to decrease to a smaller or larger extent, a rate of growth around 5 per cent can be regarded as significant even in an international context. If Hungary succeeds in realizing it together with the restoration of the equilibrium of the economy and while satisfying the qualitative–structural demands of development ensured, a great task will have been solved.

No rule prescribes that a growth rate as fast as, or greater than, in the past or as in rapidly developing countries should be planned. Sooner or later, the fast rate of growth must decrease in every country. Growth according to an exponential function must decrease, as the same rate would mean ever greater increment in absolute terms, and this cannot continue for ever. The zero-growth suggested by the Club of Rome and the lure of a high rate of growth must give way to a golden medium of planning not for growth in the first place but for socio-economic development and the growth necessary and also feasible to achieve the latter. In ([18], p. 5) János *Kornai* finds the root of the problem in the struggle of the "harmony-spirit" and the "growth-spirit" of the planners. He urges a more thorough examination of what sacrifices are demanded by a faster growth rate (and what tensions it creates) at the expense of harmonic development, and to what extent these sacrifices are reasonable. The problem, however, is not simply a question of choosing between harmony and growth. The

question is what sacrifices can be avoided by slowing down the growth rate and what "sacrifices" of another kind are involved by the lower growth rate, what kind of other tensions are thus created – can be answered only by the elaboration of different, interrelated plan concepts for the national economy. It is, thus, incorrect when the planner follows only the "growth spirit", but he must not follow exclusively the "harmony", either. Satisfaction of the requirements of harmony on a higher level requires in most countries, among them, in Hungary as well, the realization of a relatively high growth rate, i.e., *the harmonization of the rate of growth with equilibrium.*

The coming period for Hungary is characterized by the following characteristics:

- Hungary is in the intensive period of development, and no more growth in employment and labour inputs cannot be reckoned with in the sphere of material production. Further progress can be achieved only through a better utilization of resources;
- on this higher development level, the socio-political requirements against the content and quality of labour, from the side of environmental protection and regionel development are greater;
- Hungarian exports are as high as nearly 50 per cent of the national income and the adaptation to the rapid changes in the world economy will grow in importance.

Under such circumstances, the maintenance of the growth rate of around 5 per cent of the preceding years demands the exploitation of every source to increase productivity and efficiency. This requires a more thorough strategy, policy and activity in the field of utilizing all the reserves of growth and productivity.

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ПРОИЗВОДИТЕЛЬНОСТЬ ТРУДА И РОСТ ВЕНГЕРСКОЙ ЭКОНОМИКИ

З. РОМАН

В первой части статьи автор подытоживает результаты оценок уровня среднедушевого национального дохода в венгерской экономике, рассчитанных с помощью коэффициентов цен и натуральных показателей. Согласно этим расчетам Венгрия занимает примерно среднее место среди развитых стран, но в Европе ее опережает большинство стран. В этом порядке из числа капиталистических после Венгрии следуют только Греция, Испания, Португалия и Турция, а среди социалистических стран на аналогическом уровне находится Польша; Болгария, Румыния и Югославия же — несколько позади. Однако согласно показателям жизненного уровня и условий жизни отставание от развитых стран является меньшим, чем это следует из величины среднедушевого национального дохода, в особенности в сфере потребления продовольствия, медицинского обслуживания и народного просвещения.

Во второй части статьи автор обобщает результаты международных сопоставлений уровня производительности труда в венгерском народном хозяйстве. Во всех развитых странах доля активного самодеятельного неселения ниже, чем в Венгрии, стало быть меньший среднедушевой национальный доход является следствием более низкого уровня производительности труда. Имеются в большем числе детальные международные сопоставления по промышленности и в меньшем числе — по сельскому хозяйству. Отставание в области производительности труда от развитых капиталистических стран в сельском хозяйстве вероятно является большим, чем в промышленности; в отношении социалистических стран положение обратное. Внутри промышленности менее благоприятной является производительность труда в горнодобывающей, электроэнергетической, металлургической и, вероятно, машиностроительной промышленности, более благоприятно положение в легкой и пищевой промышленности. Относительно причин более низкого уровня производительности труда нам известно, что различия связаны в первую очередь с более низкой степенью механизации и технической вооруженности труда, с меньшими по различным параметрам масштабами производства, с отставанием уровня управления и организации, с менее благоприятными природными условиями в отдельных отраслях, но мы не в состоянии определить числовое значение или, по крайней мере, порядок роли этих факторов.

В третьей части статьи автор сравнивает рост венгерской экономики с 32 странами в период после второй мировой войны и с 18 странами на протяжении долгосрочного периода,

охватывающего 80—100 лет. Рост венгерской экономики после второй мировой войны и в течение длительного периода был более быстрым, чем в большинстве развитых стран, следовательно отставание венгерской экономики сократилось. В группе развитых стран между уровнем и ростом среднедушевого национального дохода наблюдается отрицательная корреляция: в менее развитых странах обычно имеет место более быстрый рост. Только по сравнению с аналогично развитыми странами являются темпы роста венгерской экономики значительными, но не выдающимися.

Среди источников роста автор исследует производительность труда и общую отдачу, далее, движение численности занятых и полных затрат. На основе приводимых данных международных сопоставлений отмечается, что экономический рост в Венгрии имел более экстенсивный характер, чем в других странах, рост производительности труда играл сравнительно меньшую, а рост численности самодеятельного населения, повышение технической вооруженности и замещение живого труда овеществленным — сравнительно большую роль. В заключительных выводах автор указывает на необходимость и некоторые предпосылки обеспечения и в дальнейшем сравнительно быстрого темпа экономического роста.

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B. Botos

STRUCTURAL DEVELOPMENT AND INVESTMENTS IN THE HUNGARIAN INDUSTRY

After a brief review of the connections between structural development and investments attention is paid first of all to the investment components of structural development in the years 1971—1975. It is stated that, within the framework of socialist planned economy, investments represent a very important means for structural development, yet the Hungarian industry failed to utilize the deriving possibilities in the period examined to full extent. According to the author, one of the most important tasks to be solved in this field is a further improvement of the coordination of investments and other means of the economic policy influencing the structure.

The economic experts of various countries have been recently vividly discussing the tasks and means of structural development – with a widely used term of structural policy. Structural development is a key-issue also from the point of view of the entire Hungarian economy and industry. This fact is well-reflected by the guidelines of the Fifth Five-Year Plan of the Hungarian national economy referring to the period 1976—1980, pointing out that a raising of economic efficiency must be achieved, to a considerable extent, by improving the structure of production.

Hungarian industrial policy was based on selective development already in the past and this will be the most expedient method of modernizing production also in the coming years. Also the research carried out by the Research Institute for Industrial Economics of the Hungarian Academy of Sciences on the exploration of the relationship between sectoral structural development and investments was intended to support the theoretical work aimed at revealing the interrelations of structural development and at the elaboration of its system of requirements and criteria.

It is known that in the socialist countries – thus in Hungary, too, – a considerable part of development resources are used for centrally determined objectives. The above-mentioned research analyzed, paying attention primarily to this part of investments, how far they reflected and supported structural development endeavours.

National investment planning and structural development

The concrete system of national economic planning and the economic control and management of the socialist countries is in close connection with structural policy. The rather widely accepted definition of structural policy, meaning the totality of measures, decisions and means relating to the general, most important proportions of social production and their transformation, also involves that a consciously developed structural policy can be realized only with the aid of adequate means. Among the central means, first of all investments and professional (vocational) training should be mentioned, but also the development of science and technology as well as the

considerably increasing effect of international economic co-operation have an important influence on the structure of production. Therefore, the role of investments must by no means be considered as exclusive when interpreting the development of the industrial structure in its complexity.

In Hungary the medium-term national economic plan of investments containing the approved indicators and internal computation materials of the plan lays stress first of all upon the allocation of central financial funds. This means that the approved indicators of the plan allocate exclusively the *resources of the state budget* for concrete development purposes in the following specification:

- large investment projects to be started and completed, indicating the year of starting and completion, respectively, as well as the putting into operation of the given capacity;
- lump-sum (target-oriented) state investments by fields;*
- other state investments realized from the investment funds allocated to organizations financed by state budget (ministries, councils, etc.);
- the state grants given for enterprise investments are determined either by concrete enterprises or by sectors and industries.

The approved indicators of the investment plan mentioned above express the expectations concerning structural changes within certain limits. As a matter of fact, the objectives included in these approved indicators are component parts of the development objectives of individual branches. At the same time, however, they are objectives whose realization is centrally ensured and preferred.

In connection with national economic planning also the computation material of the investment plans must be mentioned. This provides, namely, the most reliable orientation concerning the planned directions of structural development at sectoral level. The computation material of the plan contains such sectoral specification which takes all financial means into account in the investment estimates (more precisely: computations) of the individual branches. This means that it contains calculative computations concerning the own development funds formed in the individual branches and also the bank credit that can be taken into consideration beside the approved indicators already mentioned. It must be noted, however, that – as has been verified in practice – these computations orientate only as regards certain orders of magnitude. Because of the inaccurate estimation of own resources in the individual branches and the actual practice of credit granting, there are considerable shifts in proportions in the individual branches against central computations. The deviations between the computations of the medium-term and the annual plans are influenced, beside the inaccuracy of plans, also by decisions becoming necessary under way. These partial decisions may eventually change, depending on realization, the rates of growth taking into consideration the necessity of eliminating the disproportions emerging in the meantime.

From the point of view of analysing the connections looked for it is also important that the total value of sectoral investment possibilities taken into account in the national economic plan cannot characterize in itself the changes in microstructure. The question whether the aspect of structural development is really enforced

* Such are, e.g. the building of energy of grids, the retail network, schools etc.

within the possibilities provided for the individual branches, depends to a considerable extent on the decisions of enterprises and the bank as well as on the attitude of the supervisory authority (ministry). (The enterprise decides on the utilization of its own development funds, the bank on the credit, while the sectoral ministry give an opinion on the former and from time to time decides on the allocation of state grants to the enterprises. In this latter decision in most cases the banks and occasionally also the National Planning Office take part.)

Sectoral structure and investments between 1971–1975

Act II: 1970 determining the Fourth Five-Year Plan of the Hungarian national economy provided for industrial development between 1971–1975 investments totalling 196–197 thousand million forints. According to the directions of industrial development stressed in the plan the investments "should serve first of all the foundation of objectives essential from the point of view of technical progress and up-to-date structure of the national economy and serving also long-term industrial development". The act itself pointed out some places of utilization, making prescriptions of the following character:

– "New cement-works should be built at Hejőcsaba"
– "The second line of the oil pipe-line 'Friendship' should be built"
– "The Paper Factory of Dunaújváros should be considerably enlarged", etc.

Realistic foundation and preparation of the plan required the planners, naturally, to answer several other questions. How much of the investment funds must be spent on the completion of unfinished projects and on the preferred tasks, respectively? In what proportion can the remaining sum be distributed among the individual branches? What is the share of the individual branches in the various investment resources?

The answers to such and similar questions were given – as mentioned before – beside the medium-term plan, by the so-called computation material of the plan, the various informative publications constructed from this and, last but not least, by the annual plans.

Starting from the industrial investment sum of 196–197 thousand million forints as prescribed by the plan, let us survey firstly the proportions of the different categories of investment resources. From this aspect the estimates of the plan were the following:

Resources	Percentages
Budget allocations (grants together with state loans)	46
Development loan	5
Subsidies from council funds	1
Own resources of the enterprises	31
Central technological development fund	0
Investment credit	17
Resources altogether	100

In connection with the discussion going on for several years, concerning the appropriate or necessary proportions between central and enterprise investments, the above data indicate that a real picture of the actual situation can be obtained only if the proportions according to the power of decision and the resources of financing, respectively, are definitely separated from each other. According to the power of decision, we can speak about state and enterprise investments, respectively, referring to the fact whether the concrete decision on development was taken by central or by enterprise organs. Classification by the sources of financing is not so unambiguous, since several investments are realized by simultaneous utilization of central and enterprise development funds.

Anyway, the proportions according to the power of decision and the resources of financing differ from each other to an extent differing by branches. Therefore, such statements – which are true and verified by the factual data of the Fourth Five-Year Plan, too, – as "the share of enterprise investments is more and more determinant as regards the distribution of investments by the power of decision" [3] give no real picture of the actual situation. It must be added, too, that the proportion of development resources which can be centrally influenced (including also the so-called repayable forms, thus the state loans, development loans and investment credits) is much greater in its totality than the share of own funds. This circumstance, however, queries the limits of the sphere of actual enterprise decisions. An unambiguous distinction is undoubtedly rendered more difficult by the connections and overlappings mentioned above, namely, that enterprise decisions are realized also from central funds and a part of the own resources is determined by central decisions, etc.

It should be noted that the estimates of the Fifth Five-Year Plan for 1976–80 indicate rather considerable changes concerning both the system of resources and its proportions. Thus, the so-called investments with development loan no longer exist, and within the budgetary allocations the repayable loan has attained a dominant part. On the other hand, the ratio of the development belonging to the sphere of central decisions increased parallel with the sectoral conceptions (thinking, first of all, of the growing share of investments into mining and electric energy).

When looking for an answer to the question whether a definite structural development conception was reflected in the guidelines developed in the course of planning and how this was realized in practice, we shall deal in the following, first of all, with the central development resources. Namely, the central planning and directing organs have obviously better possibilities to enforce their influence through that part of resources whose utilization they dispose of in some form. This part of development resources is called centrally determined funds. Even within this category two groups are distinguished according to the character of connection between the disposal of development resources and the investment decision. Thus we can speak about

– directly determined and
– indirectly determined

central development resources. To the directly determined ones belong the major individual projects, target-oriented lump-sum investments and other state investments. (In many cases this category is called comprehensively state investments.)

The indirectly determined resources include the state grants given to enterprise investments, development loans and investment (development) credits.*

The government can influence the investment structure most successfully by means of the directly and indirectly determined central resources.

About two thirds of total investments were represented by the categories covered.

The data of Table 1 refer to the planned shares of the individual branches. Beside the proportions of the two categories within the centrally determined part also the distribution data of total investments are indicated.

What do the data of the table prove? In the first approach they draw attention to the fact that the planned shares of the individual branches from the central investment funds were very similar. Perhaps the chemical industry is the only exception, whose 22-per-cent share considerably exceeds that of the other branches (first of all, because of the great proportion of the chemical industry among the major projects.). The planned share of all other branches amounted to 8–14 per cent which means — considering the total sum of 130–140 thousand million forints planned to be distributed for this purpose — a maximum ± deviation of 8 thousand million forints from the average.

When comparing the data on total investment estimates to the planned distribution of the centrally determined resources also the similarity characterizing the

Table 1

Planned sectoral distribution of total investments and centrally determined resources between 1971–1975 (in percentages)

Branch of industry	Directly determined central resources	Indirectly determined central resources	Total	Total investments
Mining	17	6	12	12
Electric energy industry	19	2	10	12
Metallurgy	4	15	9	9
Metal-working industries	3	26	14	14
Building-material industry	11	10	11	10
Chemical industry	33	10	22	20
Light industry	9	19	14	14
Food industry	4	12	8	9
Total industry	100	100	100	100

Source: own computations based on the data of the National Planning Office

* Investments to be realized from credit were ranked here, because the central intention can be enforced by means of preferences and quotas to a great extent in the course of their distribution.

sectoral distribution and proportions of the two categories is remarkable. From this follows that resources distributed according to the central intention have a decisive role in the development of the total investment structure. Thus, the utilization of investments as a means of structural policy offers great possibilities, but, at the same time, it also involves many responsibilities for the central economic control agencies. On the other hand, the tendencies to be observed support the opinion of Márton *Tardos*, according to whom "A series of measures have guaranteed that the utilization of development funds accumulating in enterprises and of the available credit resources should correspond to the central plan." [4] Although it is probable that the measures mentioned can be related only to enterprises obtaining priority from a certain point of view (employment, export, etc), nevertheless the data of Table 2 rather unambiguously indicate their outcome.

Although the planned proportions indicated in Table 1 and the actual data were, to some extent, deviating, nevertheless the investment structure of the accounting period was characterized decisively by the guidelines developed in the course of planning. Comparison of the plan with factual data gives an evidence of this.

A greater deviation than 1 per cent can be observed only in the case of the building-material industry. There is no exact information available on the deviation between the planned and factual proportions of all investment categories, i.e. directly and indirectly determined central and enterprise investments, respectively. Yet we think that it is justified to deal even on the basis of the planned data with the questions under the effect of what factors the conception of the plan on sectoral development had been formed as outlined above and why no greater selectivity had been reflected in the plans.

Table 2

Planned and factual investment structure in the industry between 1971—1975 (in percentages)

Branch	Planned investment	Factual distribution
Mining	12	12
Electric energy industry	12	13
Metallurgy	9	8
Metal-working industry	14	15
Building- material industry	10	8
Chemical industry	20	19
Light industry	14	14
Food industry	9	11
Total industry	100	100

Source: Table 1 and "Tájékoztató a népgazdaság 1976—80. évi V. ötéves tervéről". (Information on the Fifth Five-Year Plan of the national economy for the years 1976—1980). (National Planning Office, Budapest, December 1975)

Some factors of sectoral stability

When trying to answer the previous questions we shall deal with four topics, namely

- the structure of the stock of fixed assets in the base period,
- the conditions resulting from sectoral aggregation,
- the influence of international integration and
- major investment projects.

Let us examine first the proportions. In the following table the structure of the stock of fixed assets in 1970 is compared with the planned data on centrally determined resources referring to the Fourth Five-Year Plan.

The most considerable deviation between the two series of data can be observed in the cases of the building-material industry and the chemical industry. The majority of data, however, indicate that the initial state has a significant part in the allocation of resources. Because of the "proportioning" efforts which are, to some extent, regular, the central organs can often hardly enforce the guidelines of selectivity even in the course of planning. Naturally, such problems arose not only with the preparation of the Fourth Five-Year Plan, but also of previous medium-term plans. This tendency is strengthened also by the fact that in the course of realization the major sectoral trends of development do not follow the proportions determined in the plan, but, again, the proportions of structures which could be observed over the previous five years [2].

As far as the aggregation of the base of observation is concerned, at this level of sectoral aggregation the trends of selective industrial policy can hardly be perceived.

Table 3

Distribution of fixed assets and centrally determined development resources (in percentages)

Branch	Distribution of the stock of fixed assets in 1970	Planned distribution of central resources in 1971—1975
Mining	13	12
Electric energy industry	14	10
Metallurgy	12	9
Metal-working industry	19	14
Building-material industry	6	11
Chemical industry	13	22
Light industry	12	14
Food industry	11	8
Total industry	100	100

Source: Az ipar állóeszközei és kapcsolatuk a termeléssel, 1960—1972 (Fixed assets in the industry and their relationship with production, 1960—1972). Central Statistical Office, Budapest 1974 and Table 1

The global sectoral data alone do not indicate that the guidelines of selective development are aimed at the differentiation of units smaller than branches. For example, that within the metal-working industry the planned development of individual sub-branches should take place at a deviating rate. According to the plan, the means of development available in the branch should be utilized first of all in those sub-branches whose progress can be ensured dynamically and contributes to the modernization of the structure of the metal-working industry. Accordingly, despite the decreasing share of the total metal-working industry as compared to the previous period, the proportion of fixed assets engaged in the production of road vehicles, computer technical and telecommunication equipment as well as in that of electric machines and equipments increased to a considerable extent. The same refers to other branches, too, for example to the light industry which is an extremely heterogeneous branch.

It could be asked with good reason whether the movements of the industrial sphere could or should be examined by macro-structural approach.

While recognizing the importance, and eventually the primacy, of other structures, it must be stated that the present Hungarian system of economic control and management, planning and statistics justifies also the analysis of macro-structures in different breakdowns. Otherwise, the selection of the "most important" structural projection cannot be regarded as a primary task in the future, either, but this should be a more conscious planning of connections between the differently aggregated levels, as well as the fitting of structurel development as a process into the entirety of economic activity.

The effect of cooperation among the CMEA countries is related to the connection between structural development and investments on two levels. One level exercises its effect indirectly, through foreign trade, thus jointly with other factors of demand and supply. However, the other level influences the distribution of investment means already directly through the integration obligations. Although the two levels cannot be definitely separated, yet the development indicators of the process of integration signal certain tendencies. Accordingly, the strengthening of the direct influence is to be reckoned with only later, in the stage of the so-called structural integration, in the course of investment allocation, while the indirect effect cannot be neglected even at present. This is well-reflected also by the data of Table 4. In the Table the changes in the investment shares of industrial branches of CMEA countries are compared for two five-year periods (1961 – 65 and 1966 – 70, respectively).

On the basis of the data, two remarkable characteristics should be pointed out. One tendency, perhaps the more important from the point of view of our analysis, is that the changes in the branches of various countries show considerable similarities. Although no far-reaching conclusions can be drawn without taking into consideration the absolute values of the base data and the quantified measure of the change, respectively, it can be assumed that also the closer cooperation with other CMEA countries has an influence – among other things – on the development of the investment structure in the individual countries. Namely, it is no mere coincidence that

- the direction of change concerning three branches (mining and energy industry, metallurgy and metal-working industry) is identical in all countries,
- in two branches (building-material industry and food industry) only the direction of the Polish data deviates from that of the other countries.

Table 4

Direction of changes in the investment shares of major industrial branches in the European CMEA countries between 1966—1970 compared to the previous five-year period

Branch	Bulgaria	GDR	Poland	Soviet Union	Rumania	Czechoslovakia	Hungary
Mining and energy	−	−	−	(−)	−	−	−
Metallurgy	−	−	(−)	−	−	−	(−)
Metal-working industry	+	+	+	+	+	(+)	(+)
Building-material industry	(+)	(+)	(−)	(+)	(+)	(+)	(+)
Chemical industry	+	+	+	(−)	(−)	+	(−)
Light industry	(−)	+	+	(+)	−	+	(−)
Food industry	+	+	(−)	(+)	+	+	+

Source: Own computations on the basis of data submitted under [1]

Key to the signs used:

+ = investment share of the branch in the total industry increased by more than 1 per cent

− = investment share of the branch in the total industry decreased by more than 1 per cent

(+) = investment share of the branch in the total industry increased by less than 1 per cent

(−) = investment share of the branch in the total industry decreased by less than 1 per cent

Obviously, the effect* manifesting itself in the tendencies mentioned above had a part also in the elaboration of the domestic guidelines of the plan period examined.

Our other remark refers to the measure of change. It can be well seen from the table that in most branches of the Soviet and Hungarian industries the measure of change did not exceed 1 per cent. To reveal the reasons for this and to evaluate the tendency would require a deeper analysis as well. However, we refer to the fact that, as seen above, the base data had a considerable part also in shaping the investment structure of the 1971—1975 five-year plan.

For a reasonable judgement of the preferences to be given to the individual branches it is necessary to know, of course, the proportions of the various forms of supports within the total resources taken into consideration. From the data of the following table it can be unambiguously seen, for example, that even a greater share in lump-sum (target-oriented) investments was "worth" less in forints than a smaller share in major projects.

Therefore, the three most important forms are the individual major projects, the state grants to enterprise investments and the credits. Even from among these the major projects are of outstanding importance.

* Although only the effect of socialist countries was discussed here, the role of tendencies excercising their influence in wider international relations cannot be neglected, either.

Table 5

Planned distribution proportions of centrally determined resources by value in the Fourth Five-Year Plan period (1971—1975)

	Considering the percentual distribution of the sum of		total
	directly determined resources	indirectly determined resources	
Individual major projects	91		47
Lump-sum (target-oriented) investments	7		4
Other state investments	2		1
State grants to enterprise investments		34	16
Development loans		16	8
Investment credits		50	24
Total	100	100	100

Source: own computations on the basis of data of the National Planning Office

The so-called major projects serve first of all for the expansion of energy and basic material-producing branches considerably influencing the equilibrium of the national economy as well as for the realization of central development programmes. (These latter projects are approved in the framework of the medium-term plan of the national economy or by the Government on the basis of special judgement.)

However, the role of major projects in structural development can be emphasized not only with regard to their volume. Namely, from the approved indicators of the plan only those referring to major projects may give some information on the connection between the development of sectoral structure and the product and technological structure. Namely, capacity and product, respectively, are connected with the sum approved only in this sphere. More precisely, the documents serving the preparation of major projects (development objective, investment proposal) contain a detailed description of products and technology, making a comparison between international and domestic data. The indicators of these documents give information also on the relations of profitability and efficiency.

Since, on the one hand, the realization of major projects may reach over from one medium-term plan-period to another and, on the other hand, the relating decrees allow the submitting of proposals and their approval also in the course of a plan-period, major projects had to be reckoned with from several aspects also concerning the Fourth Five-Year Plan. Thus, one can speak about major projects started before or during the plan-period and developments to be completed during the plan-period or reaching over to the next period, respectively.

Table 6

Number of major individual projects in the industry in the Fourth Five-Year Plan-period (1971—1975)

Branch	Number of major projects							
	Reaching over from the previous plan-period		Approved as new target		Completed during the plan-period		To be finished in the next plan-period	
	Planned	Factual	Planned	Factual	Planned	Factual*	Planned	Factual*
Mining	6	5	3	5	5	5	4	5
Electric energy industry	6	7	2	4	5	7	3	4
Metallurgy	2	3	1	4	2	3	1	4
Metal-working industries	9	12	—	2	9	12	—	2
Building-material industry	3	4	10	4	8	6	5	2
Chemical industry	10	10	3	5	11	12	2	3
Light industry	7	5	2	4	8	7	1	2
Food industry	3	3	3	2	5	4	1	1
Total industry	46	49	24	30	53	56	17	23

* Data are not final

Source: own computations on the basis of data of the National Planning Office

All this was mentioned not for the sake of formal systematization. Namely, the greater the engagement resulting from unfinished major projects, the smaller is the ratio of assets that may serve the efforts aimed at structural development corresponding to possible new conceptions.

In 1970, the last year of the Third Five-Year Plan-period, there were several unfinished major projects of great volume registered in the industry. The 49 unfinished major projects not only meant a considerable determination for the new plan in their totality, but also each branch had to be allocated development sums on this account. Beside the unfinished major projects, the medium-term and annual plans of the Fourth Five-Year Plan-period included the approval of 30 new targets. Thus, over the five years examined, resources had to be distributed among 79 major projects altogether.

In Table 6 the number of unfinished and completed major projects of the individual branches are summarized.

It can be seen that in respect of the total industry and the majority of branches, the number of projects reaching over from the previous plan-period exceeded the proportion of new targets. Else, an explicit objective of the plan — well-reflected also in the data — was to promote the early completion of investments in process (i.e. prolonged) by concentrating on them. Only in the case of the building-material industry was it planned to start more major projects during the plan-period than those in process. The factual data, however, indicate the change in this conception and the beginning of the process (becoming even more characteristic in the Fifth Five-Year Plan valid for the years 1976—1980) in the course of which the energetic branches will obtain higher priority.

If the plan targets reflected in the table had been implemented, the completion of 17 major individual projects would have been prolonged from the Fourth Five-Year Plan-period to the period after 1975. The preliminary factual data indicate 23 such investments. Undoubtedly, this is also a favourable tendency, since – as already mentioned – there were 46 unfinished major projects at the end of the Third Five-Year Plan. Nevertheless, evaluation of the actual situation is not possible only by means of a comparison of the number of major projects, since these data do not inform us about realization or the state of investments in process in value terms. Namely, an analysis carried out on the basis of budget data indicated precisely that the 23 major projects coming over from the Fourth Five-Year Plan-period meant greater cost determination for the Fifth Five-Year Plan than the 49 projects prolonged from the Third Five-Year Plan-period to the Fourth.

To sum up the foregoing, it can be stated that the investment section of the national economic plan (together with the computation material) gives information only on the possibility of developing the sectoral structure. In the present system of planning and decision the concrete contents of these possibilities depend on the attitude (concrete decisions) of the different levels of economic control and management and, last but not least, on the enterprises. The same circumstance influences, to some extent, also the changes in the proportions of sectoral structure taken into consideration originally.

The fact that the plan did not express any significant selectivity at sectoral level indicates not the lack of such efforts but the factors which restrict the conceptions. It was pointed out from among these factors that sectoral proportions are very similar in other projections (e.g., with regard to the structure of fixed assets) and this precludes the possibility of major deviations. The determination of unfinished investments as well as the influence of international cooperation have a great effect.

Harmony of economic policy means influencing the investment structures

It was mentioned that to deal exclusively with the plan targets is not sufficient when analyzing the structure-forming role of investments. A desirable development of the structure may result only from a coordinated functioning of the national economic plan, economic control and management (attitude and concrete decisions) as well as of the economic regulation. To emphasize this is especially justified in view of the experiences obtained from the Fourth Five-Year Plan (1971–1975).

Parallel with the investment plan the allocation of industrial investments may also be influenced by financial distinctions, other plans and the guidelines of credit policy, although in various forms and with different intensity. Without discussing the role of the economic policy means mentioned before in detail, we shall only briefly review how much these means were in harmony with the investment estimates and with each other, respectively, in the period of the Fourth Five-Year Plan.

The Plan Act for 1971–1975 prescribed a yearly average growth of about 6 per cent in industrial production, under the condition that a development different by branches, but not fixed quantitatively, should be reckoned with. The volume of investments already mentioned was intended to serve this development.

Furthermore, it was also determined by the above Act that central state means should be used first of all for objectives of fundamental importance for technical progress, for an up-to-date structure of the national economy as well as for long-term industrial development. Thus they have to serve the

- production and utilization of hydrocarbons, especially of natural gas,
- economic utilization of the aluminium base,
- development of the production of modern road vehicles and other means of transportation,
- development of the chemical processing of oil products,
- fast spreading of buildings and constructions made by up-to-date building methods,
- wide-scale utilization of computer techniques.

These were basically the fields identified by central development programmes.

The information bulletin of the National Planning Office published on the Fourth Five-Year Plan of the development of the national economy provided already more detailed guidelines on the direction and measure of selection. Accordingly, a more rapid growth than the average was planned in the production of the chemical industry, construction and the electric energy industry. The increase of production corresponded to the average in metal-working and the light industry; while that of metallurgy, the food industry and mining was planned to remain below average. Also the changes in the investment structure compared with the previous plan-period were planned according to these targets: the investments in the building-material industry, light industry and chemical industry had an increasing share, consequently, also the distribution of the stock of fixed assets of the industry was to change.

If we examine the relation of supports and exemptions with other means in the period of the Fourth Five-Year Plan, it turns out that, according to the plan targets, two branches, namely metal-working and the light industry, had a share of about 50 per cent in the preferences. In the same period these two branches had a share of only 12 per cent in the directly determined investments and of 28 per cent in all centrally determined resources (see Table 1). The example of the building-material industry shows an opposite tendency. This branch obtained from supports and exemptions only 1 per cent, while from state investments 11 per cent. It seems therefore, that the preferences applied in current management and in the stimulation of developments reflect occasionally an intervention of opposite direction as compared with the influencing of investment intentions.

The harmony between credit preferences and quotas and other means of the economic policy is also difficult to evaluate, since the determination of neither the preferences, nor the quotas is strictly connected with statistical aggregates. However, considering the extremely high proportion of preferential credits and quotas within the total credit sphere, some conclusions can be drawn also from the sectoral distribution of planned and expected disbursement of credit, respectively.

Since selective credit policy is a means to influence first of all the market-sensitive branches, its role in mining and electric energy industry is insignificant. It can be seen that, according to the targets, the shares of metal-working, the light industry, metallurgy and the chemical industry are considerable. The question is

Table 7

Sectoral distribution of planned and expected disbursement of investment credit between 1971—1975 (in percentages)

Branch	Planned distribution	Expected distribution
Mining	2	2
Electric energy industry	—	1
Metallurgy	18	8
Metal-working industry	30	30
Building-material industry	3	8
Chemical industry	14	11
Light industry	24	31
Food industry	9	9
Total	100	100

Source: data of the National Bank of Hungary

how much deliberation and purposefulness the above proportions reflect and how far they may further or impede endeavours aimed at structural transformation.

According to the evaluation of István *Nemény*i, in recent years "a very close relationship has developed between the plan and the credit sphere, essentially directly determined by the plan through the system of partial quotas and preferences" [3]. Consequently, if the plan contains adequate targets of structural policy, the credit preferences may further their realization.

However, this strict determination cannot be unambiguously judged from the point of view of the realization of our efforts for structural development, either. Namely, while it may be advantageous that for the enterprises and branches participating in the central development programmes, the necessary resources are ensured even by means of credit preferences (assuming, of course, the correctness of the objectives of the preferred programmes), at the same time it is doubtful whether a higher efficiency of the production structure can be achieved in this way in the entire industry. Here we think first of all of the solution of product pattern problems in the branches not preferred. An active component is in this field, among others, that the possibilities of a direct regrouping of assets among the enterprises are not clarified. As a matter of fact, the great number of development preferences could be reduced by a wider application of this very important means of structural transformation.

Co-ordination of the decisions on structural development made at different levels is closely connected with the question of harmony. Contradictions in this field result basically from the fact that the tasks of developing the sectoral and subsectoral structures as well as the product pattern, are to some extent separated from each other. During the preparation of the Fourth Five-Year Plan such principles had developed according to which transformation of the product pattern was primarily a task of the decentralized sphere, while a modification of the relative proportions of

larger aggregates was based on central decisions. These principles had been queried by the disturbances in the process of structural development already at the beginning of the plan-period. At the same time, the attention of the organs of economic control and management had been drawn to the theoretical and practical problems. However, all this could not bring about radical changes within a short time. Nevertheless, investigation of problems of the product pattern during the preparation of the Fifth Five-Year Plan was not limited only to the enterprises, and this may be regarded as considerable progress in itself.

Naturally, such separation of tasks does not appear so sharply in reality. If we remember the fact that investment decisions mean decisions on the products to be manufactured, too, — for example in case of the major projects — it will be obvious that we may speak also about central decisions on product pattern in a rather wide range. Their weight may be characterized by the fact that more than fifty per cent of all centrally determined resources are spent on major projects and (target-oriented) lump-sum investments, respectively, and these investments transform the structure according to the central will.

However, the data already analyzed have also indicated that there are rather considerable differences between the determination of the individual branches in this sense. It is obvious that an unambiguous interpretation of the requirements of structural development at macro- and micro-level, respectively, can be more easily ensured by means of major projects, for example, in the chemical industry, than in other branches.

In case of investment decisions made within the competence of the enterprises co-ordination of structure formation with local and central interests is undoubtedly a more difficult task. Namely, in this sphere the double requirement of improving the structure and of the uniformity of regulation is rather difficult to reconcile.

Under market relations the various structural changes can take place only mutually, complementing each other. Thus, after all, also the transformation of the macro-structure is a result of the demand for products and of the investments aimed at the satisfaction of this demand. However, if the decisions on structure, and consequently on investments, are partly or completely withdrawn from the direct control of profitability, the possibility of making decisions disadvantageous from the point of view of efficiency will automatically be greater. Although the preferences and other means of economic policy render, to some extent, possible also a regrouping of incomes, they cannot dissolve the tension resulting from the various levels where decisions are made on structural transformation.

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СОВЕРШЕНСТВОВАНИЕ СТРУКТУРЫ ВЕНГЕРСКОЙ ПРОМЫШЛЕННОСТИ И КАПИТАЛОВЛОЖЕНИЯ

Б. БОТОШ

Применяемые в ходе структурных обследований методы имеют весьма разнообразный характер как по содержанию, так и по методологию. Настоящая статья содержит один из возможных подходов, а именно, анализ инвестиционных взаимосвязей структурного развития прежде всего с точки зрения методологии.

Автор подчеркивает, что в условиях социалистического планового хозяйства инвестиционная деятельность является весьма важным, но далеко не единственным инструментом реализации структурной политики. Основной предпосылкой ее эффективного использования является соответствующая координация инвестиционных и структурных процессов и их включение в экономическую деятельность в целом. Автор вкратце излагает характерные черты народнохозяйственного планирования капиталовложений, которые позволяют учитывать требования развития структуры.

На основании опыта 1971—1975 годов, то есть периода IV пятилетнего плана, автор ищет ответа на вопрос о том, какими возможностями и сферой действия располагали воплощающие централизованные намерения инвестиционные концепции, в какой мере они отражали и поддерживали сложившиеся на народнохозяйственном уровне стремления в области развития структуры. Наблюдаемые тенденции и числовые данные показывают, что входящая в сферу центрального воздействия доля капитальных ресурсов заключает в себе значительные возможности для формирования структуры, но в течение рассматриваемого периода эти возможности, однако, не были использованы в должной мере.

Результаты и исследования свидетельствуют о стабильности отраслевой структуры капиталовложений, поэтому автор анализирует действующие в этом направлении важнейшие факторы (влияние структуры основных фондов в базисный период, международной интеграции и т. д.).

В заключительной части статьи рассматривается согласованность среднесрочного плана и других рычагов воздействия — годовых планов, финансовых льгот, кредитной политики и т. д. Автор отмечает, что эти рычаги ориентировали в весьма различных направлениях и весьма непоследовательно. Не получили единозначного решения даже такие основные вопросы, как то, на каком уровне следует обеспечивать последовательность, в отношении какого периода времени, каковой является желательная связь между развитием структур различного уровня и т. д. Выяснение этих проблем автор считает одной из предпосылок создания более эффективной структуры промышленности.

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B. VÉGSŐ

CHANGES IN THE (FIXED) CAPITAL INTENSITY OF PRODUCTION IN THE HUNGARIAN INDUSTRY

The author distinguishes two periods in the history of capital intensity in the Hungarian industry which show different characteristics. Between 1950—1961 capital intensity steadily diminished, while between 1960—1970 it was on the increase. The author analyses in detail the factors affecting the growth of productivity and tries to quantify their effect on the development of industrial capital intensity. He concludes that the growing capital intensity can be more effectively counterbalanced by a more efficient substitution of live labour and with a better utilization of existing assets.

Introductory remarks and questions of methodology

One of the most frequent subjects of economic analysis is the relationship between the value of output and the resources utilized for production. However, examinations of such kind take into consideration mostly the utilized live labour. An approach from the side of materialized (embodied) labour is rare. A joint consideration of live and materialized labour is even more rare. Endeavours to be observed in the last one or two decades have much altered this situation. Despite this fact, there are several unsolved methodological and theoretical problems indicating that the researchers have to face further tasks whose solution cannot be imagined without experiences obtained from empirical analyses. In the present article the results of such an empirical research will be submitted.*

The starting point of the research was a data basis covering the industry of several countries and the question to be answered was how the (fixed) capital intensity of production developed in the longer run and which were the influencing factors. In the following, from among the results of the investigations those referring to the Hungarian industry will be reviewed. Naturally, also the experiences obtained from the examination of the industry of other countries will be referred to where this seems expedient from the point of view of evaluation. Topicality of the subject needs hardly be stressed. In this context we would mention only two relevant circumstances, namely:

1. the (fixed) capital intensity of Hungarian industrial production has increased in the last decade and

2. medium- and long-term conceptions referring to the forthcoming period reckon with a further increase in (fixed) capital intensity. It may be added to all this

* The author carried out his research work partly during his study tour when he visited the Ifo-Institute (Munich) as a scholarship-holder of the Humboldt Foundation.

that between 1950 and 1960 capital intensity considerably decreased. Therefore, the question obviously arises *what the reasons are for a change in the trend of capital intensity, whether it is a "rule" that in the present and the coming stage of economic development the capital intensity of the industry should increase.*

It might be asked whether the development of the Hungarian economy was not of a too specific character and whether, starting from the expected development, the delimitation of the sphere of our examinations to the industry was justified. After the spreading of A. G. B. *Fisher*'s [1], C. *Clark*'s [2] and J. *Fourastie*'s [3] views, the conception has become rather general according to which the proportions of the economic structure are shifting first of all in favour of the tertiary branches. Accordingly, the importance of the primary and secondary branches – and thus also that of the industry – should decrease sooner or later. Contrary to this conception, the results of several investigations indicate that such a decreasing tendency of the proportion of the secondary branches within the entire economy cannot be shown. According to results of an analysis by S. *Kuznets* [5], including 57 countries, although the proportion of tertiary branches within total production is growing with the increase of per capita income, it is growing less rapidly than that of the secondary branches. Similar conclusions can be drawn also from the investigations of Kuznets analyzing the long-term development of individual countries. Kuznets' recent investigations [5] also show that the positive correlation between the proportion of the secondary sector and economic development is stronger than that between the proportion of the tertiary sector and economic development. H. B. *Chenery*'s investigations [6] covering 51 countries confirm the foregoing from a somewhat different aspect. According to his results, there is a stronger correlation between per capita income and demand for the products of secondary branches than in case of the demand for the 'products' of tertiary branches.

Consequently, all these results give an indirect evidence also for the fact that the importance of manufacturing belonging to the secondary sphere of production does not necessarily diminish as a result of economic development. What is more – as shown by Kuznets –, the proportion of manufacturing is generally increasing within the secondary branches, therefore the importance of the whole industry within the entire economy does not necessarily decrease. These connections do not claim absolute validity, but appear rather in the form of tendencies and mean that manufacturing and thus the whole industry, too, – are an important source of economic development.

Before reviewing the results of the research, perhaps it would not be superfluous to deal briefly with the contentual questions of the indicator of (fixed) capital intensity. By definition, the indicator of (fixed) capital intensity is the quotient of the stock of fixed assets engaged in production and that of output.* This quotient measures how many units of fixed capital stock fall to a unit of output. Yet the interpretation of the contents of the indicator is not so simple. According to one interpretation, we can start from the fact that in the indicator a value of stock type and a value measuring the output of an activity over a certain period are included. In this concept the indicator expresses, measured in terms of the time unit applied in accounting the output,

* Also called capital output ratio

the value of the output of how many such time units corresponds to the value of the stock of fixed assets engaged in production. That is, if measured in value terms, how much time is required until a set of products of the same value will be manufactured as the value of the stock of fixed assets. The debated close connection between the extent of (fixed) capital intensity and the lifetime of fixed assets relies exactly on this basic idea of returns. *An approach on the basis of this accumulation-theoretical view points out one of the characteristics of the stock of fixed assets.* Namely, that the stock as a whole embodies a certain mass of value and the key issue is the formation of this mass of value embodying past labour, i.e. the process of accumulation.

In reality, the stock of fixed assets means at the same time concrete means, buildings, machines, equipments which participate in the production in their physical totality. Therefore, viewed from this aspect, fixed assets are material means which have a physically determined technological capacity. Since the capacity of the stock of fixed assets is practically a material productive capacity, (fixed) capital intensity may be conceived as the quotient of the stock of fixed assets and the production capacity. What is usually measured as output means the measuring of the production capacity as interpreted before, naturally, only in case of a full utilization of capacity. However, when determining capital intensity in practice an *ex post* quotient is taken into consideration. In this sense the indicator of capital intensity obtained in an empirical way is not a technological coefficient. Namely, a technological coefficient is *ex ante* determined by its nature, since it postulates a certain level of capacity utilization when determining the production capacity of a given stock of fixed assets.

Although the indicator of capital intensity computed empirically, i.e. *ex post*, says little about the causal relationship between the utilization of fixed assets and the quantity of products manufactured (since there are several other factors which influence the volume of and the changes in production). Yet its empirical examination is not superfluous. Namely, it indicates what stock of fixed assets (of increasing or decreasing, or perhaps of unchanged volume) had to be engaged for producing a unit of output. This, however, is anyway important for determining the direction of future development.

Beside stating the fact of a change, it is necessary to examine also the factors directly or indirectly influencing the changes in capital intensity. The changes themselves can be interpreted and conclusions can be drawn for the future only in this way, and only in the knowledge of these factors can the possibilities of influencing capital intensity be outlined.

The contents and magnitude of the indicator of capital intensity depend also on how the stock of fixed assets and the output taken into consideration when computing this indicator are measured. The relevant questions are the following: a) whether accounting should be made at current or constant prices; b) data of net or gross type should be taken into consideration.

With regard to question a) specialists usually consider it expedient to use data computed at constant prices. *However, from the point of view of price and value theory also the use of data at current prices expressing the value relations of current reproduction may undoubtedly claim interest. Namely, the operative decisions on production and the stock of fixed assets* are usually connected with such prices. Another, especially great problem is the determination of price indices covering a longer period.

The unavoidable distortions of price indices also raise some justified doubts. However, it speaks in favour of accounting at constant prices that, by eliminating the effects of changes in prices, this procedure facilitates a comparative analysis of the processes examined.

From the point of view of the Marxist theory of value a consequent solution would be if the factors drawn into the examination were evaluated in all cases on the basis of the actual value relations of reproduction valid at the time of examination. *This raises several problems in practice, and thus data at unchanged prices are usually accepted* independently of the fact, the prices of which year are considered as a price basis.

Therefore, arguments both for and against are alternatives of question b). The examination of net values is justified by the fact that in principle the changes in the net value of the stock of fixed assets better reflect the changes in effective capacity and are in harmony also with the value relations of reproduction. The use of gross values can be justified by the fact that depreciation is a basic stimulus of technical progress and, at the same time, also one of the material resources of the replacement and expansion of assets. Therefore, when using gross values, it is taken into consideration that fixed assets participate in production also physically, furthermore, that the fixed assets themselves are also directly connected with technical progress – partly as a source and partly as a carrier. At the same time, it must be mentioned that a realistic determination of the net value of fixed assets is very difficult. The values depreciated according to various systems usually do not precisely reflect the actual changes in the value of fixed assets. Analytical practice gives preference to the gross value of the stock of fixed assets – first of all for the latter reason.

Also in our analysis referring to the Hungarian industry, the gross value data of the stock of fixed assets are used. Similarly, data obtained from the gross value of output are taken into consideration in the case of production. However, for the entire period covered (1950–1970) only index numbers are available. Therefore, wherever data indicating not the changes in, but the level of, capital intensity were required, they were deducted from the 1960 indicator of gross capital intensity by means of capital intensity indices computed from the foregoing. In the analysis data computed at 1968 prices were used.*

The results obtained

General tendency

Development of the Hungarian industry between 1950 and 1970 can briefly be characterized by the following facts: the stock of fixed assets increased by 1970 to more than fourfold of the stock in 1950, while output increased almost fivefold and

* The data at constant prices of previous years computed on different bases can be connected by the method of index-chaining. It must be noted that the data used occasionally deviate a little from data included in other publications. These deviations may be attributed to the above method of conversion. However, the extent of these deviations is quite insignificant and can, therefore, be neglected.

employment more than doubled. Parallel with this, the weight of the industry within the entire national economy also increased. In 1970 the industry produced about half of the gross national product with less than one fourth of the total stock of fixed assets of the national economy. This indicates, at the same time, that the capital intensity of non-industrial spheres is about threefold of that of the industry on the average, if measured in this way. Thus, under the present conditions, an increasing share of the industry in social production works in the direction of diminishing the capital intensity of the whole national economy. The measurable rate of this change in the capital intensity of the industry is presented for Hungary as well as for some socialist and capitalist countries in Table 1.

Table 1

Changes in the stock of fixed assets, production and capital intensity in the industry of some countries

(Yearly average growth rates in percentage)

Country	Stock of fixed assets	Output	(Fixed) capital intensity*
Bulgaria[a]	13.7	13.3	0.4
Czechoslovakia[a]	4.8	6.7	−1.9
Poland[a]	5.1	8.9	−3.8
GDR[a]	4.7	7.5	−2.8
Romania[a]	9.6	12.6	−3.0
USSR[a]	10.8	10.3	0.5
FRG[b]	7.3	8.3	−1.0
Japan[c]	11.3	12.8	−1.5
USA[d]	3.3	4.7	−1.4
Hungary[e]	7.6	8.1	−0.5

* Computed as the difference between the growth rate of the stock of fixed assets and that of the output.

a) 1950—1952 and 1967—1969

Source: Economic Survey of Europe in 1971. Part 1. The European Economy for the 1950s to the 1970 (Secretariat of the UN Economic Committee for Europe. New York, 1972)

b) 1950—1970

Source: Produktionsvolumen und Produktionsfaktoren der Industrie im Gebiet der Bundesrepublik Deutschland (regular DIW publication, West-Berlin)

c) 1953—1970

Source: W. Michalski—H. Stodieck—H. Harms—G. Pommerening—J. Gruber: Perspektiven der wirtschaftlichen Entwicklung in Japan (Deutsche Verlage-Anstalt GmbH. Stuttgart, 1972)

d) 1948—1960, only for manufacturing

Source: J. Enzler: Revised Index of Manufacturing Capacity and Capacity Utilization (Federal Reserve Bulletin, Vol. 53. July 1967) as well as Fixed Business Capital in the United States 1925—1968 (Survey of Current Business, Vol. 49, No. 2, February 1969)

e) 1950—1970

Source: Statistical Yearbooks of the Hungarian Central Statistical Office and data obtained directly from the Central Statistical Office

The differences in the contents of the data referring to fixed assets and production, respectively,* certainly influence the growth rates characterizing the changes in capital intensity. However, the data are undoubtedly suitable for evaluating the changes having taken place in the Hungarian industry as regards their magnitude and direction. It may be stated that in the period following World War II the capital intensity of the industry showed a diminishing tendency in the majority of countries – thus in Hungary, too, – and also the measure of the changes was more or less similar except for Poland, the GDR and Romania.

The deviations indicate also the specific characteristics of industrial development in the individual countries which can be evaluated with regard to capital intensity. In the three capitalist countries the development of capital intensity was very similar despite the deviating starting situation and endowments. Development itself was not similar. Suffice to have a look at the growth rates of the stock of fixed assets as well as of output and it immediately turns out that there are already greater differences in these. But also in the development of capital intensity several differences can be found if compared by periods. For example, in the industry of Japan capital intensity showed an almost even yearly decrease, while in the GFR periods of decrease and increase can be well distinguished and a similar situation can be observed also in the manufacturing industry of the United States.

It is interesting that changes in tendency mostly coincided in the socialist countries. A more detailed analysis has shown that capital intensity decreased in all socialist countries until 1960, although at different rates, but after that it increased, in general, and this increase was considerably less different in the individual countries than the preceding decrease. (The only exception to this tendency is Poland where the decrease further continued.) All this indicates that the way of economic development and its stage achieved considerably influence the development of capital intensity.

Sectoral tendencies

In the industry of Hungary the change in (fixed) capital intensity was not especially considerable. Between 1960 and 1970 the decrease amounted altogether to about 12 per cent, meaning a yearly average of hardly 0.6 per cent. Within the whole period the rate of decrease was much greater between 1950 and 1960, namely yearly 1.6 per cent. Later on (between 1960 and 1970), capital intensity began to increase as against the previous decrease, by a yearly 0.4 per cent. Considering the whole period, much greater changes can be observed if not the entire industry, but its individual branches are more thoroughly analyzed. In the period as a whole capital intensity decreased in the majority of branches, too. More considerable decreases could be observed in the metal-working, the printing and the food industries. On the other hand, capital intensity increased in mining as well as in the manufacturing of electrical machinery and equipment. For an illustration of differences

* The data referring to fixed assets are based always on the gross value of fixed assets. In the case of production value added data were taken into consideration with the exception of Hungary, Japan and the USA where those of gross output were considered.

in the changes by branches, results of dispersion computations made on the basis of data on 18 branches of the industry are presented in Table 2.

The changes in the two determinant factors of (fixed) capital intensity show *sectoral differences of basically the same order* of magnitude and these differences do not even reach half of the extent of average industrial changes. *However, the sectoral differences of the changes in capital intensity reach also round fourfold of the average change characterizing the entire industry.* Similar results are obtained also for the industry of the GFR and Japan. However, the changes in the capital intensity of branches are only about twofold of the industrial average in both cases, i.e. changes by branches differ from each other and also from the industrial average only to a smaller extent than in the Hungarian industry.

These results draw attention to the fact that the capital intensity of the industry changing in a relatively narrow interval may hide considerable sectoral changes. The deviations may be attributed first of all to sectoral particularities, since the products manufactured in the individual branches and the technologies applied may considerably differ from each other. All this considerably influences the possibilities of changes in capital intensity. The smaller differences characterizing the industry of the GFR and Japan may be explained by the fact that *the flow of capital following the fluctuations relatively rapidly renders possible deviations in the changes of capital intensity, indicating returns only within relatively narrow limits.* In connection with these changes two further questions had to be answered. Firstly, we analyzed the tendencies prevailing in the level of sectoral capital intensities, i.e. whether the differences in sectoral levels had changed. Then we examined the effect of the changes in the sectoral structure on the capital intensity of the industry.

The level of sectoral capital intensity indicators diminished in the majority of branches. Computation of dispersion made on the basis of the absolute values of the indicator shows that the decrease of average industrial capital intensity took place with an increase of the variance (as compared to the average). The variance related to the average was 87 per cent in 1950 and 97 per cent 1970. This means that the differences previously existing in the level of capital intensity among the individual

Table 2

Dispersion of sectoral growth rates of the stock of fixed assets, output and capital intensity in the Hungarian industry between 1950 and 1970
(percentages)

Factors	Standard deviation*	Variance**
Stock of fixed assets	3.27	43
Output	3.38	42
Capital intensity	2.39	398

* The computations of dispersion were made on the basis of effective growth rates characteristic of the entire industry, neglecting the weight of the individual branches

** Variance $= \frac{\text{standard deviation}}{\text{industrial average}} \times 100$

Source: Statistical Yearbooks of the Central Statistical Office

branches increased despite the general decreasing tendency. The changes characteristic of the first and second half of the period examined are very deviating. Between 1950 and 1960 the variance practically did not change, but it considerably increased after 1960. The same refers to the rate of changes, too. Computations show that the sectoral differences in the growth rates of capital intensity amounted to about one and a half times of the average growth rate in industry between 1950 and 1960, while between 1960 and 1970 to somewhat more than fivefold.

These indicate that within the whole period two sub-periods showing deviating development tendencies can be distinguished and that a strong differentiation took place in the level of (fixed) capital intensity of the individual branches. The former will be discussed later on. Concerning the latter statement, a tendency of opposite sign should be mentioned in the manufacturing industries of the United States, Japan and the GFR, respectively. In these countries the decreasing difference among sectoral capital intensities is a long-term tendency. In the manufacturing industry of the United States a levelling process had been steadily going on from 1890 on until the last year of computations, i.e. 1948. (For lack of data later changes could not be evaluated.) However, it may be assumed that this basic tendency has asserted itself ever since then, because in the manufacturing industry of the two other countries with similar socio-economic systems computations referring to later years indicate a tendency of levelling.

This levelling cannot be observed in the whole industry of the GFR and Japan, indeed, even a differentiation of sectoral levels is characteristic in these countries just as in the Hungarian industry. Results of our investigations on the branches of the Hungarian manufacturing industry also indicate an increase of sectoral differences.*

Effect of changes in the sectoral structure of the industry

The effect of changes in the sectoral structure on the average capital intensity is of special interest. To examine this, computations were made on the basis of indices measuring the changes in the sectoral structure of 1950 (stock of fixed assets, output) for 1950 and 1970. The results are presented in Table 3.

In the first line of the table the index number of the actual change in (fixed) capital intensity can be found. The index to be found in the second line indicates how capital intensity would have changed if the sectoral distribution of the stock of fixed assets had been the same in 1970 as in 1950. The third index expresses how capital intensity would have changed if the sectoral structure of output had been the same in 1970 as in 1950. Finally, the index in the last line was determined by taking the sectoral structures of both factors as unchanged.

According to the indices in the first and last lines of the table, the effect of the changes in sectoral structure was insignificant; however, *it restrained the decrease of the capital intensity of the industry*. An evidence for this is the value of the index

* The dispersion of (fixed) capital intensity expressed relative to the average industrial level (that is, the variance) was 45 per cent in the manufacturing branches in 1950, while at the end of the period, in 1970, it was 48 per cent.

Table 3

Changes in capital intensity in the Hungarian industry, taking into consideration actual and unchanged sectoral structures (percentages)

Contents of the index number	Capital intensity in 1970 (1950 = 100)
A_t/T_t	88
A_t/T_t	77
A_t/T_v	98
A_v/T_v	86

A = gross value of the stock of fixed assets;
T = value of output;
t = index number computed on the basis of the actual sectoral structure;
v = index number computed on the basis of unchanged sectoral structure
Source: Statistical Yearbooks of the Hungarian Central Statistical Office

A_vT_v, which is smaller than that of the actual change, i.e. the index A_t/T_t. However, the two other indices differ from the index of actual change to a much greater extent, the effect of the change in the distribution of the stock of fixed assets and of production among the individual branches is already more significant if taken separately, and an effect of opposite direction is connected with the structural changes of the two factors.

According to the variants in lines 1 and 2, respectively, the index A_v/T_t is smaller than A_t/T_t characterizing the actual change in fixed assets intensity. With an unchanged sectoral distribution of the stock of fixed assets capital intensity would decrease to a greater extent than actually. *It follows that the change in the sectoral distribution of the stock of fixed assets increased the capital intensity of the industry and thus it restrained in industry as a whole, assertion of the tendency of diminishing capital intensity in the individual branches.* This is possible only if the proportion of the fixed assets of the branches with increasing capital intensity becomes ever greater within the stock of fixed assets of the industry. And really, these branches,* disposed of 29 per cent of the stock of industrial fixed assets in 1950, while their share amounted already to 44 per cent in 1970.

On the other hand, the changes in the sectoral structure of production had an opposite effect. Namely, the share of branches with increasing capital intensity fell from 48 per cent in 1950 to 36 per cent by 1970. Otherwise, this is indicated also by the value of the index A_t/T_v which is greater than that of the index A_t/T_t expressing the changes in the actual capital intensity. Therefore, if the sectoral structure of production had not changed, the capital intensity of the industry would have increased. The effect resulting from changes in the sectoral structure of production may be evaluated in its totality as favourable from the point of view of capital intensity, since it promoted its decrease.

The changes discussed almost neutralized each other, thus after all, they worked somewhat against the decrease of fixed capital intensity.

* Mining, metallurgy, building-material industry, chemical industry

Table 4

Changes in the proportion of industrial branches with capital intensity deviating from the average

Sectoral capital intensity as compared to the industrial average	1950		1970		1950	1970
	Proportion of		Proportion of		Relative level of capital intensity	
	the stock of fixed assets	production	the stock of fixed assets	production		
Higher	33	23	58	42	1.43	1.38
Lower	67	77	42	58	0.87	0.72
Total	100	100	100	100	1.00	1.00

Source: Statistical Yearbooks of the Hungarian Central Statistical Office

Similar results can be obtained also by other approaches. For this, it should be examined how the proportion of branches with higher and lower capital intensity than the average changed within the sectoral structure.

According to the data of Table 4, the proportion of branches with higher than average capital intensity increased also within the entire production. This, naturally, means a change working against the decrease of average capital intensity. It must be noted that an increase in the proportion of branches with higher than average capital intensity impeded the decrease of capital intensity of the industry only to a smaller extent than could be concluded from these figures. Capital intensity decreased also in these branches, even if to a smaller extent than in others. Thus, after all, the shift of proportions indicated in the table restrained the decrease of (fixed) capital intensity.

The results concerning the effect of changes in sectoral structure are not unambiguous in the case of other countries, either. Kuznets [5] – as he points out in the introduction to his study – comes to the conclusion: in the manufacturing industry of the United States, in the period of the long-term increase of capital intensity (1880–1919) only about 15–17 per cent of the increase could be attributed to structural changes. After *the beginning of the long-term decrease of capital intensity – according to data on the years 1919–1937 – the shift in sectoral proportions worked already completely against the decrease of capital intensity.* One of our previous investigations [8] showed for the GFR that the changes in the sectoral distribution of the industrial production between 1950 and 1966 had worked towards an increase of the capital intensity of the industry. However, this was fully compensated by the shifts in the sectoral distribution of the *stock of fixed assets.* What is more, these shifts even promoted the decrease of capital intensity to some extent. According to our investigations on the industry of Japan, the effect of changes in sectoral structure is similar to that of the changes observed in the Hungarian industry. Changes in the sectoral proportions of the stock of fixed assets restrained the decrease of capital intensity in the industry of Japan, too. On the other hand, the shifts in the structure of production worked in the direction of a decrease.

Role of the sources of growth

In the development of capital intensity the various factors of production as well as their changes have an important role. Similarly to the industry of the FRG and Japan, in the long run there are close connections between output and the stock of fixed assets, output and the staff employed as well as between output and changes in productivity also in the Hungarian industry. However, in Hungary there is no relationship between the changes in output and capital intensity, while in the case of Japan and the FRG this relationship is also significant.

In Hungary the changes in the stock of fixed assets are very closely connected with the changes in the capital/labour ratio and, to a somewhat smaller extent, with that in employment. This somewhat deviates from the connections observed in the industry of the FRG and Japan, where the closeness of the connections is just the reverse, but both there and here the sign is positive. One of the most interesting deviations concerning the industry of the three countries is that, while in the West-German industry the long-term changes in productivity and as well as in productivity and capital intensity, respectively, are in very close correlation with each other, in the Hungarian and Japanese industry they are not.

Analyzing the sources of growth of the Hungarian national economy, Zoltán *Román* [9] deals also with the sources of the increase of industrial production and productivity in detail. His computations starting from a little different data base seem to confirm what has been said in the foregoing. Utilizing his method*, Mrs. *Budavári* [10] made similar analyses for the Hungarian and West-German industries. Relying on the data of these studies, the results of the computations on the sources

* The method is based on the application of the so-called total productivity index. This differs from the usual indices of labour productivity in that not only the labour utilized but also the weighted sum of the data characterizing the changes in labour and capital (or stock of fixed assets) are included in its denominator. *This latter measures the changes in total inputs.* (The weighting may be done in various ways. For example, the author of [9] and [10] used the proportion of wages plus the taxes on wages to the charges on fixed assets as weights.) Thus, the denomination "total productivity index" is inexact, since the material inputs are not taken into consideration. Only a few modest attempts have been made up to now to take them also into account. *After all, the index of total productivity expresses the changes in the efficiency of production that cannot be attributed to the increase or decrease of the quantity of total inputs (labour and fixed assets).* Therefore, the total productivity index is often used also for measuring the effect of technical progress in investigations at macro level. The importance of the total productivity index lies, beside the above, in that by linking labour inputs with the inputs of materialized labour (here represented by fixed assets), it allows to distinguish the components of the increase of production and labour productivity. On the basis of Zoltán *Román*'s method the sources of the changes in production and labour productivity are determined in our article as follows:

1. Production = labour input + labour productivity.

2. Labour productivity = substitution + total productivity. (Substitution measures the effect of the substitution of labour by materialized labour, i.e. fixed assets, which can be determined as follows: substitution = total inputs − labour inputs.)

3. Production = total inputs + total productivity. The total inputs characterize the effect resulting from the changes in the quantity of live and materialized labour inputs, respectively, i.e. they represent the extensive sources of growth.

4. Production = labour inputs + substitution + total productivity. (This derives from the combination of equations 1 and 2.)

Table 5

Sources of the increase of production and labour productivity in the Hungarian industry (percentages)

Factors	1950—60	1960—70	1950—70
1. Production	100	100	100
Labour inputs*	56	24	43
Labour productivity	44	76	57
2. Labour productivity	100	100	100
Substitution	20	45	32
Total productivity	80	55	68
3. Production	100	100	100
Total inputs	65	58	61
Total productivity	35	42	39
4. Production	100	100	100
Labour inputs	56	24	43
Substitution	9	34	18
Total productivity	35	42	39

* Number of hours worked

of the increase of production and labour productivity are summarized in Table 5.

When comparing the characteristic data of the Hungarian and West-German industries, some specific differences can be found between the two countries. (The data referring to the West-German industry can be found in [10]. The most relevant difference is *that in the Hungarian industry the growing quantity of inputs contributed to the increase of production to a greater extent than in the FRG*, implying that the extensive sources had a greater part in the development of Hungarian industry. Another deviation can be observed in the substitution of labour. Namely, according to the data, the contribution of substitution to production is in all cases greater in the Hungarian industry.

According to our investigations the, smaller contribution of total productivity not "connected" with assets to production observable in the Hungarian industry means at the same time that for increasing production extensive ways had to be followed and this, after all, limited the possibilities of diminishing capital intensity. The substitution of labour positively influenced the increase of production and labour productivity in the industry of both countries. Substitution contributed to the increase of labour productivity in the Hungarian industry to an extent by about 70 per cent greater, while to the increase of output only by 50 per cent greater than in the West-German industry. The two data also indicate that the substitution promoting an increase of labour productivity to a greater extent in Hungary could be realized in the increase of output only to a smaller extent. The reason for this is presumably partly the lower efficiency of the substitution and partly that substitution of labour of increasing productivity raises ever higher requirements towards substitution itself. It cannot be decided on the basis of this investigation which of the two effects had a more important role. It is a fact that these two factors are also interrelated. The answer should be searched by further investigations and presumably by applying other methods.

The structure of the sources of the increase of output and productivity is more unfavourable also as regards the whole of the Hungarian industry than in the industry of the FRG. This is shown by the computations made, using the data of the sources of Table 5. The results show what expansion of the sources examined would have been required for the growth rate of Hungarian industrial production actually achieved if the contribution of the sources had been of the same structure as in the West-German industry. (See Table 6).

The structure of the sources of production increase is thus more favourable in the West-German industry. Namely, if the contribution of the individual sources to the increase of production had been the same in the Hungarian industry as in the industry of the FRG, considerable savings could have been realized in input. As a result, capital intensity could have decreased five times as rapidly as in reality. However, for this labour productivity and total productivity ought to have increased more rapidly.

The comparison emphasizes the importance of the requirement that in raising production the role of intensive sources has to be increased instead of the extensive ones. For this, not necessarily new machines and equipments should be applied, but much more a fuller utilization of the available stock of fixed assets is required.

As has already been referred to in the foregoing, capital intensity developed differently between 1950 and 1960, and 1960 and 1970, respectively. What were the main reasons for this from the aspect of the structure of the sources of growth? In the two periods the structure of these sources considerably deviated from each other. Between 1950 and 1960 the increase of production could be attributed mostly to the growing quantity of inputs. Between 1960 and 1970 the importance of this factor diminished and growth became more intensive. The role of the substitution of labour in the improvement of labour productivity rocketed, *but the importance of the improvement of total productivity diminished.* The contribution of substitution to the growth of production also increased, and at a faster rate than the increase of labour productivity at that.

Table 6

Sources of the realized growth rate of production in the Hungarian industry, on the basis of the structure of the sources of growth characteristic of the West-German industry, between 1950 and 1970
(percentages)

Factors	Yearly average growth rates		Difference
	actual	computed	
Output	8.0	8.0	—
Labour inputs	3.4	2.9	−0.5
Stock of fixed assets	7.6	6.0	−1.6
Total inputs	4.8	3.9	−0,9
Labour productivity	4.6	5.1	0.5
Substitution	1.4	1.0	−0.4
Total productivity	3.2	4.1	0.9
Capital intensity	−0.4	−2.0	−1.6

Parallel with all these, the previous decreasing tendency of capital intensity disappeared and between 1960 and 1970 capital intensity increased. The structural changes of the sources of growth observed in the two periods, different from the point of view of the development of capital intensity, indicate the coming into prominence of the elements of a more intensive development. It seems that *the intensification taken in this sense took place in an ambiguous way. In the increase of production the contribution of extensive sources (total inputs) diminished, but parallel with this also the growth rate of production decreased.* However, the slower growth of total inputs could not be compensated by an *increase of total productivity*, what is more, this latter *slowed down* itself.

The results of the comparison with the GFR still show that the prevalence of intensive sources of growth sooner or later will have its positive effects also on the changes in capital intensity. However, for this such measures are required – as has already been emphasized when discussing the results of the comparison, which accelerate the increase of labour productivity by a better utilization of the possibilities not connected with material assets. On the other hand, labour should not simply be substituted, but substituted in such a way that efficiency increases. This will also result in a relative saving of assets.

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ИЗМЕНЕНИЕ ФОНДОЕМКОСТИ ПРОИЗВОДСТВА В ВЕНГЕРСКОЙ ПРОМЫШЛЕННОСТИ

Б. ВЕГШЭ

Автор анализирует динамику фондоемкости венгерской промышленности за минувшее два десятилетия. Он констатирует, что можно различить два периода с различными характерными чертами. В период 1950—1960 гг. фондоемкость промышленности постоянно уменьшалась, в 1960—1970 гг. же — увеличилась. В связи с этим автор анализирует и динамику фондоемкости промышленности в некоторых развитых капиталистических странах — ФРГ,

Японии и США. Он приходит к заключению, что в динамике фондоемкости большую роль играют 1. рост доли более фондоемких отраслей в отраслевой структуре промышленности и 2. изменения производственной структуры.

Интересно отметить, что увеличение издержек, замена живого труда прошлым задерживали рост фондоемкости венгерской промышленности, однако вытекающее из этого увеличение производительности труда было более низким, чем в рассматриваемых капиталистических странах. Автор подробно анализирует факторы, воздействующие на производительность, и пытается найти количественное выражение их воздействия на динамику фондоемкости. Он приходит к выводу, что рост фондоемкости можно эффективно компенсировать путем более эффективной замены живого труда прошлым, лучшего использования имеющихся средств.

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GY. PARÁNYI

ANALYSIS OF FACTORS INFLUENCING THE ORGANIZATION OF WORKING PLACES

The up-to-dateness of productive equipment and the workers' abilities would justify a higher productivity of labour than the present one. The author has done extensive research to reveal reserves and development potentials. In its framework he identified the factors influencing the efficiency of the functioning of the working place system, and the organization of working processes from technical, economic and ergonomic aspects. Having identified the factors, a complex method of investigation and analysis has been worked out and applied in practice. The article reports on the research work and the experience gained.

1. Purpose of the research project, initial theses

In recent years, parallel with the exhaustion of labour reserves, the problem of work organization has come to the foreground in Hungary.

In the first phase of the research carried out with a view to promote work organization, the place of work organization, its relation to general organization, and the relations between optimum functioning of productive working places and the management and control system of enterprises are examined.

For establishing the tasks of work organization and the concept of organization, the enterprise activities were divided into two groups of processes, i.e. subsystems: a) processes determining the enterprise objectives and tasks, b) processes realizing the aims, i.e. creating the products. The analysis was concentrated on the latter group. Three lveels of organization tasks are distinguished: 1. inner system (working tool-object of labour – labour force), of the working place; 2. system of the supply relations (direct input–output) of the working place; 3. the chain of other material and intellectual processes necessary to supply the working place. The conditions of optimum functioning of the productive working places must be largely secured by the processes of the second and third levels; outside the inner system of the working place.

In the next phase of the research – the most important experiences of which will be reported herein later – an attempt was made to reveal and analyze the primary factors influencing the efficient and economic functioning of direct productive working places, the high-degree utilization of equipment in the technological sense and in time, the rational use of the workers' time and the working conditions. Our investigations covered both the efficiency-influencing factors which are characteristically *of the organization type*, and the deficiencies *to be traced back*

to causes other than organization but which became obvious in an "unorganized state" of the working places.

As the first practical aim the development of an explorative–analytical method was set, which would be suited for the enterprises' own use, and would help in a systematic foundation of the organization of productive work, and in a clearer definition of the causes of otherwise known negative phenomena, and of tasks to be done. The method proved further suitable for giving a picture of problems and interrelations in the fields concerned within the framework of an extensive investigation.

2. Some characteristics of the developed method

2.1 Complex consideration of the factors influencing organization

The main feature of the method is that it takes into consideration the factors influencing the organized activities of working places in a complex way and in their interaction. Organization factors have been grouped as follows:

a) the inner system of relations of the working place
   - construction of the working place, its operation conditions, and arrangement (six factors; e.g. tools to facilitate manual work, field of movement)
   - working conditions (four factors; e.g. lighting, quality of the floor)

b) outer supply relations of the working place
   - physical condition processes (five factors; e.g., disturbance in material supply, stoppage because of lack of auxiliary employees)
   - applied condition processes (nine factors; e.g., clarity of work prescriptions, co-ordination of dispatch)

c) human relations, characteristics of the management, the working group and workshop democracy (nine factors; e.g., consideration of expertise, atmosphere of the collective)

d) economic relations
   - economic relations of the workers (two factors; e.g. the qualitative and quantitative stimulating effect of norms, moral acknowledgement, labour intensity)
   - estimation of the reserves and of possibilities to increase productivity.

Selection of the factors, forty in our case, is not free from problems. Complexity requires, namely, their covering the technological, organizational, economic and sociological aspects, their concreteness, and their limited number. Their assessment should be unambiguous for those interviewed as well as from the aspect of measuring techniques, and they must not overlap. A further, as yet unsolved, problem is the weighting of factors of various nature and importance. On the one hand, the importance of a factor is not absolute; it depends on the whole working situation, on technology, on the traditions of the trade, and on the level of the other factors. On the other hand, however, after the deficiencies have been revealed, the tasks have to

be considered, selected and ordered when deciding on the measures. The method and experience of the dual qualification – according to level and importance – applied in the questionnaire method used to explore the situation, will be reverted to later.

2.2 Confrontation of different professional viewpoints

The classification and evaluation from various viewpoints of each factor in organization were facilitated by a simultaneous inclusion in the interviews of representatives of the three main occupational groups, as listed herein after, by a parallel asking for their opinion, and by a comparison of the interviews and opinions according to the following:

a) opinion of *workers* employed at direct productive working places about their own working place (participants were selected depending on the size and nature of the workshop, either all or a sample were interviewed);

b) opinion of the *leaders* (foremen, chief foremen, shop-managers) of the production unit concerned about the same factors in relation to the sections led by them;

c) opinion of the competent specialists of the *functional organs* (technologist entrusted with the section, calculator of norms, production manager, etc. – to be called functional director in the following) securing the working conditions of the production unit, who were drawn into the examination similarly to the leaders.

2.3 Combination of subjective and objective explorative and analytical techniques

To learn the state of affairs and to draw conclusions, it was thought equally important to rely both on *objective and subjective data.* The drawing of less contestable conclusions relies on objective and measurable grounds. Such data can be stated mainly for the temporal and technical factors of machine utilization, the rate of utilization of working hours, and for certain working conditions (e.g. noise, lighting).

Since the most important factor of the working place system is man, it is at least as important to know the workers' personal and subjective opinion about a number of non-measurable factors, such as the atmosphere at the working place, the opinion of those concerned about various things. This is important because their conduct and reaction to management are rooted in these opinions, and only in the second place in objective conditions. In the search for causes of deficiencies and in their examination it is more desirable to rely on objective data, though even in that phase such subjective procedures cannot be neglected as, e.g. interviews with the specialists concerned.

A complex consideration of factors influencing the organization of work requires explorative and analytical methods corresponding to the nature of the different factors. Thus, we aimed at developing such a method in which the results of investigations and analyses applied today in different partial fields in most cases separately – basically to labour problems (e.g., waste time studies), or in sociology (e.g., work

motivation), or in labour safety investigations (e.g., measurement of noise and lighting), in the development of working places (e.g., movement studies) – might be included into a coherent and complex system of conclusions. (It is to be noted that the above-said indicate rather the need. It seems that in practice the "subjective" procedure developed and applied serves mainly to explore sociological factors, while the essentially objective method used to measure the rate of working-time utilization, and other procedures – particularly those of instrumental measuring – are rarely applied.)

2.4 Organic linking of the explorative survey with the examination of causes

The main phases of all methods applied in practice for revealing reserves of organization are: exploration of the situation, analysis in several steps, drawing of conclusions and, relying on the latter, preparation of plans for action.

The basic condition of the success of the examination and of the "return" of time and cost spent on the explorative survey is an *organic* linking of the explorative survey with the examination of causes; this was, therefore, given particular emphasis in the method developed. Thus interpreted, the results of the explorative survey are in fact only phenomena, which at most indicate a state appearing on the surface, at the working place as a rule. E.g., difficulties in the material supply to a working place are among the causes of disorganized work. In fact, from the point of view of the examination, this is merely a phenomenon, whose original cause may be an insufficient mechanization of material transport, lack of discipline of those handling materials, or their shortage as well as other deficiencies in the organization of managing materials.

The aim of the explorative survey is therefore to reveal the factors most disturbing, subjectively or objectively, to work. The original causes must be arrived at by interpreting the problem at the working place as a signal and, starting from the working place, going back through the whole interrelated chain of processes to the original causes. The examination of causes is carried out, in consideration of the systems relationships, backwards in time and as a process.

Forms of the primary *information collection for the explorative survey:*

– *data collection by means of questionnaire* from the workers of the production units concerned in order to get acquainted with the subjective opinions regarding the various elements of work organization (the main point of the questionnaire consisted in a classification of the forty factors mentioned earlier according to level and importance);

– *registration of data of objective nature.* Such examination methods belong here which are applied in the techniques of work studies, e.g. for the development of working places on ergonomic basis. Such are, e.g. the surveys of working days by taking samples and other instrumental examinations to determine the structure of time utilization and waste times of workers, to analyse the technical utilization of machines, and to measure lighting, noise, etc. at the working place.

The *examinations of causes* are centred – relying on information received from the explorative survey – on problems appearing significant in a production

unit in local relation. Methods applied in the examination of causes are divided into two groups:

– the subjective method consists in carrying out individual and group *interviews* in one or several steps with the specialists potentially in causal relationship with the appearing difficulties;

– the objective method serves to go back to the original cause of a few arbitrarily chosen events by relying on written *documents.*

3. Some experiences of the experimental survey and examination of causes

In order to test the method and to get better acquainted with the development problems of work organization, an extensive investigation was carried out, drawing into it the organization experts of the enterprises concerned, in a field selected with a view to considerations of the experiment (i.e., not by starting from the requirements of representation).

Twenty enterprises from different industrial sectors were drawn into the examination: four metallurgical, thirteen machine-industrial (four manufacturing machines and equipment, six precision instruments and mass products, three heavy machinery), and three textile-industrial enterprises: among them large and small factory units, workshop sections and work groups of Budapest and country enterprises.

The survey through questionnaire covered 2556 workers of the enterprises employing a total of 40 000; of which 1919 were manual workers, 354 direct leaders (foremen, workshop managers), 283 functional directors (technologists, calculators of norms, dispatchers, etc.). The examinations of causes included about ninety case studies in the form of individual and group interviews and analyses based on documents.

The division according to industrial sectors and technology of the staff investigated is shown in Table 1. It must be stressed that the conclusions drawn for the three industrial sectors are not of equal weight: generalization is allowed to a certain extent only in the case of machine industry.* Nevertheless, it is doubtlessly remarkable that opinions of workers of factories belonging to widely different industrial sectors and technological branches practically agree on a number of factors influencing organization.

In the following, a few details will be given of the information obtained mainly from the statistical processing of the questionnaires.

3.1 Qualification of the level of organization factors

In processing the questionnaire data, a ranking of levels was set up for the forty factors based on the dissatisfaction rate of the answers.

The opinion of workers about the level of factors influencing organization was judged and ranked according to the percentage of those dissatisfied with the

* Since 72 per cent of those questioned were in machine industry, general conclusions represent mainly this sector.

Table 1

Survey of enterprises, technological branches and the staff drawn into the interview by questionnaire

Industrial branch / Enterprise, technological branch	*	Enterprises of: metallurgy	machine industry	textile industry	Total	
Number of enterprises		4	13	3		20
Number of production units (factories, workshops)		12	39	6		57
Technological branches, number of persons: Millwork	W	50			50	
	L	22			22	79
	F	7			7	
Smelting-works	W	84	31		115	
	L	16	4		20	149
	F	9	5		14	
Metal cutting works	W	21	612		733	
	L	2	113		115	964
	F	3	113		116	
Maintenance	W	76	101		177	
	L	15	20		35	225
	F	4	9		13	
Tool-engineering	W	7	37		44	
	L	5	7		12	61
	F	0	5		5	
Assembly department	W		258		258	
	L		27		27	295
	F		10		10	
Carding	W			25	25	
	L			9	9	39
	F			5	5	
Ring spinning	W			124	124	
	L			19	19	149
	F			6	6	
Cloth printing	W			73	73	
	L			11	11	93
	F			9	9	
Cloth arranging	W			72	72	
	L			14	14	93
	F			7	7	
Other	W	20	258		248	
	L	11	59		70	409
	F	6	85		91	
Total, persons	W	258	1367	294	1919	
	L	71	230	53	354	2556
	F	29	227	27	283	
		358	1824	374	2556	

* The persons questioned: W = worker; L = direct leader; F = functional director

factor in question. In the questionnaire the ranking was done from 1 to 5 (as the Hungarian school marks). A rating of 1 or 2 being below the medium level was interpreted to mean that those giving such marks were dissatisfied with the existing conditions. The ranking was set up by the dissatisfaction rate calculated from the sum of the 1+2 marks.** (Deliberately, not the average of all the marks was taken for basis, in which good and bad marks may balance each other; the starting point was that a factor with which, e.g. one-third of the workers is dissatisfied must be dealt with even if others are satisfied with the same.)

In *columns a–d* of Table 2 the factors are shown whose level is among the first twelve in the "dissatisfaction" ranking given by the workers in the whole of the examination or in one of the three industrial branches. With a view to comparison, if the factor in question was ranked lower than the 12th position in another sector, that rank is also indicated.*

In *columns e–g* the deviation of each sector from the overall ranking chosen for basis, i.e. the difference in rank of each factor is shown.

It is to be seen in the Table that there are altogether 17 factors whose level calls for more or less severe criticism in all the sectors: 21–61 per cent of the workers affected *were dissatisfied with them.*

It is natural that the demand for a *higher financial acknowledgement above wages* should come at the first place, particularly, if it is considered that the *quantitative and qualitative stimulating effect of norms* is not held satisfactory either. The negative opinion about *moral acknowledgement* is, however, thought-provoking.

It is remarkable that direct working conditions: *temperature, purity of air, noise* take second and third place in the criticism. It is conspicuous that a factor thought less important in itself: *the floor of the workplace* received a "high" rank in each industrial sector.

It is interesting, how factors getting the last six ranks, i.e. the least problematic ones, agree in spite of the different industrial sectors; in the three industrial sectors nine factors take all the last six places. Clearly, the fewest objections were raised against factors as *cessation of work because of lack of energy, the possibility of beginning to work at the start of the shift and human relations with the direct leader.* The dissatisfaction rate remained below 10 per cent also with respect to the factors of *work allocation according to the potentials of the machine, and job-satisfaction.*

** The interrelation of the level tasks and the dissatisfaction rates belonging to them is the following:

Rank	Percentage of those dissatisfied (grand total)	Rank	Percentage of those dissatisfied (grand total)
1	53.4	20	23.2
5	39.7	30	16.6
10	31.0	40	2.9
15	25.8		

* Without comment the given rank always refers to the total number of workers of the three sectors.

Table 2

Ranking by level of factors influencing the organization of work

	Mark	Factor denomination	Rank of the factor (w)						
			Grand total	Machine industrial	Metal-lurgical	Textile industrial	Difference from "a" in ranking		
				production units			b	c	d
			a	b	c	d	e	f	g
Factors ranked as of the lowest level	35	Allocation above wages	1	1	3	3	0	+ 2	+ 2
	8	Climatic conditions of the working place	2	2	2	1	0	0	− 1
	10	Noise level of the working place	3	4	1	8	+1	− 2	+ 5
	36	Moral acknowledgement	4	3	7	9	−1	+ 3	+ 5
	6	Handling of materials	5	5	6	11	0	+ 1	+ 6
	11	Floor of the workshop	6	8	4	6	+2	− 2	0
	32	Activity at production meetings	7	6	17	10	−1	+10	+ 3
	20	Cessation of work because of machine failure	8	12	10	5	+4	+ 2	− 3
	34	Quantitative stimulating effect of norms	9	7	22	15	−2	+13	+ 6
	29	Leaders' measure to facilitate work	10	11	18	4	+1	+ 3	− 6
	40	Labour intensity	11	14	9	2	+3	− 2	− 9
	23	Organizational solution of supply with tools	12	9	11	16	−3	− 1	+ 4
	33	Quantitative stimulating effect of norms	13	10	12	13	−3	− 1	0
	7	Field of movement at the working place	14	13	5	17	−1	− 9	
	18	Cessation of work because of lack of auxiliary	15	21	14	12	+6	− 1	− 3
	14	Workability of materials	17	23	24	7	+6	+ 7	−10
	9	Lighting of the working place	20	20	8	26	0	−12	+ 6

3.2 Ranking of the development of organization factors by importance

In the last question *of the questionnaire asking for a ranking by importance of the problems waiting for solution*, organization factors were once more listed, of which three had to be indicated by those interviewed: as to be first solved and improved. The answers were ranked according to the number of votes given for each factor.*

Table 3 shows the factors taking the first 12 places in the order of importance of a solution in the opinion of workers of various industrial sectors.

As can be read from the Table, the rank of the first five factors roughly agrees in all three sectors. It is interesting how much the judgement of the 6th factor: *smoothness of work-allocation* differs in the three sectors. Although the order of the sectors is logical in consideration of technological characteristics, it proves convincingly the necessity of avoiding stereotypes in development directives. This factor, of particular importance in machine industry because of the lower degree of mass production and because of organization deficiencies, is hardly considered in other branches in which quite different factors obtained an emphasis. It is, at the same time, worth reflecting that, with the exception of a few factors characteristically related to the technology of an industrial branch or a locality, such as *workability of materials* or *atmosphere of the collective at the working place*, there is hardly a difference in ranking between the industrial branches. This indicates the altogether significant character of opinions formed about the importance of improving organization factors.

On reviewing the factors placed low in the ranking, i.e. those judged less important for improvement, the statement can be made that, while agreement is near to perfect with regard to factors attaining the highest *level*, there is no unanimity with regard to *importance*, except for the factors: *cessation of work because of lack of energy* and *labour intensity* seen as "presenting no problems".

The larger number of investigations in the machine industry allowed *processing in a breakdown by three subsectors:*
I. manufacture of machines and equipment, II. manufacture of precision instruments and mass products, III. production units for heavy industrial machines. The factors taking the first five places according to importance in the three subsectors are shown in Table 4. This composition reflects what the workers hold for most important in

* The relation between the rank of importance and the ratio of those ranking the factor in question among the most important ones is the following: (36 factors were ranked from this aspect)

Rank	Percentage of those giving the rank (grand total)	Rank	Percentage of those giving the rank (grand total)
1	31.2	20	5.7
5	15.3	30	2.4
10	9.6	36	0.3
15	7.5		

Table 3

Ranking by importance of factors infuencing organization of work

Mark		Factor denomination	Rank of the factor w)						
			Grand total	Machine industrial	Metal-lurgical	Textile industrial	Difference from "a" in ranking		
				production units			b	c	d
			a	b	c	d	e	f	g
most important	35	Financial acknowledgement	1	1	3	3	0	+ 2	+ 2
	8	Climatic conditions of the working place	2	2	4	1	0	+ 2	− 1
	10	Noise level of the working place	3	3	1	4	0	− 2	+ 1
	5	Means to facilitate manual work	4	5	2	2	+1	− 2	− 2
	6	Handling of materials	5	6	7	5−6	+1	+ 2	0 + 1
	26	Smoothness of supply with work	6	4	25−27	14	−2	−19+21	+ 8
	9	Lighting of the working place	7	7−8	5	10−11	0+1	− 2	+ 3+ 4
	7	Field of movement at the working place	8−9	10−11	6	12−13	+1+3	− 2−3	+ 3+ 5
	37	Adequateness of the form of wage	8−9	7−8	9−10	8	0−2	0+2	0− 1
	36	Moral acknowledgement	10	10−11	12−13	12−13	0+1	+ 2+ 3	2 + 3 +

Factors ranked as								
16	Cessation of work because of disturbances in material supply	11	9	16–17	16	−2	+ 5+ 6	+ 5
14	Workability of materials	12	13–14	20–21	5– 6	+1+2	+ 8+ 9	− 7− 6
11	Floor of the workshop	13	16	8	7	+3	− 5	− 6
2	Work supply to suit potentialities of the machine	14–15	15	9–10	17–19	0–1	− 6	+ 5+ 8
23	Organizational solution of supply with tools	14–15	12	11	20–22	−2–3	− 3− 4	+ 5+ 8
27	Atmosphere of the collective at the working place	16	13–14	28–29	10–11	−3−2	+12+13	− 6− 5
20	Cessation of work because of machine failure	17	19–20	12–13	15	+2+3	− 5− 4	− 2
18	Cessation of work because of lack of auxiliary workers	23–24	28–31	28–29	9	+4+8	+ 4+ 6	−14−15

Table 4

Factors judged as most important in the three subsectors of machine industry from the viewpoint of improvement

Gradation	I. Machines, equipment	II. Precision instruments, mass products	III. Heavy machines
1	35. Financial acknowledgement	35. Financial acknowledgement	5. Means to facilitate manual work
2	8. Climatic conditions of the working place	10. Noise level of the working place	9. Lighting of the working place
3	6. Handling of materials	8. Climatic conditions of the working place	8. Climatic conditions of the working place
4	5. Means to facilitate manual work	26. Smoothness of supply with work	35. Financial acknowledgement
5	10. Noise level of the working place	5. Means to facilitate manual work	10. Noise level of the working place

different work processes. E.g., in the second group: manufacturing of precision instruments and mass products, the *noise level* (2nd place!), not satisfactory *climatic conditions* (3rd place) and deficiencies in the *provision with work* are judged as particularly disturbing. In the third group: manufacturing of heavy industrial machines, the factors of *easing manual labour*, *lighting*, and *climatic conditions* must be mentioned. In the 1st group: manufacturing of machines and equipment, it is the factors of *material handling* and the *easing of manual labour* that are given particular stress, and improvement of the *climatic conditions of the working place* is at the head of the list also here.

Without a more thorough analysis, only knowing the industrial sector in question, the answer comes by itself: in the 2nd group the fine work of putting together precision instruments requires quiet, and the making of mass products requires smooth supply. In the 3rd group,i.e. in the manufacturing of heavy industrial machines, the handling of large weights is necessarily mechanized, while means to ease manual labour, i.e. small machines, are presumably not available in the wanted measure (in this subsector the assembling of objects fixed to a place is particularly in need of small machines). It is generally characteristic of the buildings of heavy-industrial factories that assembly halls are too large and not lit satisfactorily. In the manufacturing of machines and equipment of medium size of the 1st group it is the large number of loads nearing the limit of manual handling, and the heterogeneous technological orders that raise an increased demand for a better organization of material handling.

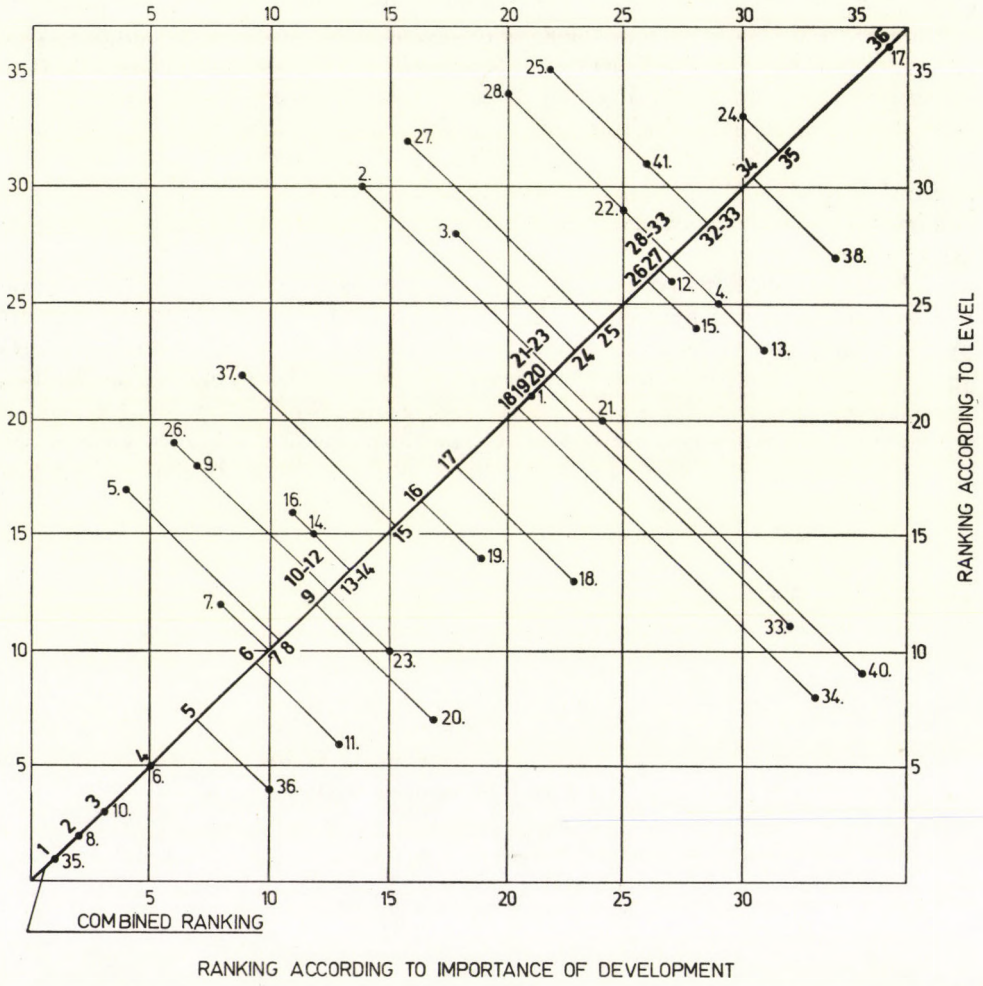
The foregoing analyses taken at random serve only to illustrate the fact that the opinion of the workers directly concerned – the sufferers of disorganization – is on the whole touching on the essential, it deserves by all means attention, and it is only through differentiated analyses that value judgements and measures "valid everywhere" and not concrete enough anywhere, can be avoided.

3.3 Interrelation between the level and importance of each factor

Judgements formed on the level of factors influencing organization and on the importance of their development differ more or less considerably in numerous cases. The explanation is clear: there are difficulties that cause dissatisfaction but are not judged as of primary importance as regards solution. At the same time, other factors – even though their level is held comparatively satisfactory – are thought to be of primary importance from the viewpoint of improvement. Since the two aspects of each factor must be synthetized in practice, a combined classification was also necessary.

For the workers' data of the full investigation and for all the factors, Table 5 shows, in a graphic form, the combined ranking based on the dissatisfaction rate and the ranking by importance.

The figure supplies information also beyond a mechanical development of the combined ranking. It can be seen that with the factors situated on the diagonal of the square network, the evaluation according to level and importance (the rank) is identical. In the field above the diagonal the need for improvement is of higher



importance than the extent of dissatisfaction with the existing level. As for the factors placed below the diagonal, those questioned are dissatisfied with the level, but do not think improvement as important.

3.4 A few characteristics of the evaluation according to main occupational groups

With regard to the level of each factor the answers of workers, leaders and functional directors can be compared and thus the harmony or deviation in the judgement of the situation by the three main occupational groups representing different viewpoints owing to their different positions in production can be analysed. The deviation may be objectively the result of differences in knowledge and in range of

vision, and also, the cause may be a wrong and inadequate knowledge of the situation: "false consciousness".*

Table 6 presents a classification of the level of factors showing the widest differences. Four factors representing widely deviating opinions (marked by 35, 36, 6, 32) are identical with factors judged lowest by the workers. In other words, this means that the opinion of the categories is not at all uniform about the factors judged lowest by workers.

The answers show that leaders in all three industrial branches have a much better opinion about the *quantitative stimulating effect of norms* than workers.

The level of the use of *moral acknowledgement* is held better by leaders everywhere (!), while functional directors judge it in the same way as workers – except in textile industry.

Remarkably, the deficiencies in *supplying work suiting the machine potentials* were voiced more frequently by the workers, although first of all the leading specialists are expected to know the extent of underutilization; their opinion – not critical enough – may be, however, traced back to the position held.

Perhaps the largest difference, characteristic of all three branches, is in the judgement of the factor: *activity at production meetings*, which is thought to be much better solved by the leaders; the opinion of the functional directors is somewhat nearer to that of the workers.

In judging the importance of improving the factors, the differences in the opinions of the main occupational groups are much larger: in a number of cases they reach or surpass four-fifths of the rankings.

A few fectors whose judgement is considerably different by workers and leader-directors, particularly functional directors: the factor of *smooth work supply* was ranked much higher by leaders-directors, while the improvement of the *lighting of the working place, the form of wage-payment, moral acknowledgement and the floor of the workshop* are held much more important by the workers. The same goes for the factor: *supply with work suiting the machine potentials* – except in textile industry – though the improvement of this factor obviously does not depend primarily on workers, and its importance ought to be felt first of all by the leaders and directors.

The most characteristic feature of the situation is, however, the dispersion of opinions in all directions and in a wide zone. Further analyses would be necessary to reveal to what extent the existing differences in opinion are natural and originate in the potential knowledge of the situation of those questioned, in the leader-directors' larger capacity to give a comprehensive view and in points of view of enterprise management, or how much they reflect the ignorance of leaders and directors about the area under their direction, about objective conditions and about human problems, or their wrong evaluation, maybe indifference. The fact itself, however, that in the judgement of nearly all factors there is more or less difference between the opinion of workers and that of persons directly or indirectly determining working conditions, proves convincingly that the acquaintance with each other's opinion, the clarification of differences, and corresponding measures or providing information constitute

* Of course, the cause may be also the composition of the sample selected; but, since those questioned from the two directing categories were always persons in direct relationship with workers, such distortion is practically negligible.

Table 6

A few factors evaluated as of different level by the main occupational groups

Mark	Factor denomination	Grand total, Rank (w)	Difference in rank from the opinion of workers in the same branch							
			Machine-industrial production units		Metallurgical production units		Textile industrial production units		Extreme value	
			L	F	L	F	L	F	L	F
35	Financial acknowledgement above wages	1	+ 1	+ 1	+ 9	+26	+ 4	+21	9	26
36	Moral acknowledgement	4	+ 4	0	+11	0	+ 7	+19	11	19
6	Handling of materials	5	− 4	− 4	+ 1	+13	− 9	− 9	10	22
32	Activity at production meetings	7	+27	+11	+23	+ 9	+14	+ 2	27	11
34	Qualitative stimulating effect of norms	9	− 3	− 3	−12	+12	− 9	−11	12	23
40	Labour intensity	11	+ 3	+23	− 3	− 4	+ 7	+ 5	10	27
33	Quantitative effect of norms	13	+10	+14	+14	+ 4	+14	− 2	14	16
2	Supply with work to suit machine potentials	34	− 3	− 1	− 5	+ 5	− 6	−17	6	22

W = worker; L = direct leader; F = functional director

a basic condition for advancement in work organization and, in a larger field, in factory democracy.

According to the *combined ranking*, there are five such organization factors which belong to the most important ten factors in the judgement of all three main occupational groups. They are the following:

Factors	Combined rank given by		
	workers	leaders	functional directors
Financial acknowledgement	1	3	2
Climatic conditions of the working place	2	2	3
Noise level of the working place	3	4	5
Material handling at the working place	4	1	1
Factors facilitating manual work	6	6	8

4. A few general conclusions

1. The differentiated statistical processing of informations proves that the most timely tasks of a better organization of productive work have a definite aspect; there are numerous common problems generally conspicuous in working places belonging to widely different industrial sectors, technological branches, big and small plants.

2. Workers are interested mainly in their own work, working place, working conditions and environment. These are the factors about which they have formed an opinion, which is – exactly according to statistical data and the group interviews made in the course of examining the causes – a well-grounded opinion. Therefore, completed with the examinations of causes, it may serve as a basis for:

a) a continuous development; a basis for increasing productivity within the framework of technological development and organization having rationalizing character (incl. improvement of quality, reduction of input), for making work easier and for raising it to a higher standard;
b) a genuine promotion of factory democracy free from empty slogans;*
c) a mutual acquaintance with the opinions of leaders, specialists of the functional organs of the trade and of workers, and the development of a common viewpoint, i.e. a "collective enterprise viewpoint" by way of a common clarification of problems and solutions.

* Workers resisted to the interview only in the production units where a public opinion test had been carried out earlier, about the results and effects of which no information was given to those interested: "nothing happened afterwards."

Analysis of the dispersion of opinions among the main occupational groups shows that it is an important task to develop and make regular the communication between workers, leaders of the production field, and specialists of the functional directing organs.

3. According to the experience obtained in the examinations of causes, a correct exploration and the concrete and successful solution of problems are made possible by a thorough knowledge of local conditions and their many-sided weighting. Therefore, it is necessary and useful to study methodically and thoroughly factory reality, and to build upon it the short- and long-term plan of action regarding the organizational aspects of the various development branches.

Summing up the examination described and the experience obtained, the method presented seems to be one that may effectively promote work organization. The picture obtained from the examination carried out by this method, which may not be considered either as representative or having overall validity, and the few random conclusions call attention to a number of tasks as well as to the importance of further research regarding the method, the individual factors in organization and their interaction.

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АНАЛИЗ ФАКТОРОВ, ВЛИЯЮЩИХ НА ОРГАНИЗОВАННОСТЬ РАБОЧИХ МЕСТ

Д. ПАРАНИ

В Институте экономики промышленности Венгерской академии наук ведется изучение организованности труда, конкретнее, анализ факторов, влияющих на организованность рабочих мест, выпускающих продукцию. В статье излагаются основные черты разработанного в ходе исследования метода, возникающие в связи с его применением теоретико-методологические проблемы, а также опыт, полученный в ходе произведенных до сих пор обследований.

Некоторые характерные черты комплексного исследовательско-аналитического метода:

— комплексный учет технических, организационных, экономических и человеческих факторов, воздействующих на организованность деятельности на рабочем месте в разбивке на 40 так называемых факторов организованности;

— противопоставление различных должностей и профессиональных точек зрения, при одновременном выражении мнения рабочими, их непосредственными руководителями и работниками функциональных служб, обеспечивающих условия труда в данных цехах;

— комбинированное применение субъективных методов (например, вопросников, интервью) и объективных обследований (выборочные методы, обследования с помощью приборов);

— органическая увязка изучения положения и определения причин характерных недостатков (раскрытие наблюдаемых на рабочем месте проблем до первоначальных причин на основании опросов и документов).

С помощью метода было проведено обследование, охватившее 2600 работников, представляющих сорокотысячных персонал 20 предприятий машиностроительной, металлургической и текстильной промышленности. В ходе обследования опрошенные работники, в

частности, высказывали мнение об уровне отдельных факторов организованности деятельности на рабочих местах и, далее, произвели оценку значения факторов также с точки зрения дальнейшего развития. Рабочие расценивали, как самые отстающие и вместе с тем наиболее важные для дальнейшего развития факторы материального поощрения, климатических и шумовых условий на рабочем месте, внутризаводского транспорта сырья и материалов и морального поощрения. В то же время их руководители, видят по сравнению с рабочими в гораздо более благоприятном свете, например, положение с моральным поощрением и дают худшую оценку внутризаводскому транспорту. Проведенные анализы, в частности, указывают на ряд противоречий в связи с эффективностью нормирования труда, применением конкретных форм оплаты труда, интенсивностью труда и использованием оборудования, и обращают внимание на необходимость комплексного подхода к повышению организованности труда.

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EMPIRICAL EXAMINATION OF FACTORS INFLUENCING WORKERS' PERFORMANCES IN THE HUNGARIAN MACHINE-BUILDING INDUSTRY

An empirical survey carried out in five Hungarian machine-building enterprises investigated, how workers' performances are influenced by their individual endowments (age, qualification, experience in the trade and the enterprise, number of changes in jobs, family circumstances, domicile) on the one hand, and by enterprise conditions (nature of technology, standard of work organization, material and moral incentives, human relations, etc.) on the other hand. The study sums up the results and the most important conclusions.

Little practically utilisable information is available either in international or in Hungarian literature about the actual economic effect of factors influencing performance. The present empirical examination, therefore, set the aim to reveal the factors influencing the level and stability of performance, thereby to help in the creation of conditions conductive to better performance and to provide methodological guidance for further similar examinations.

The basis of the research was a survey covering about 1800 workers of the machine-building, metallurgical and textile industries working in fields partly with production norms and partly without production norms. In these examinations the starting point was a systems approach to factors influencing outputs. Various methods were used, and the roles of the individual as well as of the socio-economic environment were analysed in their mutual interrelations.

The following study reports on the main findings of the examination in the machine-building industry.

Factors examined

The examination covered 708 workers who were paid piece rates. The aim was to demonstrate a relationship between workers' average performance, its dispersion, and a few *individual* factors influencing output, as well as to reveal among the elements of the socio-economic environment the *enterprise and factory* conditions that cause characteristic differences among the average performances of workers in different factories and among the dispersion of performances.

Therefore, the enterprises and their workshops were selected so that their

variety should provide a possibility to reveal objective reasons hidden behind individual performances. The five enterprises selected and their twenty workshops had, beside common characteristics, a special feature each. This is because, in selecting the sample, it had to be kept in view that the effect of several factors was to be examined. Since the factors influencing performances are mutually interrelated, and there is a multiple correlation between them, workshops differing in one factor each can show the effect of the factor under examination more clearly.

From among the individual factors primarily those were analysed which are *numerically* expressible. They were the following in our examination:

age,
qualification,
trade (industrial) experience,
enterprise experience,
number of job-changes,
marital status,
number of children,
domicile.

Data for the examination were obtained from performance records serving as basis for wage-accounting, from the personal records of the enterprise, from individual labour documents, from foremen's qualifications of their staff, and from talks with leaders and selected workers.

In addition to the percentages expressing the quantitative characteristics of performances, we wanted to draw into the examination also some *qualitative* characteristic of performance. Such factors were considered as the skill of the worker, his reliability, conscientiousness, helpfulness; these all have a role in achieving higher performance, but they are not measurable in quantitative terms. These features were evaluated with the help of the foremen, using a three-degree scale, and answer was sought to the question about the relationship between those characteristics and performance. The foremen were also asked to divide the workers into three groups also according to their quantitative performance. In the first group were those whose performance was generally thought low, in the second group those with medium, and in the third group those with the best performance. The foremen's informations were compared with the actual performance data, which allowed to form an idea of the relationship between the two kinds of evaluation.

From among the *enterprise, i.e., factory conditions* influencing performance, the mass production character, the technological nature of the work process, the standard of plant and work organization, working conditions, incentives, the level of management, atmosphere of the work-place and human relations were analysed. The basis for the observation of factors influenced by the enterprise and factory was provided by case studies worked out by experts of the enterprises drawn into the examination, by visits to the factories and talks with works managers and the workers.

Method of examination

If all workers under examination do the same work in the same workshop of a factory and the conditions of their work do not change, the physical indicators allow a direct measurement of their performance. This simple possibility, however, usually allows the examination only of a small sample. The task becomes more complicated if the performances of workers doing different jobs within an enterprise with different technologies in different workshops are compared, or the performance levels of workers of different enterprises. This is because experience has shown that performance percentages available for this purpose do not give a realistic picture of the performances themselves.

The reason for this is that the norms set in different enterprises or within an enterprise for different technologies and work-processes are not identical: there are works and even trades paid "well" and others paid "badly". Therefore, different actual performances may lie behind identical values of performance percentages. Differences in performance are considerable also because of various objective conditions (e.g., the mass production character of manufacturing, mechanization, organization).

Therefore, a new method: analysis of the relative level of performance percentages was applied for the measurement and comparison of performances. Groups were established according to relative level by ranking individual performances according to workshops and technologies, then dividing them into three classes. The first included workers with low performance level, the second those with medium level and the third those with the highest level of performance.

Beside the division of workers according to performance classes, we also assigned a *point value* to each class, trying to find out the difference between each group of criteria.

Since our initial assumption was that performance percentages did not reflect reality, there was no quantitative method available for determining the point value of each performance class. The proportions among the average values of performance percentages according to classes could not be used for a starting-point, since neither of these proportions were likely to be realistic. Therefore, the classes were given arbitrary point values, so as to show a characteristic difference: 0.5 for the first, 1.0 for the second, and 1.5 for the third class. The distribution of workers according to performance classes tries to express the effect of each factor summarily, in consideration of the point values.

The examination of individual performances was complemented by observation of *fluctuations* in performance. Our hypothesis was that there existed an interrelation between performance level and stability of performance and that this interrelation was of varying intensity in the case of different individual characteristics. Relevant opinions vary in economic literature. According to some, fluctuation in performance is related exclusively to objective production conditions, while others attribute it to different labour intensities and pace of work. In this latter case, opinions differ further in whether it is the high or low performance level that is concomitant with greater stability. Several observations produced the results that dispersion of performances was larger in the case of low performance, since a low performance is in most cases not the result of a settled pace of work, while other examinations showed exactly that it is high performance that works against stability.

For the demonstration of fluctuation in individual workers' performances the dispersion of the monthly average performances around the yearly average was observed, and the question was examined whether there was a relationship between the distribution of workers according to factors and the extent of the standard deviation. The fluctuation of daily outputs was not available, owing to the accounting system of enterprises. Beyond this technical difficulty, it was thought that daily fluctuations in performance were more influenced by exterior conditions independent of the worker, while over a month the fluctuations evened out to a certain extent, thus reflecting really individual differences.

Effect of individual factors

Age

Examinations proved about the effect of ageing that the weakening of physical condition and productivity is a slow process and it is compensated by the development of several such abilities as finally hinder the fall in performance. Although reserve abilities (physical and mental "capacity" not utilized) usually lessen with age, this is made up for by experience, professional conscience and routine, stability in the job, and efforts at safety in working. This phenomenon was found in the case of the workers under examination.

The tendency shown by the Table was further supported by the fact that in the 1st class the average age was 33.6 years, in the 2nd 36.1 years, and in the 3rd, including those with the highest performance, it was 39.8 years. These numbers show the fact that the older workers attained usually higher performance, of course, for many different reasons, which were now concentrated under the criterion of age and interpreted as its effect. From among the other factors, it was the mass-production character and the degree of skill that most amended the average performance according to age groups. It was found that the "maturing" of skilled workers

Table 1

Distribution of workers according to age and performance classes

Age groups	Distribution by classes, per cent			Total	Average performance in point value	Variance* per cent
	I	II	III			
+25	59.2	24.3	16.5	100.0	78.0	14.6
26–35	28.7	43.1	28.2	100.0	99.5	10.5
36–45	24.0	33.9	42.1	100.0	109.6	8.3
46–50	24.3	28.8	46.9	100.0	111.3	8.5
51–	25.9	32.8	41.3	100.0	107.6	8.2

* quotient of the average standard deviation and the average performance in point value.

was slower than that of semi-skilled workers, and still slower if they went to work in enterprises where individual machines were produced (i.e., not in series).

The standard deviation of the workers' monthly average performance around the yearly average by age groups was largest among those under 25 years, and the smallest among those above 51 years. This tendency supports the opinions according to which low performance entails high standard deviation and vice-versa. Therefore, the higher intra-individual dispersion of the young is a concomitant also of their lower level of performance, and it is probably because of the lack of routine that they accomplish less balanced performances than older people. It is, however, not certain that the more even performance of the older workers is the result only of the higher performance level and higher routine: it may have been the consequence also of a deliberate effort at evenness.

It is difficult to clarify the causes of differences in dispersions without further examinations, particularly if it is taken into consideration that, apart from the complicatedness of the work or its kind, the largest fluctuation in performance is found among the youngest workers. The most acceptable assumption is that practice, working experience and knowledge of techniques are not so mature with the young workers. This is proved by the fact, e.g., that in the case of semi-skilled labour the average fluctuation in performance of those under 25 years ranges between 12.9 and 37.5 per cent with certain operations, while it is between 10.8 and 21.2 per cent among those above 45 years. Owing to yet unsettled stereotypes, the working pace of young people is less even, which leads quicker to tiredness.

Qualification

The effect of qualification influencing performance would be the easiest to measure and compare if skilled and semi-skilled workers did the same work, complying with the same performance norms. This is, however, seldom possible, and it would even have to be considered unnatural if there were no differences between the activities of skilled and semi-skilled workers (although it happens in practice).

Therefore, in our examination we started from the assumption that in the same workshop or with the same technology (the basic units of grouping) norms had been set on an identical basis for both skilled and semi-skilled workers, so that the level of fulfilment shows clearly the differences in performance of the two groups with different qualifications. The analysis of the results shows that skilled workers' performances are higher: they belong in a higher proportion to those with medium and excellent performance than semi-skilled workers.

It is worth mentioning that in enterprises where skilled workers had the "leading role" in production, the semi-skilled workers did their job with lower intensity, less was expected of them, and their aptitude was of a lesser importance. In factories where skilled workers did not outnumber semi-skilled workers to such overpowering extent, semi-skilled workers were more in the centre of attention, they played not only a complementary part in production and, presumably as a result of this – apart from possible objective reasons – they also achieved better results.

Table 2

Distribution of workers according to qualification and performance

Qualification groups	Distribution by classes, per cent			Total	Average performance expressed in point value	Variance, per cent
	I	II	III			
Skilled worker	29.1	35.8	35.2	100.0	103.1	10.7
Unskilled worker	45.0	27.0	28.0	100.0	91.5	14.2

From among the objective reasons the effect of mass production is probably not negligible. In piece production skill has a higher value than in the production of medium and large series. In enterprises of the latter kind it could be seen that the routine of semi-skilled workers can replace skill under the given conditions of work organization.

Beside the above-mentioned factors depending on factories, the question arises whether performances are not influenced by the distribution according to age in the skilled and the semi-skilled workers. Namely, when examining the effect of age on performance it was found that it was generally growing with age. Since it takes longer to acquire qualification in a trade than to learn a job, the difference in the distribution by age of skilled and semi-skilled workers must also be taken into account, and it must be made clear whether the difference in performance between the two groups with different qualification is not the result merely of the differing age structure.

Calculations made have shown that qualification has a different role in different age groups. Skilled workers produced the best results in the age group of 36 to 45 years, while semi-skilled workers did the same in the group of 46 to 50 years. The data show it clearly, too, that the average performance expressed in point values of semi-skilled workers is lower in every age group than that of the skilled workers. From this the conclusion can be drawn that *independently of age* the performance of skilled workers is higher: age affects only the extent of the differences in performance. The superiority of the skilled workers asserted itself the most strongly in the age group of 36 to 45 years, and the most weakly in that of 46 to 50 years. The reason for the smallest difference in performance between skilled and semi-skilled workers in the age group 46 to 50 years requires more thorough examination. Among other things, an outdated expert knowledge of the older skilled workers may be assumed and this may be a factor hindering the achievement of a higher performance; it may also be that they deal more with the training of the younger workers (therefore, their performance falls, but they are compensated financially by bonuses, rewards or other forms of payment).

The standard deviation of outputs shows that the stability of performance of semi-skilled workers is smaller than that of skilled workers which is in conformity also with the tendency that lower performance is concomitant with larger standard deviation.

In our opinion the lower level and smaller stability of performance of semi-skilled workers is a consequence also of the present practice of training for a job. In the enterprises examined some of the older and experienced workers were asked to do the training, and they taught the new fellow-worker beside doing their own work. This puts a limit on the time to be spent on training. Further difficulties arise because at many places no programme is worked out for the training; owing to labour shortage, the new worker is often expected to do a fully efficient job sooner than the training is effectively finished. This latter case may entail the risk that it becomes difficult for the worker to find his place, he loses heart and looks for a new job. A solution of the problem would be to work out programmed methods of training, to select more carefully those doing the training, and to make free at least part of their working time for this purpose.

Trade practice

Trade practice was considered as from the date of the skilled worker's certificate (in the case of having learnt several trades: from the date of the certificate of the present trade) in the case of skilled workers, and as the full time spent in industry in the case of the semi-skilled workers. Our hypothesis was that a long time spent in a given trade and in a given field of work is generally coupled with more thorough knowledge and greater independence, which leads to higher-standard work and to higher performance. In the enterprises under examination this hypothesis was proved: longer trade practice was accompanied by increased performance.

It is stressed by several researchers that performance is growing with time spent in the trade only up to a certain "limit". The limit mentioned in literature comes in our case after 25 years of practice: nearing this line, the rate of growth of performance is found to be slowing down. This limit presumably depends on the complicatedness of the work and its demand on skill. In simple manual operations built up on stereotype movements, a higher performance is easier to achieve than with more complicated labour. A difference is found according to the degree of mass production as well. In examining the stability of workers' performance in relation to the practice acquired it is found that with the increase of the time spent in trade the variance of performance is diminishing.

Table 3

Distribution of workers according to trade practice

Groups of trade practice, year	Distribution by classes, per cent			Total	Average performance expressed in point value	Variance, per cent
	I	II	III			
0— 3.9	65.2	17.9	16.9	100.0	75.9	13.2
4— 9.9	42.8	34.7	33.5	100.0	89.9	13.4
10—15.9	25.0	38.4	36.6	100.0	105.8	9.1
16—24.9	22.0	34.4	43.6	100.0	110.8	8.7
25—	20.0	38.1	41.9	100.0	111.0	8.1

Enterprise practice

It is a general opinion that, as regards effect on performance, a role is played also by the length of the time a worker spends from his trade (industrial) practice with his present enterprise. A longer enterprise practice results in a better knowledge of production tasks, machines, technologies used and organization at the enterprise, as well as in establishing informal relations, thus contributing to the achievement of higher performance. A long enterprise practice entails a more even work pace and delays the time of getting tired.

The effect of a long enterprise practice on performance manifests itself also in an indirect way. A longer enterprise practice may give – with a correct style of management – certain advantages over new workers, e.g., it may be a good feeling for an older worker to be selected as trainer. The role of informal relations in influencing performance is not to be underestimated either. Also loyal groups and ties of friendship are established among older workers, and new workers have to "deserve" being admitted into a group.

In general, it is difficult to decide which is stronger: the effect of the trade (industrial) practice, or that of the enterprise practice. It is generally assumed that the leading role is that of trade practice, particularly at a more advanced age, when high performance can be easily achieved even with a short enterprise practice, since the worker can make use of his previous experience at any enterprise.

The recognition of a long enterprise practice by material incentives (wage increase made dependent also upon years of enterprise service, bonuses, "base-staff" and long-service awards, housing, etc.) and by non-material incentives (promotion, more responsible work, etc.) is rooted partly in the efforts to keep labour, and partly in the presumably strong effect of enterprise practice on performance.

The present examination also proves the important role of enterprise practice:

Table 4

Distribution of workers according to enterprise practice

Enterprise practice groups, years of service	Distribution by			Total	Average performance expressed in point value	Variance, per cent
	I	II	III			
	classes, per cent					
0– 3.9	56.2	23.0	20.9	100.0	82.3	12.7
4– 9.9	36.2	40.5	23.3	100.0	93.5	11.8
10–15.9	25.7	35.5	38.8	100.0	106.5	9.9
16–	16.7	35.3	48.0	100.0	115.7	7.8

Out of enterprise and factory elements, it was the mass-production character that affected most strongly the role of enterprise practice in influencing performance. At enterprises with large serial production workers achieved in each group of enterprise practice higher performance than those working in piece production.

Beside the positive role of enterprise practice discussed above also the detrimental effects of the wrong and forced labour-keeping methods were indicated by the

enterprise specialists. Owing to these, enterprise practice is not in all cases accompanied by higher performance, which is because the advantages accompanying long enterprise practice are wasted also on those who abuse them. Such workers deteriorate workshop discipline, often they are the "ill-natured spirit" of a workshop, and become its fuglemen, who wish to turn to their advantage their acquaintance with conditions.

Number of changes of jobs

Upon entering a new job, even a good skilled worker usually cannot achieve the performance of those having worked in the job for a long time. According to specialists, their lag may reach 30 to 40 per cent in the initial period, if the average performance level is taken for 100 per cent. Later, as practice comes, the gap gradually closes and, after the training time is over, the new worker usually reaches the average performance level of the older workers.

If a worker changes his job, production will fall at two enterprises: at the old and the new work place. Therefore, a loss of production due to training time will occur at both workplaces. It has to be taken into account too, that production diminishes considerably before leaving and, what is more, the conduct of the worker and "legends" spread about the new place may be demoralizing the environment.

In Hungarian public opinion the view has spread that labour turnover is an exclusively negative phenomenon. Workers leaving a job are generally condemned, and it is generally thought that those changing their jobs often are the bad workers. In the course of our examinations it was not found that those changing their jobs often showed lower performance.

In relation to the enterprises examined it cannot be said unambiguously that the performance of workers faithfully staying with an enterprise is necessarily higher than the performance of those often changing their jobs, or reversely, that workers often changing their jobs can achieve but lower performance.

Changes of jobs can be related also to the other criteria. E.g., with *age* also the inclination to change a job is growing. In the enterprises examined the average number of job-changes was 1.2 under twenty-five years; in the age group of 26 to 35 years it was 1.8; in the two age groups of 36 to 45 and 46 to 50 years it was the highest

Table 5

Distribution of workers according to the number of changes of jobs and performance

Number of changes of job	Distribution by classes, per cent			Total	Average performance expressed in point value	Variance, per cent
	I	II	III			
0	40.0	20.0	40.0	100.0	100.0	9.9
1—2 times	32.1	36.8	31.1	100.0	99.5	10.1
3—4 times	34.8	27.5	37.1	100.0	101.4	10.7
5 and more times	29.8	38.9	31.3	100.0	100.8	10.5

and identical: 2.4; above 51 years of age it was already falling back. It must be mentioned that, according to a sample survey of the Central Statistical Office [1], willingness to change a job is greater at a young age than in the middle years. It goes without saying that the data of the Central Statical Office based on high representation and a large population must be considered better grounded than our own investigation covering only a few enterprises. The difference must have been caused by sectoral and enterprise features, the different periods of observation, and a number of other factors (e.g., size of the sample).

The group of those changing their jobs was examined also according to qualifications, since it could be seen that qualification is a factor that increases performance and thus it is not indifferent, in which group of qualification labour turnover is higher. At the enterprises examined the average value of job-changes was 1.97; that of skilled workers was 1.49; while that of semi-skilled workers was 2.34.

Job-changes are related to family status, too. Married people change jobs more often on an average than single people. (This follows also from the age characteristics of our sample.) It was also examined, whether there was a difference in willingness to job-changes according to domicile. This is because it is assumed that the ambiguous forms of urbanization necessarily entail a diminution of stability of the workplace. One of the basic types of the "not inevitable" job-changes is influenced by the conditions of selecting the workplace: the worker does not weight carefully his needs and abilities and the work chosen, and it may seem that this type has a larger scope among commuters than among city-dwellers already acquainted with industrial environment. Yet the slight difference in the number of job-changes of local workers and commuters (2.0 and 1.9 resp.) indicates that this factor has no important effect on changes of jobs.

Family conditions

The examination showed that family status, i.e. the family life cycle influenced output: the performance of those having a family was found to be higher than that of single people. The reason for this is probably that people with a family feel more responsibility and are in greater need of the earnings due to higher performance. Therefore, being a family man – even if not the cause of higher performance in itself – creates a positive motivation to work. In the course of our talks we had at enterprises about the role of this factor, it was called to our attention that this assumed positive effect of having a family usually asserts itself only in the case of male workers, while in the case of female workers an opposed tendency is also observable. Although women are also working, men are considered as "supporters", firstly by tradition, secondly because their earnings are usually higher.

The positive relation between the number of children and performance followed directly from the higher performance of married workers. From among them mainly those showed higher performance who had children (see Table 6).

In examining the relations between family status, number of children and performance, the question may arise again, whether it is really under the effect of these factors that performance is higher, or there are other factors exerting their

Table 6

Distribution of workers according to family status and performance

Family status and number of children	Distribution by classes, per cent			Total	Average performance expressed in point value	Variance, per cent
	I	II	III			
Single	49.7	28.2	22.1	100.0	86.1	12.0
Married	27.3	35.3	37.4	100.0	105.0	9.6
Having no children	37.8	28.8	33.4	100.0	97.8	11.9
Having one child	27.4	38.5	34.1	100.0	103.3	9.4
Having 2 or 3 children	31.3	35.7	33.0	100.0	100.9	11.3

influence. If among the other factors the role of age – assumed as a dominating one also with regard to other factors – is analysed, as well as that of the concomitant trade and enterprise practice summarized under that criterion, it will be seen that married workers' performance is higher than that of single workers in every age group. Thus, the family status influences in fact the performance, and the higher performance of married workers is not merely due to the fact that their average age is higher. The performance-increasing effect of having a family is strong up to the age of 25 years, while in other age groups the difference in performance level between single and married workers is diminishing. This tendency is probably in accordance with the development of the family life cycle: the difficulties accompanying the founding of a family may be more intensively motivating young people to higher performance than later, in already "settled" conditions.

Domicile

It is a general assumption that commuters' performances are lower than the performances of those living in the capital or in a town which is a county seat. The reasons given are the lack of industrial background, bad transport conditions, fatigue because of a long journey, and agricultural activities at home.

The lower performance of commuters is shown also by our data.

Table 7

Distribution of workers according to domicile and performance

Domicile	Distribution by classes, per cent			Total	Average performance expressed in point value	Variance, per cent
	I	II	III			
Local workers	30.7 +	33.2	36.1	100.0	102.7	10.1
Commuters	40.9	34.1	25.0	100.0	92.0	12.5

In spite of the seemingly unambiguous tendency one has to be careful in drawing conclusions. Our attention was drawn to the fact at several enterprises that the performance of commuters was lower mainly in the initial period: they need a longer training but, e.g. they are more successful at jobs requiring physical strength than in work demanding dexterity. Enterprise managers said that most of the problems with commuters were related to workshop discipline: their more rhapsodic performance is also marked by the higher value of variance.

"Quality features"

Importance was attributed to the relation between "quality" features and performance because many such qualities of workers as, e.g. industry, conscientiousness and reliability are not even comparatively shown by the performance percentages. These features important in work are non-measurable. Therefore, we wished to ascertain through foremen's opinions about each worker whether quantitative performance and these "quality features" were in agreement. Foremen were asked to rate their staff according to three levels, low, medium and high, evaluating the above-mentioned qualities in a summary way. Since we wanted to know also how these qualities were related to performance, foremen were asked to rate the quantitative performance of their staff, too.

Comparing the foremen's two kinds of rating with the performance classes established by us from objective data, it will become apparent, how much the grouping based on objective data agrees with the opinion of foremen well-acquainted with the workers:

Table 8

Distribution of workers according to foremen's rating and performance

Degrees of rating	According to foremen's rating	Distribution by classes, per cent			Total	Average performance expressed in point value
		I	II	III		
Low performers	8	83.3	5.6	11.0	100.0	112.9
Medium performers	33	45.1	34.3	20.6	100.0	87.8
High performers	59	20.0	36.0	43.7	100.0	111.9
Workers with low-level qualities	11	51.2	24.4	24.4	100.0	86.6
Workers with medium-level qualities	41	37.7	32.5	29.8	100.0	96.0
Workers with high-level qualities	48	24.6	36.5	38.9	100.0	107.2

It is to be remarked that the foremen were informed about the aim of our inquiries, and they were assured that their evaluation would not be made known either to the management or to the workers concerned. Therefore, it may be justly assumed that their subjectivism was not stronger than what is usual in the case of interviewing methods.

Comparison of the rating of workers by foremen with the point values according to performance classes allows to draw the conclusion that there is a positive relation between "quality features" and performance level. At the same time, foremen's rating according to quantitative performance is not in harmony with actual performance. The deviation between verifiable and controllable performance data and foremen's opinion warns that conclusions to be drawn from interviewing are to be treated cautiously: their reality must be controlled.

In numerous cases the foremen were inclined to rate workers "one mark up". For them, the most difficult seemed to be the rating of those with medium performance, since the majority of workers belong in fact into the first class by performance. The foremen's indulgence shows also in the fact that one-fifth of the workers rated as high performers reaches in reality only a low performance.

The foremen's rating of workers according to attitude towards work, conscientiousness and industry must also contain subjective elements.

In this relation it may be asked whether there are such things as *individual* conscientiousness, industry and reliability. Differences in these qualities certainly exist between workers, but they are usually higher between workshops than within a workshop. Each workshop, i.e. working collective, has a basic atmosphere, in which the attitude to work coming to expression in individuals must be considered as a "collective product".

Enterprise and workshop factors

The performance level of workers, i.e. its fluctuation is influenced by several such factors as are independent of the workers' abilities and talent. If, however, we want to see approximately at least, what the individual can contribute to the results of the enterprise, attempt must be made at filtering out from the tangle of interrelations the factors that determine the individual's "limit" from the outset: the possibilities for evolving his abilities and strivings. In the course of the examination it was found that these factors were of determining importance with regard to both performance level and its stability.

Mass-production

With regard to mass-production it was established that in enterprises with such production the yearly average norm fulfilment of workshops as well as the dispersion of individual performances are lower than in enterprises with piece production. To support this statement, the data of two enterprises are presented hereunder.

In our search for the causes it had to be concluded that the higher performances in enterprises with piece production are not to be explained by a "more advantageous" composition of workers or their higher qualification. Higher performance percentages do not cover any considerably higher real performances; the seemingly important difference is caused by the different norm systems and discipline of enter-

Table 9

Average performance percentages and extent of standard deviation at two enterprises (broken down to workshops)

Denomination	Yearly average performance percentage of the workshop	Highest	Lowest	Difference	Variance of individual performances
		individual yearly average performance percentages			
Enterprise "A" with production in large series					
Workshop 1	107.5	116	95	21	5.2
Workshop 2	117.8	180	92	88	9.1
Workshop 3	107.0	135	69	66	9.1
Workshop 4	113.1	141	87	54	8.2
Enterprise "B" with piece production					
Workshop 1	126.0	165	88	77	13.1
Workshop 2	133.6	157	83	74	17.0
Workshop 3	129.8	172	92	80	14.3
Workshop 4	168.0	226	102	124	29.8
Workshop 5	161.3	204	111	93	22.9
Workshop 6	114.5	121	61	60	6.9

prises. In the case of piece production, the setting of norms may be more inexact than in the case of mass production, and there is greater possibility for manipulating performance percentages. After previous exaggerations "norm maintenance" has become, (in the period of our examination: 1973—74), in most cases entirely formal. At numerous places workshop managers tell what are the workers' demands, and calculation what the norm should be is made from this backwards. At the same time, strictness of the norms is influenced by the current supply of and demand for labour.

Mechanization

How much performances are determined by mechanization could be seen at almost every enterprise. It is shown by Table 10, following hereunder, which surveys each technological process of the formerly mentioned two enterprises in the order of increasing average performances.

The average performance percentage is usually higher with technologies in which the ratio of manual labour is higher. This is caused by the fact that with a higher degree of mechanization the overfulfilment of the norm is more limited, since machine times are constant.

There is a similar relationship between standard deviation of performances and mechanization of the technologies examined: the variance of performance percentages clearly increases as less mechanized technological processes are approached. All that is more clearly seen at the enterprise "B" engaged in piece production. In any case,

Table 10

Characteristics of the variance average performance percentages according to individual technologies

Technology	Enterprise	Average performance	Lowest	Highest	Difference	Variance
			percentage			
Pressing	"A"	108.2	69	135	66	9.1
Mechanical nailing		110.8	78	126	48	9.5
Boring		111.8	76	148	72	8.6
Assembling		113.0	94	137	43	8.0
Milling	"B"	116.3	97	133	36	13.0
Boring		120.9	104	153	48	15.0
Turning		128.5	76	172	96	16.7
Welding (by hand)		161.3	61	121	60	17.5
Forging		163.4	117	212	95	27.9
Locksmith's works		171.9	102	226	124	29.0

it cannot be stated with absolute certainty, even under the conditions of complexly automated production, that performance is determined by technology. It cannot be asserted that a worker handling an automatic machine cannot influence productivity at all. It is proved by practical examples that the *realization* of the capacities of automatic machines much depends on the skill and ability of the worker.

The difference in performance level between the two types of work: mechanical and handiwork, is, however, not only due to such "objective" reasons. The fact also plays a role that the setting of norms is more uncertain in the case of handiwork than in the case of mechanical work where it is possible to set more objective technological norms.

The possibilities inherent in a more exact setting of norms for mechanical work are not always utilized, either. The not infrequently occurring case can be cited as an extreme example that in setting the norms, the capacity of the machine is taken into consideration well under the optimum level. That is why it occurs that these loose norms result in a 130—150-per-cent overfulfilment. (This means is particularly resorted to if the technology in question does not require many workers.)

The lower performance level to be expected in the case of a higher degree of mechanization may be prevented by the deviation of actual working conditions from those taken for basis in the setting of norms, e.g., the possibility of handling more machines than those taken into account. In one of the machine-tool factories where the machines are individually produced, the handling of two milling machines can be regularly observed, if the kind of work allows it, particularly in the afternoon and night shifts when there are more free machines. Therefore, the distortion of performance percentage is present also here, independently of the fact that, as regards productivity or programme fulfilment, the handling of two machines is by all means advantageous. As a technical solution it is also successful, it only distorts the basic numbers of accounts. The situation is the same in the case of contracted operations overlooked or "not confessed".

Work organization

For the description of the level of work organization several attempts have been made at establishing summary indicators. Although such indicators evaluate only a few aspects of work organization, we have also tried to calculate relying on Soviet literature [2], a few indicators of the enterprise "B", and to compare them with the average performance in the enterprise. The twelve indicators examined were the following: the regularity of releasing products, quality of articles (parts, semi-finished products) produced, mechanization of work, proportion of auxiliar (unskilled) workers, culture of the work, level of labour safety, proportion of technologically established norms, utilization of working time, qualification of the technical staff, workshop discipline, fluctuation.

No relationship was found between the individual indicators or the summary indicators obtained from the arithmetical mean of the former and the average performance of the workshops; what is more, the worst summary indicator was that of the workshop with the highest average performance. This contradiction seems to be resolved, however, if it is examined, which are the indicators having the lowest values. It is found, namely, that the highest differences are in the quality of products, and in the level of labour safety and of workshop discipline. It is presumable, therefore, that the achievement of a higher performance is often enabled by deterioration of quality and insufficient labour safety.

A more thorough examination of plant and work organization allowed to draw the conclusion that, although – independently of the type of production – a smooth course of work requires everywhere a continuous availability of materials in the wanted quality, an impeccable condition of machines and manufacturing tools and an adequate dimensional accuracy of parts, such smooth supply without any troubles is only rarely found. The material and technological conditions are generally much better in enterprises where large series are produced.

In spite of the relationship between mass production and the level of work organization it became clear from workday-time budgets that a large part of wasted time can be traced back to the same deficiencies both in enterprises with piece production as well as in those with mass production. These hinder the workers in achieving higher performance not only objectively, but also exert a damaging influence on workshop discipline and on attitude to work. The serious deficiencies found in several workshops raise also the moral question, whether it is ethical to stimulate workers to higher performance, if the management does not provide the necessary conditions.

Weaknesses of work organization can be inferred also from the fluctuation of daily performances. Contrary to our previous assumption, fluctuation is strong not only in the daily performance of those doing handiwork but also in that of workers handling machines. E.g., a worker doing machine work had a performance fluctuating between 62 and 141 per cent in the month observed, and a manual worker one between 91 and 145 per cent. Foremen traced back the greater part of fluctuations to factors independent of the workers. From among these, a frequent change-over to another work was qualified as unavoidable.

The sphere of the tasks and the interpretation of work organization is not

homogeneous in Hungarian enterprises. Work organization is a complex task, which is not to be narrowed down to a few spectacular instances of campaign character. In Hungary the analysis of the contents and character of work is entirely neglected, as well as the carrying out of corresponding changes. If this is left out of consideration, the work organizer will encounter seemingly inexplicable phenomena. This is clearly illustrated by the example of one of the enterprises.

With a view to assessing the performance-influencing power of work organization, all conditions necessary for good work were created for a technological group of a workshop: "as it is written in books." After a short time the workers started to complain about the tediousness of their work, although the character of the work did not change at all, only earlier "leg-work" was taken from them. Skilled workers did not interpret activities outside their work as a burden, as had been thought by factory managers, but felt a decline of their prestige in having to stand by their machines all day long. Although earlier the need for better work organization had been a regularly recurrent subject of production conferences, in practice it brought unfavourable results.

In both socialist and capitalist countries there is a general striving to render work richer in contents. The assertion of this striving on the enterprise level is, however, something to wait for. In this enterprise it was found that the workers found their work less tedious by undertaking some of the ancillary activities. If their work had become more varied simultaneously with the improvement of work organization, probably they would not have found irritating the "too good" organization.

Incentives

One of the basic questions of the Hungarian incentive system is the necessity for a wider wage differentiation among workers, depending not only on the quantity of work but also on its quality.

Material and non-material incentives represent one of the most troubling questions. Many confusions have been and are caused by one-sided views expressed in this field: the assumption of an overall dominating role of material interest, the under- or overestimation of non-material incentives, interactions left out of consideration. The static approach to incentive systems frequently leads to incorrect conclusions. Factors affecting productivity exert their influence in continuously changing technological and organizational conditions. Depending on these conditions, possibilities for increasing performances are widely different and incentives must be adjusted to these conditions. Therefore, the forms of incentives must be not only differentiated, but they need to be regularly revised and renewed.

Also the guaranteeing of a suitable promotion of workers belongs to the sphere of incentives. At the enterprises examined it was found, however, that this question was not regularly dealt with, nor was it further clear what forms of promotion existed, what was to be understood by the notion of promotion, and above what level of material and moral recognition was to be considered also as promotion.

A simplified handling of problems related to incentives was observed everywhere. Managers usually underestimate the role of non-material incentives, although

the different forms of material and non-material incentives are strongly intertwined, intensifying or weakening each other's effect. It seems that today the positive role of moral incentive does not assert itself to the required extent; all its forms ought to be renewed and more consciously applied. Nor are the suitable forms of material incentive everywhere found. A good example is provided by one of the enterprises with mass production, where a restriction on performance was established to exist with 95 per cent of the piece-workers. Yet the performance ceiling – 108 per cent according to the norm – is too low. To achieve the "ceiling wages" requires a labour intensity lower than the normal, therefore, in practice a holding back of performance (in other words: of labour) can be observed.

From among the forms of wage-payment it is the ceiling wage whose withholding effect on performance is the most obvious. Yet also the average wage control has a retarding influence on performance. While the ceiling wage restricts directly individual outputs, the average wage control exerts its output-regulating (restricting) effect indirectly through "prescription" of factory outputs.

The withholding of performance – or its regulation – is caused partly by a fear from a norm revision, and partly it is influenced by the conduct of the group, the collective. It seems that under present conditions it is the latter that has a greater role. The ruling atmosphere in a collective may bring about an approach of "it is enough" or "it is not worth", even before fulfilment of entirely realistic requirements. It is well-known in group psychology that members of the group adjust their performance to each other, so that a levelling off of performances comes about, which, however, does not necessarily lead to withholding labour. Efforts must be made to create such conditions and work morale, in which the collective expels rather the negligent and undisciplined workers and not those with excellent performance and where the average performance of the group tends towards high performers.

Among the reasons for output restrictions is – in our opinion – also the wish to enforce overtime and the concomitant excess income. In several trades the view may be of an importance not to be underestimated, that time is worth reserving for work undertaken outside "official hours".

Management, atmosphere, human relations

Management level as a separate category is too abstract and difficult to be appreciated in itself also according to our examination. Its separate effect can be hardly demonstrated, and has to be considered practically as a means for evolving the factors influencing output. Stimulation for raising the frequently criticized labour intensity to the normal level, or the improvement of wrong and not sufficiently modern work organization is primarily the task of management. In the course of talks at enterprises it was found that for deficiencies of organization, for the losses of production resulting therefrom and, finally, for financial losses, the management was held responsible also by the workers, and, they expected an improvement of the situation from the management.

In stimulation an important role falls to the foremen, the direct superiors. They must possess manager's abilities and have to know how to treat their staff. Our

experience with enterprises does not confirm that foremen come up to these requirements in all cases. In their selection the points of view of the trade, of expertise, are determining, although managing ability is just as an important criterion. In the process of becoming foreman it is usually the good skilled workers that become foremen and not much attention has been paid so far to their training for leadership.

Performance is essentially influenced by the relationship that develops between leaders and workers. Their successful co-operation is conditioned by mutual information and trust; on the part of the management, if necessary, quick and efficient measures must be taken and also they are expected to make preparations for important changes. Human relationships are not given much importance in most of Hungarian enterprises. In forming work teams relations of friendship are not taken into consideration. The atmosphere of workshops is usually good, but shows high sensitivity. The inclination to "cheat" the management of the enterprise is not infrequent, which points to the fact that socialist consciousness and the owner's approach have not sufficiently developed.

Of course, it cannot be said that there is a functional relationship between workshop atmosphere and performance. A good workshop atmosphere has, however, a stimulating effect on the level of performance. It may exert a twofold effect on the dispersion of performance: on the one hand, it is increasing it, since it allows space also for outstanding performance, on the other hand, it may be levelling out performance by a just distribution of work and by professional help given to weaker workers.

*

In the course of our examinations we have found that factors influencing performance assert themselves in a complex way and, although it is possible to build groups of factors from the methodological point of view, all factors have a role – even if with different weights – in the performance level of individuals, and it is difficult to separate their effects. Factors influencing performance constitute a system in which each factor is closely related not only to the outputs but to the other factors as well. Therefore, a separation of the effect of factors is extremely difficult from the methodological point of view. On surveying the factors examined it is not possible – and not recommended, either – to establish an order. The interrelations demonstrated by us cannot be applied automatically: presumably, the sectoral and enterprise properties as well as production and technological conditions largely influence possibilities of stimulating performance.

Our examinations brought us to the conviction that from among the factors examined it is the enterprise and the workshop factors and the external, socio-economic factors that play a very important role in the individual performances. In order that workers with adequate individual properties may really evolve their abilities, favourable objective conditions must be created. Objective conditions affect not only the level of performances, but also their dispersion.

It appears from our investigations that individual performances are moving in a relatively narrow zone, the two main reasons for which are the withholding of performance and wrongly interpreted collective spirit or solidarity. The changing

of these negative features in the behaviour of workers is not only the task of the enterprise, but also of a wider circle, of society.

The survey allowed the conclusion that in the practice of norm-setting there were many mechanical elements. The norm had been degraded into an aid: in fact it was not the work to be done but wages payable that were rated. Norms represented the wage demands of the workers. That is why looser norms were found, e.g. in trades with a labour shortage or in technologies requiring fewer workers.

It could be stated that there are yet ample reserves for increasing individual performance, and using them would not be equivalent to a raising of labour intensity to a damaging extent. The level of labour intensity may be considered not so much as an individual but rather as a collective product. Therefore, the raising of the socially accepted intensity level would be important. This would reveal large amounts of reserves particularly in individual, little mechanized jobs.

Stimulation of performance is realized at the enterprises examined mostly through wages. The functioning of non-material incentives is generally insufficient, promotion possibilities are not regularly dealt with, workers' records of service are lacking. In order to change the situation, first of all such public opinion, such atmosphere must be created as in fact claims and appreciates non-material incentives. Therefore, need must be first raised and made conscious.

The achievement of higher performance would be promoted also by the enlargement of factory democracy. Foreign experience proves that a more active participation of workers in decisions regarding production (and not merely social measures affecting them) has an effect-increasing performance and satisfaction.

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ФАКТОРЫ, ВОЗДЕЙСТВУЮЩИЕ НА ВЫРАБОТКУ РАБОЧИХ

Ю. ВАНЯИ

В статье автор обобщает свои исследования факторов, воздействующих на индивидуальные выработки.

Исследования, касающиеся рабочих машиностроительных предприятий, работающих при нормировании их выработки, анализировали воздействующие на выработку факторы на базе системного подхода, особое внимание обращая на роль и взаимосвязь индивида и общественно-экономического окружения. Учитывались как изменения уровня, так и колебания выработки.

Для измерения и сравнения выработки автор ввела новый метод, а именно, анализ относительного уровня процентов выработки. Это позволило устранить фактор неопределенности, возникающий на почве различной напряженности норм.

Из индивидуальных факторов автор подробно рассматривала возраст, квалификации трудовой стаж, стаж работы на данном предприятии, число перемен мест работы, семейное положение и жилищные условия; из производственных факторов на уровне предприятия исследовалась взаимосвязь между выработкой и серийностью производства, технологическим характером трудового процесса, уровнем организации труда, условиями труда, его стимулированием, атмосферой на предприятии, отношениями между работниками.

Автор отмечает, что воздействующие на выработку факторы образуют систему, в рамках которой отдельные факторы тесно связаны не только с выработкой, но и между собой, действуя в тождественном или противоположном направлении. Обозревая изучаемые факторы она приходит к выводу что ранжирование факторов по их значимости невозможно, да и нецелесообразно. Установленные взаимосвязи не следует применять автоматически, специфика предприятий, производственно-технические условия в значительной мере воздействуют на возможности стимуляции выработки.

REVIEWS

RESEARCH INTO INDUSTRIAL ECONOMICS AND MANAGEMENT IN HUNGARY*

Industry is a fundamental sector of the national economy from the aspects of both contribution to national income and employment; hence the important role played by economic research dealing with industry, and by the industrial business economics systematizing the results of the former.

In Hungary nearly one-third of the employed are working in industry at present, which rate, although not expected to grow in the future, will probably not or hardly decrease. At the same time, productivity will rise in industry, in all probability at a higher rate than in other sectors, so that industry's contribution to the national income (43 per cent today) is expected to increase.

Although today all autonomous industrializing or industrial development policies are considered wrong and it is unanimously accepted that industrial development must take place subordinated to the general aims of politics and economic policy, the outstanding and persisting importance of industry demand that research turn with thorough attention towards its characteristics, development, regularities, experience in foreign countries and adaptation of such experience at home.

Industrial enterprises show a number of common features with enterprises functioning in other sectors of the national economy, yet their activities have several such technical, economic and organizational features as represent a separate field of research. The problems of industrial sectors and industrial enterprises are dealt with by various branches of economics and other sciences, but an integration of their results is expected in the first place from the industrial and business economics.

Other branches of economics examine the questions of industry either in too general terms, i.e. not exclusively with regard to industry but to other production sectors as well, or only from a special aspect, such as planning, finances or statistics. A complex analysis of these questions, taking into consideration all important characteristics and relations of industry, promises scientific results beyond those of the above-mentioned branches of research.

The thirty years passed since the Liberation of the country have been a period of fast and successful development of the Hungarian economy and Hungarian industry. The fast increase of industrial production played a fundamental role in the development of the national economy as well as in the improvement of living

* Based on the analysis made in 1975 by the Committee for Industrial Economics of the Hungarian Academy of Sciences.

standards and circumstances of the population; it was also the carrier of important social changes.

For the achievement of social objectives and for an adequate raising of national income a comparatively high growth rate of industrial production would be needed in the coming years and in a long perspective. The change in conditions under which these objectives will have to be realized is manifest first of all in that no further considerable increase of the men/hour capacity of industry can be reckoned with. This comparatively high growth rate has to be guaranteed practically by the growth of productivity. To achieve this aim, productivity would have to grow by a yearly 6 to 8 per cent instead of the 4—5 per cent in previous years. This will require a purposeful manpower management. Technological development has to be accelerated in the Hungarian industry, which would increase the mobility of labour and the necessity for an organized and efficient extension training. With higher qualifications, training, income and living standards, and with a wider range of choice among jobs, workers will raise greater demands towards the character, conditions and content of their work.

Another fundamental determining factor of the new system of requirements is that a considerable further enlargement of foreign relations has to be reckoned with. Demands of our partners will be higher in the field of the various forms of international co-operation: exchange of goods, production co-operation, joint enterprises, and on the part of socialist countries also in the field of socialist integration and as regards contribution to the fulfilment of the Comprehensive Programme of the CMEA. Special problems are raised by world-market price fluctuations and the requirement that planning and management should flexibly adapt themselves to these.

Bases of research

Among the research institutes of the Hungarian Academy of Sciences the Research Institute of Industrial Economics was set up expressly with a view to questions of industrial economics, but also the Institute of Economics, the Research Institute of World Economy, the Institute of Political Science and Jurisprudence do research work concerned with the economic problems of industry.

The Research Institute of Industrial Economics has at present a staff of twenty. Their activity covers enterprise questions as well as sectoral and global industrial questions, paying a special attention to linking these examinations with each other, and to approaching the problems of industrial economics in an interdisciplinary manner.

Earlier, there was an industrial department within the Institute of Economics, while recently there have been two spheres of subjects, connected with structural policy and the economic management system, in which questions of industry have been closely dealt with. The Research Institute of World Economy (and its predecessor the Afro-Asian Research Centre) has been and is dealing intensively with the industrialization problems of developing countries and recently also with world-economy tendencies affecting industry. In the Institute of Political Science and

Jurisprudence the legal position of enterprises and related problems of management and legislation are dealt with. At the Sociological Research Institute a great part of organization-sociological research is centred on industry: so far, mainly the questions of technological development, workers' performance, wages and motivation, and effects of automation have been investigated. The research work concerned with industry carried out by the above-mentioned four institutes of the Academy is not based on a large number of research workers, yet it is of great importance. On the one hand, it is carried on by highly qualified research workers, on the other hand, it is connected to other research projects of the Institutes.

Each of the budget-financed non-academic research institutes of economics deals with questions of industrial economics from time to time, first of all, the Research Institute of Finances, the Research Institute of Labour, the Institute of Economic Research* and the Business and Market Research Institute. They examine industrial questions in a specific approach according to their line, yet their contribution to knowledge on industrial economics is considerable.

From among the institutes functioning in enterprise form it is the sectoral industrial economic and organization institutes that have to be first mentioned. All industrial ministries have such an institute.** These institutes were founded in the early 1960s and their staff increased considerably in the years following the reform of economic management. Their total staff is today 2000. Most of their activity is, however, made up of computer service and organization. In the course of a recent investigation they have indicated the rate of their scientific activity as between 5—30 per cent. A considerable part of their research work was concerned with application of computers and organization-technical problems, while the number of research projects concerned with industrial economics in the strict sense was smaller. Nevertheless, they are often important, because they serve the preparation of important decisions or the issuing of general methodological directives and guides. In any case, taken together, they constitute the largest basis of these research works.

From among the educational institutions, mainly five university departments and the National Manager Training Centre are to be mentioned. The Industrial Economics Department and the Industrial Plant Organization Department of the Karl Marx University of Economics undertake mainly research concerned with the enterprise sphere. The research work of the Industrial Plant Economics Department, having comparatively the largest staff, of the Budapest Technological University, is concerned with management and organizational questions; it is less concerned with enterprise economics in the strict sense of the word, and not at all with questions of industrial economics. At the Industrial Economics Department of the Miskolc Technological University also management and organizational questions are in the foreground, but a limited number of industrial and business economic subjects are also investigated. Among the above-mentioned five university departments that of the Veszprém Technological University is the smallest: their limited research capacity

* Supervised by the Central Statistical Office.

** In the technological institutes of industrial ministries and in the organizational-computational institutes belonging to functional ministries (Central Statistical Office, Ministry of Finances) subjects of industrial economics — mainly of enterprises — are also dealt with to a limited extent.

is spent in equal proportions on industrial economic and enterprise-organizational investigations. In accordance with its special line, the National Manager Training Centre carries on research work on questions of enterprise management, among them a number of concrete industrial enterprise subjects. Finally, it can be mentioned that in most cases also the political economy departments of universities and colleges deal with industrial economic subjects, examining the assertion of the general rules of political economy in industry.

Thus, research into industrial economics is carried on in three forms: in budget-financed research institutes, in educational institutions (university departments) and in institutes functioning in enterprise form.

Every form of organization and thus, of course, also of research organization, has its advantageous as well as its disadvantageous aspects. There is a danger in the publicly financed academic research institutes that research work may become detached from practical needs and the research workers' own ambitions may come too much into the foreground; on the other side, however, these institutions are free from any sectoral and "functional" one-sidedness and there is no striving after profit to make them face the dilemma of "giving free or selling" when disclosing their results. Research work carried on at universities offers favourable possibilities to link educational work with research as well as to do interdisciplinary research work. According to experience, however, organizational forms needed for this require a long time to develop, and it is a further unsolved problem how the contractual commissions, i.e. the system of researches done at the order of external customers could make professors sufficiently interested also in *basic research*. Research institutes functioning in enterprise form are closer to practical needs, but their tasks are often limited and too much changing, and the short terms are not always favourable to absorbed research work; it is difficult to guarantee a rational division of labour and an adequate co-operation among these research institutes and to avoid unnecessary parallel research.

Obviously, such an optimum combination of all forms of research organization must be developed, as can guarantee, with reasonable proportions, an intensive and mutually complementary co-operation of research institutes functioning within the different forms. The main problem seems to be today the lack of the necessary capacity and interest in theoretical, basic, and general research work.

Scientific life

In the field of research into industrial economics at present several bodies are trying to provide for an effective co-operation.

The Committee for Industrial Economics of the Hungarian Academy of Sciences is trying to cover the entire field of industrial economics and of the economics of industrial enterprises (planning, organization, management in a complex way). In the Committee all of the above-mentioned important research institutes are represented, as well as the "users": the practical institutions.

One form of the co-ordinating activity of the Committee is the yearly registration of current research projects and of the most important publications of the previ-

ous year. Periodically also the papers of one or other research institute are discussed by the Committee, but there is no particular interest in this on the part of the research institutes, since there are other forums of discussions as well, and maybe also because of the high standards required. Similarly to other academic committees, also the Committee for Industrial Economics discussed the medium-term research plans and reports of the most important research institutes and university departments belonging to its field.

Problems touching also on research into industrial economics are sometimes treated by the Committee of Economics of the Hungarian Academy of Sciences and its Labour Science Committee, as well as the "Enterprise Organization Section" lately founded within the Management Science Committee. The above-mentioned committees sometimes organize joint meetings to discuss questions of industry.

In the National Long-Range Scientific Research Plan the major national project called "the socialist enterprise" deals, of course, emphatically with the problems of industrial enterprises. The project is co-ordinated by the Karl Marx University of Economics, which distributes it among five departments handling each a part of the research project concerning the socialist enterprises – in accordance with their special line. The departments responsible for a part hand out research commissions; they created advisory bodies of experts, in which many specialists gather who organize discussions and qualify research works. No organized relationship has existed so far between the co-ordination of the main project and the academic committees (except for cases in which identical persons are a guarantee for it), but a change is expected in this in the future. A complex and interdisciplinary approach to problems, concentration on the most important tasks of research, and the enforcing of higher requirements seem desirable.

From the point of view of link between scientific life and practice, social organizations play an important role: the Hungarian Economic Association, the various associations of the MTESZ (Federation of Hungarian Scientific Societies), first of all, the Society of Organization and Management Science, and the TIT (Society for the Dissemination of Knowledge). Their activity has become much richer in recent years, but their work is not yet sufficiently co-ordinated. Among other things, there are too many programmes (mainly national conferences), at which the adequate standards and participation are not always provided for.

The "Közgazdasági Szemle" (Economic Review), the "Gazdaság" (Economy) and other economic periodicals regularly publish articles on industrial economics. The "Ipargazdaság" (Industrial Economics), the monthly paper of the Society of Organization and Management Science represents mainly this subject, and the quarterly "Ipargazdasági Szemle" (Industrial Economic Review) also treats this field, consecrating a larger sphere (separate columns) to international experience and questions of scientific life and literature. Questions of organization and management (connected with them also those of industrial enterprises and sometimes of industrial economics) are treated by a number of periodicals and series of publications. The National Manager Training Centre and all sectoral industrial economic and organization institutes have such a periodical (or series of publications), and the National Technical Library and Documentation Centre publishes several documentation series.

Research activity

Looking back over some longer periods, it appears that knowledge provided by industrial economic research has considerably promoted the development of Hungarian industry (and, of course, has had its part also in the weak points of development). In the initial period of the planned economy particularly much was learnt from Soviet experience; the most important of industrial and enterprise economy conceptions, principles, planning and direction methods were borrowed from there. It was only about the mid-1950s that independent Hungarian research works started to more thoroughly evaluate these experiences in the light of the country's own potentials, and later gradually to go also into the processing of the experiences of the advanced Western developing countries.

The first Hungarian textbook of industrial economics was published in 1966, following practically the pattern of Soviet textbooks, but bringing quite an amount of novel contents. The textbook was not followed by a new edition, because starting from the period of preparation of the reform of economic management interest has turned increasingly toward enterprise economic, management and organization questions.

Among Hungarian industrial economic research projects attention in the last 5—10 years has turned mainly toward those concerned with the development of the economic management system and connected with enterprise activity, and the management and organization methods of enterprises. Although in the majority of research institutes there was less interest in questions of industrial development and industrial policy, i.e. in the analysis of expressly industrial economic questions, important results have been achieved in certain fields. First of all, the studies concerned with the long-term planning of industry and analysing the situation, efficiency and productivity of industry are to be mentioned.

Within the framework of long-term planning a number of valuable and high-standard studies have been prepared about the situation and development prospects of Hungarian industry. The National Planning Office drew into the first stage of this work (between 1968 and 1972) several research institutes, which dealt also with the methodology of industrial development planning. Later on, this co-operation became looser, and the institutes took little part in the evaluation of planning experience and in the continuation of the work. High-standard economic history researches also contributed to the long-term planning and evaluation of industrial development. One of the central themes of the research, accompanied by wide interest, was the sectoral structure and the related question of so-called selective industrial policy. In addition to administrative organs, the Economic Research Institute, the Research Institute of Industrial Economics and the Institute of Economics prepared studies. Yet the question cannot be considered to be satisfactorily clarified even today, first of all not from the aspect of the practice of industrial policy.

Connected among other things to long-term planning, further research was done in the field of statistical international comparisons and comparative international analyses, first of all, by the Central Statistical Office and the Institute for Planned Economy. These have clarified numerous questions, both methodologically and regarding the international position of Hungarian industry. Some basic questions

of the measurement and evaluation of productivity and efficiency are practically cleared, too, mainly as a result of the activities of the Central Statistical Office and the Research Institute of Industrial Economics.

One of the important research projects covered the industrialization of developing countries, a subject that has an increasingly abundant literature abroad and in which more and more practical experience is accumulating. The studies made by the Research Institute of World Economy (earlier: Afro-Asian Research Centre) and by the Karl Marx University of Economics are worth mentioning. High-standard works analysing problems of economic growth including those of industry were carried on at numerous other research centres.

Several research works covered problems of technological development (first of all, those initiated by the OMFB (National Board of Technological Development), relations between regional development, industrial development and urbanization (in which important roles were played by the Institute of Economics, the Industrial Economic and Plant Organization Institute of the Ministry of Heavy Industry, and the Institute for Planned Economy, and questions of mobility of industrial labour. Less attention was paid to questions of socialization of production (specialization, co-operation, concentration, etc.) and to those of its organization and higher control in the former the research carried on by the Research Institute of Food Industrial Economy is to be mentioned, in the latter those by the ÉGSZI (Institute for Building Economy and Organization).

In the investigation of industrial enterprise problems important results were achieved in certain fields. Important researches were carried on with a view to examining the functioning of the economic control and management system and the elaboration of the possibilities for improvement of economic regulators. Most of these investigations were conducted in the control agencies or were organized by them with a practical approach, but not always in the required depth nor with a theoretical claim. The question was thoroughly investigated – among others by the University of Economics and the Institute of Economics – what enterprise interests and actions can be deduced mathematically from the construction of the regulatory system. A few studies – some by the Research Institute of Industrial Economics and later other ones by the Research Institute of Finance – called attention to the fact that the actual behaviour of enterprises is basically different from it, and certain motives were also given.

A number of partial questions of the economics of industrial enterprises were also investigated, mainly from the aspect of management and organization, of which several produced important and practically utilized results (e.g., in questions of cost economy). Experiments of applying cybernetics and systems theory for description of enterprise activity and organization deserve attention. In these works an eminent role was played by educational institutions (the corresponding departments of the Budapest and the Miskolc Technical Universities and those of the Karl Marx University of Economics, and the National Manager Training Centre) and a considerable part was done by sectoral industrial economic and organizational institutes. The Institutes of the Ministry of Building and Town-Development and of the Ministry of Metallurgy and Machine Industry undertook to draw up enterprise economics of a large volume and mainly of practical use. In recent years examination of enter-

prise objectives, conduct, and the social aspects of enterprise life have come to the foreground (the Research Institute of Industrial Economics, the Sociological Research Institute and various university departments worked on the subject).

So far, however, no such studies of high standards have been prepared as would try to create a theoretically grounded enterprise economy system in consideration of the actual situation and functioning of Hungarian industrial enterprises. Within the framework of the directive "socialist enterprise" a large number of studies have been prepared in recent years, mainly highly valuable among them, but their synthesis, the marking of research objectives necessary for the synthesis and, accordingly a more definite concentration and "direction" of research works concerned with enterprise subjects, the guaranteeing of a veritably interdisciplinary character are still something to wait for.

Jurists' and sociologists' joining the enterprise research works, and the increasing number of empirical examinations, questionings, case studies (in this field the Research Institute of Industrial Economics and the Institute of Economic Research are to be mentioned among others) are a positive phenomenon. The development of interdisciplinary research works remains, however, still an important and unsolved task. It is also desirable to intensify empirical research, since knowledge of actual enterprise life is still rather poor. Beside the investigation of certain management and organization methods, a relatively small number of examinations have been concerned with management and organization as a whole and with clarifying the conditions that hinder their development, although this would be important for the explanation of theoretical interrelations and for rendering practical work more successful.

On the whole, our knowledge on industrial economy is today much richer than it was five or fifteen years ago, it can offer more to practice, and it is now better known also, how to approach examination of an industrial economic problem. Our scientific knowledge and system of experience are, however, not equally firm. We know a lot about methods by which to render management and organization of industry and industrial enterprises more efficient, yet little progress has been made to reveal conditions of applying those methods. These deficiencies are serious because it is in vain to recommend ever new and more perfect methods if we cannot help in that these methods spread faster in practice and that their application be really efficacious.

It is difficult to evaluate with an adequate thoroughness the international reaction to Hungarian industrial economic research, taking into consideration also the fact that such reaction does not always mark lasting values. It seems that most interest was awakened by research works concerned with the economic management systems, the adaptation of mathematical methods to planning, the industrialization and industrial development of developing countries, and the analysis of productivity and efficiency. Analyses of management and organization problems are of a modern trend, but can offer probably less novelty on an international scale.

Expectable trends in the development of industrial economics

Demands on research into industrial economics are great. Answers are sought to many questions and, in the coming years, industrial development will probably raise a number of further questions which we cannot foresee as yet.

External demands are determined by tasks facing industry. The most important of these are the following: increasing the efficiency of production and the productivity of labour, reduction of manufacturing costs; technological development, the guaranteeing of up-to-date and high-quality products; development of an expedient production structure; raising the standards of management and organization; promotion of factory democracy; enriching the contents of work, improvement of working conditions; a reasonable linking of industrial and regional development, assertion of requirements of environmental protection, etc. Relying on the long-term national economic plans it will be possible to formulate these more exactly and more fully.

Among the *inner demands* on the development of this field of science the following are the most important.

– Empirical examinations, organized collection and processing of facts and experience for analysing the actual situation of industrial enterprises, their behaviour, the practice of industrial management, and the development regularities of industry.

– Analysis and integration of the results achieved by related branches of knowledge, mainly political economy and economics: management (organization) theory, mathematics, cybernetics, systems theory, jurisprudence, sociology, psychology, socio-psychology.

– Organized acquaintance, follow-up, processing and Marxist scientific evaluation of foreign experience and scientific results.

– Analysis of problems of industrial economics and industrial business economics in their qualities as systems of knowledge, i.e., as scientific disciplines.

It seems certainly a tendency that also in this field of science

– the role of collection, analysis, and evaluation of facts and data will be increasing, for which computers are of a great help in processing the data,

– the effect of "internationalization" will grow, in the sense that the subject of these branches of knowledge (industry, industrial enterprise) will be connected ever more closely to the economy of other countries: to the world economy. The international flow of knowledge and scientific results will be more intensive. "Internationalization" requires a more intensive inquiry into the economy and society of other countries; it increases the importance of international comparative studies.

A further general tendency seems to be a greater demand for as well as an increased utilization of industrial economic research on the part of both enterprise management and industrial administration and control. This will presumably further increase the number of applied research works, among them those preparing decisions and actions, which, in turn, requires a firmer support by theoretical and methodological research projects generalizing experience. A more intensive practical utilization of the results of industrial economic research is promoted if research covers also the conditions of application, as well as the question, how the absorptive capacity and readiness of the main "users": industrial enterprises and industrial control agencies can be enlarged. Therefore, in future research will have to precede de-

mands in order to be able to give answers in time to questions becoming acute. In the application of the results of research in practice the role of retraining is not be underestimated.

The development of industrial economics and industrial business economics as disciplines will be exposed probably to contrasting influences. Among these tendencies the most important seem to be those related to the degree of separation of industrial activities and the connexion between economics and other branches of science.

Industrial activity is characterized by specific technical, organizational and economic features. It is, however, a general tendency that these activities are intertwined in a growing number of cases with other productive and non-productive ones: commercial, transport, building, agricultural, research and development activities as well as other services. There are even such instances as the manufacture and export of pharmaceutics and medical instruments, which are treated as a part of the very large "health complex". Under the effect of this tendency the weight of non-industrial activity will be considerable in industrial enterprises and organizations and, to a certain extent, industrial or "industry-like" activity will grow in non-industrial organizations as well.

Of course, even independently of the above-outlined technological and organizational intertwining of industrial and non-industrial activities, it is a fully justified requirement that the development of industry should be examined, planned and analyzed in national economic interrelations.

In the Committee for Industrial Economics of the Hungarian Academy of Sciences the majority expressed the view that industrial economics would probably advance in all these directions and be enriched; it will systematize economic knowledge related to industry and to industrial subsectors and complexes in a close relationship with socio-economic phenomena, yet within its own framework. It seems likely that it will be more closely related also to the processing of industrial management problems.

Therefore, it is not sufficient to examine the work of industry and industrial enterprises solely from the economic point of view; there are numerous other disciplines that may help in the understanding, description, development and enrichment of their functioning, their development, and of the applied management and organization methods. Multidisciplinary research is extremely important in this field. In order that the fruitful effect of the continuous scientific disciplines might really assert itself, it is necessary to create a common language, a common interest, and interestedness in common research programmes among the representatives of the different disciplines, and to further a mutual and better organized approach to each other.

BOOK REVIEWS

BÁNSÁGI, P.—SZABÓ, B.—RÁCZ, D.: *Gazdasági növekedés és a fejlődés intenzív periódusa* (Economic growth and the intensive period of development) Budapest, 1975. Közgazdasági és Jogi Könyvkiadó, 245 p.

The authors consider as a primary aim of their study the following: "The aim of the book is to try to reveal the basic features, the order and characteristics of the extensive and intensive growth periods determined by technical progress and production relations — mainly from the technical aspect." "What stage of technological development has already been achieved in the Hungarian economy — and therein primarily in industry — and what are the fundamental forms and regularities of this period, how do they manifest themselves under socialist conditions?" (p. 10) This objective deserves special attention from two aspects: on the one hand, in the past three decades the sorest point of economic growth in Hungary has been unsatisfactory technological progress. Although our economic policy underlined the importance of technical progress practically in each period, and took great pains to accelerate it, a breakthrough could not be achieved in this area. The slowness of technical progress has not insignificantly contributed to the progress by far not satisfactorily, in productivity and economic efficiency. On the other hand, the question of technical progress as the main medium of productivity and economic efficiency, will assume a decisive character in our future economic growth.

The study examines the highly diversified fields of technical progress and economic growth in six chapters.

Discussing the relationships of technical progress and economic growth in the extensive and intensive periods, the authors define the intensive and extensive periods as parts of the development of productive forces: the first period means substantially the practical application of the achievements of technological revolution, their becoming more and more economical and their integration with the existing technological level, the second means the widespread dissemination and improvement of the accomplishments of the technological revolution within the given qualitative limits. These two, qualitatively different periods can not, of course, be strictly separated: delimitation is possible only in a sense, which elements are preponderant or decisive during the given period of development. Technical progress can not be identified with the intensive periods of economic growth neither in time nor in space (for the intensive period of economic development comprises rather numerous political, social and economic factors as well) but technical progress provides the technological basis for the intensive period of development. This chapter outlines the relationships between technical progress and economic growth in a rather general and unsystematical fashion: it lacks in convincing argument, the conclusions of various authors in different contexts can not, in most of the cases, substitute a scientific analysis and argumentation.

Investigating the relations of the extensive and intensive periods of development to the labour force, the authors affirm that the quantitative change in employment is highly typical of the extensive growth while in the intensive period the qualitative aspects of labour become decisive. They demonstrate their conclusion by presenting the various possible ways of growth, though the shown types of development do not exactly reflect the actual intention of the authors. From among the investigated "a—e" variants the authors regard "a" and "b" as of typically extensive character, whilst

"c" is regarded as transitional, and "d—e" represent the situations peculiar to the intensive period. In my opinion, the above classification is inexact: partly because — as the authors themselves have already suggested in the previous chapters — the distinction between the extensive and the intensive periods may primarily be based on the role and proportion of the individual growth factors, and partly because the "a" and "b" variants represent a situation in which productivity remains constant or decreases, while in modern economic growth a similar situation can only be transitional and individual. Consequently, the above variants cannot represent genuinely the existent extensive periods of growth. In the economic growth of our country a fairly long period may be called extensive, but hardly is any period to be found — be it as short as only a few years — where the quotient of output and employment stagnated or decreased.

Analysing the historical development of certain periods in economic growth in relation to single countries and groups of countries, the authors point out that in the development of the socialist countries several common traits may be detected, concerning the similarity of production relations, the nearly identical levels of development, the aspiration at a rapid progress, planned economy, etc. The way covered by them also shows many features in common. Its essence is a strongly dominating role of extensive technical progress, which has much in common with the former development of the highly developed capitalist countries (e.g. the great weight of metallurgy and heavy industry, etc.).

The most voluminous part of the study is the one dealing with the Hungarian development: it discusses the rate of growth, productivity, capital efficiency. Unfortunately, the investigation of the intensive period, indicated in the title, has scarcely taken place, for the examined period comes to an end with the year 1970 and thus it has very little to say on the development problems of the past few years. We would stress but a single conclusion of the chapter so abundant in topics, which concerns the issues of the rate of economic progress and of economic-policy decisions.

"The economic tendencies indicating exhaustion of the extensive period were reacted to contradictorily and often with reactions of precisely extensive character. For example, the decrease in the rate of growth was thought to be counter-balanced by new extensive developments extension of capital equipments, seeking new sources of labour or the rise in import needs and the worsening of our balance of foreign trade with capitalist countries by increasing the exports of materials and material-like goods. Despite the simplification, it is obvious that this should have resulted in a general accumulation of tensions and contradictions." (p. 84). I deem this statement to be a very important one and deeply regret that it has not undergone a more thorough analysis and investigation.

Chapter V examines the general factors bearing upon technical progress, e.g. the role of the existing, initial technical basis, the generating effect of branches and activities representing new technology in the transition toward a higher stage, the role and development of production relations and the economic mechanism in the socialist and highly developed capitalist countries, and furthermore, the requirements towards the economic mechanism of transition to the intensive period. From these requirements they emphasize concentration, selectivity, international integration and, lastly, the differentiated handling of certain areas.

Chapter VI on the technological development of the Hungarian economy and the chief tendencies of further improvement promise a more comprehensive analysis and appraisal of the present state in our country, but the volume itself did not provide enough opportunity for that.

To appropriately appreciate the study, we must, first of all, point out topicality of the subjects, the pretension for investigating them in their totality. The authors, however, have not succeeded in realizing the complex approach, partly because the study centers almost exclusively on industry. I believe that one of the characteristics of the present intensive period is that it does not and must not narrow down to any specific area, on the contrary, it embraces or should embrace, the economy as a whole.

To sum it up briefly: the study, with its virtues and failures, gives useful help for a better understanding of the recent issues of growth and for a better solution of the problems facing us.

M. HEGEDŰS

PONGRÁCZ, L.: *A kereseti arányok távlati fejlesztése* (The long-range development of relative incomes). Budapest, 1975. Közgazdasági és Jogi Könyvkiadó. 211 p.

The subject-matter of the book is the role and the distributing and stimulating functions of incomes and of relative incomes proportions in the social progress, and the formulation of principles bearing on the long-range development of relative incomes.

The first three chapters of the volume summarize the fundamental information necessary for planning. Here the author lays down the theoretical issues of relative wage and income proportions along with a review of the requirements relating to the relative proportions of earning, and to be derived from the principle of distribution according to work. Further on, he investigates the experiences in Hungary between 1950—1970, the main characteristics of the changes in the relative proportions. He supports his point with a survey of the different components of incomes.

Already in Chapter IV he appraises the changes realized in the Five-Year Plan period of 1971—1975 in the light of the objectives of the living standards and employment policies.

The next chapters discuss the basic task of monography, i.e. the issues of long-range planning. In long-term planning a substantially different approach to relative income proportions is necessary than in short- or mediumterm planning. On the one hand, long-term objectives can not be defined in full details, while on the other hand, some problems not emerging in short-term planning must also be answered.

Thus, it must be determined how the difference or proportion between the lowest and highest income should alter. In short-term planning to indicate the proposed changes in the proportions between minimum and maximum earnings suffices. On a longer-term, the general income level increases considerably even with the same proportions, which results in the widening of the gap between the lowest and highest incomes. Thus, also the proportions should be examined in a different light. Furthermore, it must be clearly seen what kind of differentiation or equalization is taking place between the two extremes of income. It is well justified to investigate how relative incomes vary with qualifications, physical requirements and conditions of the work, and with the responsibility concomitant with the work.

In Hungary it is characteristic of the relative incomes according to qualifications that the income level of highly skilled workers and graduated intellectuals has come nearer to that of the unskilled and of those having only secondary education. One of the long-term targets should be to increase differentiation according to qualifications, to acknowledge financially better the work of the highly skilled and of the graduated in the first place.

Considering the present situation, an increase in differentiation, as an overall tendency in the course of the long-term development of relative incomes can not be accepted as a uniform tendency, for in some contexts the main task is precisely equalization. A typical case in point is the disproportion between the income levels of men and women.

Structural transformation is promoted by relative income proportions only if the income level of workers employed in the rapidly expanding branches rises dynamically, while that of workers employed in the declining branches rises at a rate below the average. But one must be highly cautious in using this tool. To meet the requirements of a selective development policy does not in every case mean that average income should be higher in the expanding or lower in the declining branches, but that the incomes should be attractive in the vital jobs and in the newly emerging professions. Thus, in the long-term, too, the most important task is that incomes be differentiated according to the performance and individual achievements.

The author devotes a whole chapter to the tasks of wages policy in the enterprises in the long-range development of relative incomes. He underlines the decisive role the enterprises and institutions play in realizing the objectives of the wages policy on national-economic level.

The results and experiences of the macro-level work on analysis and planning are summarized in the monography — as an aid in methodology — in that they are providing useful information not only to theoretical experts but also to economists involved in the practical issues of personnel and wages policy.

M. M.

FÜLÖP, S.: *Vállalati értékesítési és árpolitikai döntések előkészítése* (Decision-making in the company's sales and price policy). Budapest, 1975. Közgazdasági és Jogi Könyvkiadó. 175 p.

In its "Company Management" series the publisher issues books that are not only easy to handle but are simultaneously ambitious as well and are dealing with current issues. Sándor *Fülöp*'s present work is one of them.

In the introduction of the book the author outlines his topic. He groups the sources of supply, sales and prices under the collective concept of business decisions. Business deci-

sions are . . . "closely bound up with the market situation". (p. 10). They are headed under business decisions not because "they are related to the daily operative selling activity" (p. 11) but because "the specific feature of the decisions is their being market-oriented" (p. 10). It is in this respect that they differ from other company decisions — e.g. development, product policy, employment or financial decisions — though, obviously, they cannot be separated from each other in the complex system of decisions. As a point of fact, the author obviously lists — by this definitions — the issues discussed in the book among the marketing-type decisions.

The author starts his investigation aware of the fact that decision-making is a shaded, multivariable, weighing process which considers various external effects and constraints, and thus has a non-deterministic character. That is why the author harks back upon the consideration of the many possibilities and variations of risk and uncertainty, alternative actions, effect variants, constraints and subjective weighing throughout the whole book. Instead of some intricate mathematical apparatus he suggests — always keeping in view the need for practicability — easily tractable and clear-cut methods.

From among the sales decisions the book discusses those on assortment, "collection-planning" and innovations. He is right in pointing out that a widening or narrowing of assortment is the result of involuntary compromise: a richer assortment entails as a rule bigger stocks, a less favourable use of machine capacities but the customers are more satisfied. A poorer assortment has reverse effects. Thus, the decision on assortment is a problem of seeking and approaching the optimum between the profitability of the company and the acknowledgement of consumer demands. For the company to be aided by a compass, the author suggests to rank the products (according to assortment etc.) starting with the most favourable possibilities down to the least favourable ones.

"Collection" is a peculiarity of comsumer goods (i.e., a speciality of the textile industry). Trade selects from among the samples made on the basis of fashion demands, consumption habits (national, climatic, clothing, man–woman–child, etc.) and incomes. The company's intention is to compile a possibly saleable "collection" in a way that the selected orders secure a profitable stock of orders.

In the decision-making on product development the author introduces the special Hungarian aspect, that we are confronted not with a single but with diverse markets which differ widely in the appraisal of product characteristics. In addition, to conquer the different markets, several variants may be needed in the strategy of the acceptance of the new product and of its putting on the market.

The author treats the dynamic character of the effects as an important element in sales decisions. Demand, the market share of the enterprise, the demand for new products are changing in time, are growing or waning at different rates, which is a significant factor in assessing the expected effects of present decisions.

Procurement decisions and their methodology are relatively rarely dealt with in Hungary. Recognizing this deficiency, Sándor Fülöp devotes a whole chapter to procurement. He investigates the methods how a choice among the sources of supply, the performance of the suppliers concerning terms, prices and other factors of reliability and discipline are weighed and evaluated. To determine the optimal date of procurement and its quantity, he presents a simplified procedure. An important and timely part of the chapter is a description of procurement strategies for the consideration of expectable procurement conditions and price changes.

The part discussing the price policy of the company is rather short. It deals with the types of the markets, their intertwining, the influence of scarce information on price policy. In the context of price-policy decisions he dwells on the role of pricing, cost-covering calculations, price differentiation, the interactions among price and other marketing tools. He outlines the restricting role of price forms and unfair profit in the price policy of the company. He discusses very originally the elasticity and cost (income)-covering implications of the price changes in their interrelations.

Sándor Fülöp's book offers well-selected, up-to-date methods for the companies to make well-founded decisions for successful market activities. It is especially recommended for the export-oriented light industries. The academic level and practical applicability of the work would have been raised higher if the author had analysed the fields of the sales procurement and price policy of the company in a wider context, had worked out valid methods for other professions, and had adapted his

point more adequately to the given economic realities in Hungary, to the present system of economic regulators, management and commodity relations.

I. GERGELY

HORVÁTH, GY.—THORMA, I.: *A vállalati szervezettség tartalékainak feltárása* (Exploring the reserves in the organization of the company). Budapest, 1975. Közgazdasági és Jogi Könyvkiadó. 270 p.

The authors describe in their book the organized state of the company as one harmonically operating and which is brought about by management through its organizing function. Expressive though the above description may be, interpretation of organizational reserves is far less so. In the authors' view the organizational reserves arise, the actual situations is compared to the concrete organizational requirements determined by the management, as realistic own norms. This interpretation becomes unequivocal only if the setting of requirements (norms) itself meets certain other requirements, notably, if the existing or the expectable organizational level based on the company's future (planned) dimensions is expressed by these norms. The management may consider as realistic, — depending on its information level, judgement of the state of organization etc. — norms reflecting a lower level than the one rendered possible by the company's endowments.

Structurally, the book is divided into six chapters.

Chapter I (The general requirements of organization) analyses the concept of organization, the possibilities of its evaluation and measurement. In the part entitled "The heterogeneity and unity of the company" the usual technical, economical and social aspects are complemented with a fourth one, with the legal aspect of the company. This latter part — perhaps owing to the overly short presentation — is not at all too convincing.

Chapter II (Organization in the setting of objectives and in planning) deals with how the company targets are determined, with the organization of planning, the organization of the planning system, the criteria of plan-drafting and with the organization of implementation.

Chapter III (Organization within the organizational activity) comprises the following sections: planned nature of organization, the system of regulations, directing the company's activity, organizing the mechanization of administration, application of up-to-date equipments, exchange of experiences, socialization of organization.

Chapter IV (Organization in implementation) discusses the organization of implementation system of objectives, tools and functions, the structure of the company.

Chapter V (Organization of the company's main processes) treats the harmony among sales, procurements and the financial system of the company, cost accounting, the organized supply with capital equipment and labour, the organization of the main line of the company and the organization of management.

Chapter VI (Organization in control) consists of the following parts: organization of control, organization of managerial control, organization of the control incorporated in the working processes, methods of prescribing the rules of control, independent internal organization of control.

The authors systematized the subject according to the functions of management. The choice of the systematizing principle always affects the manner of the treatment (presentation) of the subject and the possibility of comprehension. This can be experienced here as well, when adherence to the systematizing principle deemed logical at the first sight entails repetitions and a fragmentary treatment. This follows from the fact that managerial functions do not exist solely by themselves, they can only be interpreted through the functioning of the company. And the functioning of the company — a peculiarity of which is organization — is not divided according to managerial functions, but splits into subsystems and processes by its own logic. There really exists management in each of the input, transformation and output subsystems, and the managerial functions assert themselves, but organization can be discussed only either in relation to subsystems (e.g., organization of the procurement of materials, of production and sales, etc.), or in relation to the company taken as a whole — once we adopt a systematical approach.

The treatment of the subject in the book is characterized by taxonomical interpretation. The book gives general requirements and directives for organization, and introduces three company cases. The documentation (regulations, forms, etc.)-centred approach may, however, cause confusion and seems to justify the existence of "paper-organization".

The merit of the book is that — by its

special systematization — it offers a good survey, calls attention to the possibility of improving organization and provokes thinking. In spite of its many useful ideas, the book, taken as a whole, fails to reflect the harmony to the creation of which it aims at lending a helping hand to managers and organizers. It proves that the company as a total system cannot be treated even theoretically as a single unit in the course of organizing, moreover, in the practical organizing work such treatment is even less realizable. At the present stage of development in Hungary there is no need for it at all; it is much more necessary for us to improve the parts and thereby the functioning of the whole, while bearing in mind the totality of the company.

J. PÁL

TREML, V. G.: *Input-output analysis and the Soviet economy*. An annotated bibliography. New York, 1975. Praeger Publishers. XI+180 p.

V. G. *Treml*, professor of economics at Duke University, is a world-wide known American specialist of the literature on the Soviet economy, mathematical economics, but first of all, input-output analysis in the USSR. He has written a lot of works in this field, and his bibliography published last year is, in effect, an updated and expanded edition of an earlier version.

This work covers the literature of an about 15 years period beginning from the late fifties, when input-output analysis became acceptable in the Soviet Union, until the middle of 1974. The bibliographical data of about 50 publications appeared after this time went to the addendum.

The bibliography encompasses both Soviet works dealing with input-output analysis — in the first line — and those ones of other, non-Soviet authors as well. This compilation includes beyond the sources treating of intersectoral relations also those ones, which touch only peripherally on the matter in question. The author had no intention to leave out the abridged, revised, enlarged, etc. versions of the same or very similar works, thus it happens that a given source having the same or similar title and with minor changes may be included also several times in the bibliography.

Treml's work is devided into seven sections. The first four ones contain the publications of Soviet economists that appeared solely in the USSR; in particular: the first chapter includes books, monographs and volumes of papers, the second one journal papers, articles, sections of books, the third one other minor works, the chapter IV encompasses official input-output statistics of the Soviet Union. Chapter V contains works of several non-Soviet specialists published later in the USSR in Russian, in chapter VI we can get information on studies of the application of input-output analysis in the Soviet Union by Western economists and the last chapter gives the reader some Soviet and American bibliographical compilation of the economic literature. The book is closed by the above-mentioned addendum and an author index.

Several entries are accompanied by reference to occasional English translation and reviews of the work in question. All items are annotated with letter codes. The codes indicate the content and the genre of the publications.

Professor Treml's bibliography contains 934 entries, and it is — as we know — the first comprehensive work in this field that has been published in a Western country. The input-output bibliographies by the United Nations in the period 1955—1970 do not include but a half of the informations on Soviet sources as compared to the present book. We note that the Soviet material of the UN bibliographies mentioned above was mainly based on Professor Treml's earlier works in this subject.

A literary compilation like this has not been brought together even in the USSR; the literary informations of the publications dealing with intersectoral balances can be found in more comprehensive bibliographies encompassing the literature on mathematical methods and models in economics. Thus, the present work of Professor Treml can be regarded as a very useful source for the mathematical economists in the socialist countries as well.

Despite of its relative ampleness in entries, this important work cannot be considered as complete; the author himself indicates that it is a selected bibliography and the selection may appear arbitrary to a specialist. Literature dealing with intersectoral balances peripherally only is generally omitted, while publications contributing somewhat to the input-output analysis concerning foreign trade are included in the bibliography, because such sources are but seldom found in the USSR.

In any case, Professor Treml's book is a pioneer work to be followed in this field; we have nothing to say against unless it does not give a classification of entries according to scopes of application.

S. SZALAY

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* We acknowledge the receipt of the enlisted books. No obligation to review them is involved.

** To be reviewed in Acta Oeconomica.

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F. KOZMA

ON THE POSSIBILITIES OF CREATING A NEW WORLD ECONOMIC ORDER

The efforts of the developing countries to change their place in the world economy have, in recent years, taken on the character of a coherent strategy that has initiated snowballing processes likely to have far-reaching effects in the economy and politics as a whole. It is certainly not a matter of indifference for the socialist countries in what direction the developing countries actually progress, and what sort of successes they achieve in reforming the world economic order.

The paper outlines the most important tasks in the industrialization, food economy, and educational and health infrastructure of the developing countries as a precondition of economic and intellectual independence from monopoly capitalism, as well as the basic principles of an international division of labour and world economic mechanism which would create conditions in the developing countries that favour the solution of such problems.

In the present historical era the development of the world economy is determined by three factors combined: the continuously increasing economic and political weight of the socialist community; the serious and lasting crisis phenomena of the capitalist sector of the world economy, entailing powerful efforts to stabilize capitalism; and, finally, the growing efforts made by developing countries to increase their weight in the world economy and to accelerate their development. The importance of their claims has grown against earlier periods as their political weight has increased in the UN. There has been a basic change in the position of a part of the developing countries – those producing the most important primary energy and raw materials. However, the position of other developing countries has undergone a catastrophic deterioration: partly because of the rise in raw material prices, partly because of the scarcity of foods: their nutrition and payment problems took global dimensions.

The ideas about changing their world economic position have developed into a consistent concept for the realization of which a union for action was formed by developing countries of various positions, interests and political leanings. The series of actions, initiated by the developing countries in order to bring about a reform in the world economic order has given rise to far-reaching processes in the full sphere of international economy and politics, which are bound to affect in the next years other processes as well. In Hungary, as well as in other socialist countries, research into the possibilities of a renewal of the world economic order is an important theoretical question as, on the one hand, the socialist world is part of the world economy, and thus the tendencies and the pace of the world economic changes are not irrelevant for the socialist countries. On the other hand, the reform efforts may become a

factor in the struggle of the group of developing countries for economic independence and progress, and thus a factor limiting the power of monopoly capital all the world over. Consequently, the results of the struggle for a renewal of the world economic order are very important from the aspect of the perspectives of socialism.

New world economic strategy of imperialism: creation of a new neocolonialist division of labour

Classical capitalist international division of labour was characterized by a double monopoly:

- in the global division of labour, developed capitalist countries jealously guarded their *industrial (manufacturing) monopoly;*
- within the boundaries of the spheres of interest, the individual developed capitalist countries tried to preserve their *extraction monopoly*, or to extend it beyond these boundaries.

The liquidation of the colonial empires put an end to the latter monopoly as well: countries having gained independence have gradually made the developed countries to compete for extractable raw materials and for markets of realization. This independence is but relative, they are no more subjected to a particular capitalist economy, but they continue to depend on the whole of the developed capitalist world.

Meanwhile, the scientific-technological revolution unfolded in the developed capitalist world: division of labour was manifold extended, interdependence increased. The centre of gravity of markets shifted to the developed countries themselves: in 1974, 47 per cent of world trade was effected among developed capitalist countries. As a result, competition in foreign trade centered on the market of technologically advanced, highly processed products. It is increasingly uneconomic for capital to be engaged in any manufacturing which has passed its peak in a technological and marketing sense. *In the second half of the twentieth century, the export of capital into reproductive manufacturing industries, not requiring highly skilled labour has become the interest of the developed capitalist powers just as the export of capital into extracting industries was in their interest at the end of the 19th century.*

The scientific-technological revolution together with the disintegration of the colonial system places an existing capitalist monopoly into the focus of interest of the capitalist world economic system: it is *the monopoly of innovation (scientific-technological and organizational)*. The essence of this monopoly is the concentration of technological development and the production of technologically advanced products in the developed capitalist countries, in the hands of multi-national giants. This monopoly is based on the advantages inherent in the development of human forces of production, i.e. in the technological culture and experience and in the ability to organize, as well as on the exclusive disposal of research and development bases and of productive capacities capable of innovation, asserted in the whole non-socialist world. Certain capitalist powers and power centres attempt to assert this monopoly even against each other in certain fields and in certain periods. (e.g. the United States against other developed capitalist countries in the period following World War II and also today in the fields of leading technology). The developed

capitalist world tries to establish its relations with the *socialist world* also on the basis of this monopoly. Both these attempts have to face strong opposition. The developing world is less able to resist as most of the developing countries have not yet or only recently started massive industrialization and are struggling with mass poverty; under such circumstances, they cannot even dream of establishing a self-reliant national basis of innovation. The solution is apparent: industrial production not requiring much skill is to be transferred gradually to developing countries as it is not profitable with the wage level prevailing in the U.S. or in Western Europe; the factors of production available in the developed capitalist power centres should be concentrated on innovation and pioneering production best serving the purpose of realizing monopolistic extra profit. Although this means 'sacrificing' the traditional monopoly of manufacturing, and opens way to the partial industrialization of some formerly almost exclusively agricultural and extracting economies, such an industrialization, however, is in the interest of the developed monopolist circles, if, in exchange,

– they can *integrate production factors* abundantly available in the developing world into the reproduction process of capital, i.e. they can secure a reliable raw material and energy supply and they can change cheap labour so that it might be utilized efficiently in modern capitalist exploitation (nutrition, basic education, jobs in manufacturing industry);

– they are able to explore the potential, gigantic buying *markets* inherent in the developing world, which could give a new impetus to the blooming of monopoly-capital in the whole world economy;

– by exploiting the economic differentiation of the developing world, they can induce uneven development among other things, by transforming the strongest countries under imperialist influence into regional medium powers (e.g. Iran, Brasil, Indonesia), and create *a system of political dependence of a new type*, conforming to the new system of economic dependence, with the main aim of preventing the 'third world' from going socialist;

– meanwhile, they can preserve and even consolidate the scientific-technological monopoly of the developed capitalist world, and together with it, *their control over the key positions of economic growth* in the *developing world*, not least through the multinational giants.

The developments in 1974–75 prove that *imperialism increasingly focusses its activity on the developing world.* This strategy was outlined in the African policy of the European Economic Community the earliest. Until the seventh special session of the United Nations in 1975, the USA has not published such an active strategy, but during this session it joined the concept of the developed capitalist world. Using its huge capital power, as if making a pre-emptive step toward the demands of the developing countries, it promises to mobilize considerable financial funds in order to create this new type of dependence. The plan, at the same time, is an organic part of a wider concept aiming at restoring the hegemony of the United States in the whole non-socialist world. Thus, rivalry for the leading role in the new colonizing has begun among the centres of monopolistic power before it could have unfolded in global dimensions. In view of the outstanding role of the USA in world political and economic processes, the rest of the developed capitalist countries and groups – namely, the EEC – have to take into account the partnership of the USA in the

realization of their own plans. However, they resist its striving for hegemony either in the exploitation of the energy resources of the developing world or in the acquisition of the market formed in this area or in the revival of the world economic and financial mechanism according to American interests. If the area of Western Europe survives the present critical phase of the crisis but in a *too* weakened state, the only choice available will be to accept American hegemony, if for a temporary period. It is apparent, however, that the Common Market is not yet disposed to give up the opportunity of following an independent foreign economic strategy, in the 'third world' one competing with the Americans.

The steps taken by developing countries to establish a "new world economic order"

By the beginning of the 1970s, the developing countries deemed the time had come for asserting their claims more firmly, mainly because the supply of the developed countries with raw materials and fuels shifted substantially to the countries of the 'third world'. The overwhelming part of the mineral resources of the non-socialist world economy can be found there. They expected this to create a monopolistic position for them, by means of which they can get hold of considerable financial resources through the rules of the game of the monopoly capitalist economy.

The grandiose plan of the group of developing countries was based, above all, *on the assertion of their monopoly of raw material resources, on the use of this as a weapon against the cultural-industrial monopoly of the developed capitalist world.* Of these attempts, those of the oil producing countries brought a spectacular initial success, bringing about a significant rise in oil prices. The petroleum-exporting countries accumulated considerable foreign currency reserves. This initial success is a partial explanation of the fact that the unity of steps taken by developing countries at international forums is largely restricted to the reforms of existing international trade and financial mechanisms and institutions.

The concepts concerning the "new world economic order" start from the principle that the states are sovereign and equal and they take part in the solution of world economic problems as such. The economic difficulties of the developing countries are regarded as the most important world economic problem within which special attention must be paid to solving the problems of countries in the gravest economic situation. The concept of sovereignity embraces the choice of socio-economic system, the unrestricted disposal of natural resources (including the right to nationalize them), the right to claim reparations for the development missed during colonial rule, and the control over foreign companies.

The countries of the developing world must receive *preferential treatment*, i.e.: a) the general preferential system concerning their products must be extended; b) the natural materials coming from the developing countries must be made competitive with the synthetic materials replacing them; c) the raw material producing cartels of the developing countries must be acknowledged, and cooperation among them must be fostered; d) changes in the prices of raw materials exported by developing countries must reflect the changes in the prices of finished goods imported by them (indexing); e) developed and developing countries should conclude long-

term agreements regarding stabilization of the selling markets of the latter under advantageous selling conditions, including the creation of coordinated systems for stabilizing reserves and compensation funds (pools).

The international *monetary and credit systems* must also be transformed so as to provide preferential financial sources for the developing world, i.e.: a) the industrialized countries should spend a definite proportion (0.7–1 per cent) of their annual national income on providing aid to the developing world; the multi-purpose economic aid fund of the United Nations must also be increased and extended; a so-called special aid fund must be created for helping the countries in the gravest situation; b) the interest burden of the developing countries on the credits taken by them must be mitigated, and the amortization terms eased; c) the capital importing countries should be provided the opportunity to control the working capital flowing in so that its quantity and allocation correspond to the national ideas about the development of their economies; d) the Special Drawing Rights, created in the framework of the International Monetary Fund, must be made suitable for financing development aids; e) developing countries must be awarded a due weight in the reform of the international monetary and credit system, including the reform of international financial institutions. Discrimination by international financial institutions against any country on the basis of its political or economic system must be prevented.

In order to improve the *food-situation* of the developing countries a) an increased material and financial help is needed for the development of food production (fertilizer and pesticide fund, preferential provision of machines, development of the agrochemical industry, vocational training); b) security world reserves must be established for the timely assessment of factors affecting production and supply.

Furthermore the developed countries must accelerate the transfer of certain manufacturing industries into the developing world and provide the conditions that the manufactured goods of the developing countries may be sold at competitive prices on the markets of the developed ones. Technological know-how should be ceded to developing countries at preferential terms and the owners of the technology should be prevented from misusing their monopoly. Developing countries must be given help in developing their industrial infrastructure. All these factors combined must secure an annual 4 per cent growth of food production and such a growth in industrial production as would increase the share of the developing world in world industrial production from the present 7 per cent to 25 per cent.

The plan for the "new economic order" is, thus, the first coherent strategic concept put forward by the developing countries on an international forum concerning such a *reform of the mechanism of capitalist world market and international economic institutions as does not affect their basic outlines, yet, would create more advantageous conditions for a better distribution of capital and incomes for the developing countries.*

Limits to the reality of the "new world economic order"

The concept of the developing countries openly condemns the presently operating world market mechanisms, questions the efficiency of the operation of international economic organizations. The plan contains a great number of objectively and

potentially anti-imperialist elements. It intends to restrict the influence of foreign, especially multinational, capital on the economic and political development of the accepting country. It intends to eliminate the possibility of blackmailing with aid and credit. It intends to restrict the hegemony of developed capitalist powers in international economic organizations, plans to create better sales possibilities on the markets of developed capitalist countries for the manufactured goods and raw materials coming from the developing countries.

Nonetheless, the *reforms remain unambiguously within the framework of the mechanism of monopol-capitalistic world economy*, by trying to make them suitable for serving the interests of the developing countries. This is the basic contradiction of the concept of the "new economic order". For, it is very unlikely that the system of trade and finances created by monopoly capital as its own form of movement, as a level of its own expansionist strivings, which is, thus, part of the essence of *monopoly capital*, could be transformed by any reform so as to counterbalance monopol capitalistic tendencies. These mechanisms are based upon the acknowledgement of the power position of the developed capitalist countries, and as such, objectively render efforts of the former colonies to achieve national industrialization uncompetitive if they do not fit the endeavours of capitalist powers aimed at power and structural concentration. Economic independence has such internal market and infrastructural conditions beyond industrial and agricultural investments as the developing countries are unable to provide out of their own means. The available international aids and credits are enough at most only for opening the gates wide to the invasion of private capital. Foreign capital respects the concepts of the host country concerning economic and political development only as long as they correspond to its own interests. If these conflict, the foreign private capital will either fail to invest or force the host country to accept such a compromise as will lead, in the final analysis, to solutions contrary to the long-term interests of the latter. At any rate, foreign working capital will endeavour to a) keep the relatively most up to date branches of the manufacturing industry of reproductive nature under its direct control; b) enforce international limitations on the production, trade and pricing of the most important sources of primary energy and raw materials; c) counterbalance eventual strivings toward a raw material monopoly by the gradual establishment of another monopoly, *that of food supply*. All these combined seem to stabilize the position of the developed capitalist world from the side of supply with materials and energy, and under such conditions nothing prevents the assertion of the monopoly of innovation, the stabilization of a neo-colonialist distribution of labour and of an international system of economic ties, based upon this new type of dependence. Monopoly capital can preserve practically all of it trumps, even if the reforms contained by the concept of the "new world economic order" are realized to an optimal extent since it

- retains its monopoly over every means of developing the forces of production, inclusing research bases, the production of investment goods and the opportunities of vocational training;
- keeps the key positions of world trade, such as transport networks, commercial houses and know-how, the system of warehousing and distribution;
- owns or controls the network of banks around the world, together with the sources and mechanism of the international movement of capital;

- disposes of the knowledge and capital by which, at least partially, it may replace the raw materials coming from the developing world;
- exerts control over the lion's share of the disposable food reserves of the world;
- has extended and temporarily stable economic key positions in the industries of almost all of the developing countries, its experts work in the state administration and armies of these countries.

The developing countries could not counterbalance all these factors even if they could preserve their unity of action in the long run. For, theirs is a minority position in international economy (only 28 per cent of world trade is effected by these countries, or 11 per cent without OPEC), their trade is transacted with that part of the economic sector they are about to subdue, their economic ties with one another are minimal (trade among developing countries is hardly greater than 5 per cent of world trade), and national development concepts have not been harmonized even in regions where the development potential of a single country is hardly greater than nil. Thus, they have been unable to put forward either a real economic power, or an intra-sectoral economic cooperation against the real technological, cultural, trade and financial force of imperialism. The only basis is the political unity of action concerning the "new economic order".

However, the potential economic and political position of developing countries is so diverse that their reaction to capitalist world market and economic (eventually political) pressures cannot be expected to be uniform. For the time being, their unity of action asserted at international forums is preserved by their common interest in a maximal redistribution of capital and incomes. True, the possibilities of this redistribution are diverse as well: so far, the most has been achieved by the petroleum exporting countries, the countries exporting other raw materials can expect much less and the countries representing the majority of the population of the "third world" are struggling with severe payments difficulties, because of, among other factors, the increase in oil prices. These countries also hope, however, to squeeze out the material means necessary for helping their economic development out of the deadlock, aided by the monopolistic position of the raw material exporters and their increased political importance in the United Nations.

This unity of interest, however, will necessarily weaken in time, because of the differentiation of development opportunities. This differentiation has apparently begun, in the following directions:

– the best development opportunities are open to the countries with small population and with important natural resources. The lion's share of the extra profit gained from the rise in oil prices accumulated in these countries. Although world inflation of the last two years has considerably cut down the real value of this amount and the increase in revenues has fallen short of predictions because of the oil-saving programs and the increase in the production of substituting primary energy resources, the remaining assets still exceed the investment opportunities of these countries;

– the position of countries with *significant oil or other natural resources, but with high population* is apparently different. Here per capita receipts from oil are

significantly lower, the development tasks greater and more complex, and they suffer more from inflation, too;

– a different sphere of interest is formed by countries where the large-scale import of foreign capital has started powerful industrialization, and, following from their economic power, they *aspire at becoming a regional power* as regards economic as well as political and military status;

– finally, there are countries which have no exploitable natural resources, where the development of the forces of production greatly lags behind, and where the supply with food, and the employment of the large or perhaps too small, scattered, population is a great problem, thus, where mobilization of potential forces of production encounters great difficulties. These countries cannot expect help from the capitalist world for the solution of their problems, as they are at the bottom of the list of preferences in the transfer of capital.

As a matter of fact, only two of the four groups of countries can hope for the gradual elimination of backwardness: the extracting countries with small population and the aspirants for the status of medium powers, whose aspirations are in conformity with the economic and political conceptions of imperialism. Within the framework of the mechanisms and systems of interests of the capitalist world market, however, they may be revised, the others have two choices only: to *reconcile* with neocolonialism, to adapt to its system and accept its limits; or to *struggle* against it, and, as regards the requirements of change in the world economic mechanism, *leave* the circle of movement of *the capitalist system.*

In the coming years we may realistically reckon with a *temporary tendency of integration of the original concept of the "new world economic system" with the counter-strategy of the USA and the EEC.* This will further weaken the already inconsistently anti-imperialistic nature of the movement. Nonetheless, it may be expected that *the unfolding realization of implementation will bring out again the anti-imperialistic characteristics:* not at one stroke, of course, but in the course of several years and in variegated forms, often indirectly. The disappointment and awakening will occur when and where it will become clear that

– the majority of the increased material resources has to be spent on purposes that serve the creation of conditions for the inflow of foreign private capital rather than the achievement of economic independence (formulation of funds, nutrition, health service, state administration, infrastructure, etc.),

– the economic structure formed by the imported foreign private capital does not correspond to the actual needs of progress of the country (creation of one-sidedly export-oriented industries, producing luxury articles or spare parts, the profits realized in the turnover remaining in foreign hands, the slow progress of the general cultural and national standards etc.), the governments have a lesser say in the formation of structure and dependence on the developed foreign countries does not decrease but perhaps even increases.

The disillusionment will occur presumably in countries which gained nothing by the price-explosion of raw materials, where even the most intensive aid policy will fail to significantly ease poverty or where the gains from the raw material price explosion will not be enough to bring about a qualitative change in the economic development, or where these gains will be extensively devalued by inflation.

The non-capitalist alternative of the reform of the world economic order

A mechanism intended to foster the healthy industrialization and economic independence of countries with less developed forces of production being in the environment of significantly more developed, monopolized countries must, above all, provide an exceptionally efficient economic protection, a special one

– protecting the newly founded industries from the devastating influence of foreign competition;

– attracting and 'trapping' foreign capital, forcing it to accept the long term economic development concepts of the developing country rather than merely serve its own short or long-term profits;

– protecting the products of the young industry of the developing country from competition by the industry of the developing countries on the markets of the latter;

– providing a free or at least inexpensive and ample transfer of technology for the developing country with the long-term perspective that the donors of technology educate, consciously, future competitors for themselves.

Such radical changes in the mechanism of the world market are unthinkable as long as the nature of the world economy is determined by the laws of monopoly capital. In a world economic environment ruled by monopoly capital it is not the interests of the countries with backward forces of production that are asserted but the endeavours of monopoly capital to optimally fit the production factors of the developing countries into its own profit-centered reproduction process.

For this reason, monopoly capital provides preferences for developing countries on its own account only to an extent sufficient for the economies of the developing countries to successfully play the role of auxiliary economy to the monopoly capitalist centre.

The economic order to be created under the circumstances of serious economic backwardness should also comprise a consistently founded *system of complex, regionally harmonized socio-economic development concepts*, for each country, which would determine the pace of the appropriate utilization and multiplication of internal as well as external, resources availed of. Harmonization of national development programs is, of course, alien from a world economic reform based on the principle of capitalist competition. As a matter of fact, this is the only way for the developing countries to prevent their national development efforts from becoming subordinated to the interests of developed capitalist power centres.

Regionally harmonized development programs must focus on the solution of a few complex, highly important problems without which the economic independence from imperialist power centres will remain an illusion. The first such basic task to be solved is nutrition, more exactly, a) elimination of the repeatedly emerging mass famine and consequent deaths in the poorest regions; i.e. stabilization of supply with basic foodstuffs, temporarily on a minimum level; b) in the other regions stabilization of the food situation so that the countries should not be subject to the wheat-blackmail of the developed capitalist world.

There is a *technical* as well as a *social* aspect to the solution of the food problem. The technical aspect comprises the amelioration of soil, extension of the culti-

vated land acreage (thus, land amelioration, irrigation, exploration of new water resources, use of fertilizers); the breeding of high-yield plants, production of sowing seeds; plant protection; mechanization of basic operations and efficient organization of work and plant; the improvement of the circumstances of animal breeding, the stabilization of milk and meat yields (stock of animals for breeding, animal farming, forage, veterinary care, slaughter-houses, meat storage and processing); fish-breeding, fishing, processing; the development of nutrition culture and its rationalization (canning industry, refrigeration industry, transport and distribution network, development and propagation of foods of high nutritional value).

Social tasks comprise: improvement of basic education of the rural population (elimination of illiteracy, agricultural knowledge on a basic level); training of agricultural skilled workers and specialists; land reform, setting up of cooperatives for agricultural production and specialized cooperatives (for procurement, for mechanization, for marketing); agricultural administration, buying-up (procurement) organization etc.

Developing countries should establish regionally harmonized programs for a complex solution of the food problem; furthermore, they should find partners with developed industrial forces of production which would be willing to cooperate with them and able to provide help:

– in the creation of a harmony between the agricultural and labour programs on the one hand, and, within the agricultural program, between the solutions of the technological and social tasks on the other;

– in the training of agricultural specialists and the creation of local schooling and mass education;

– in the organization of cooperatives on different stages of development and of different type, for the organization of agricultural administration, planning, buying-up, procurement network and planned supply with commodities;

– by supplying equipment, complex technologies for the agriculture, according to the needs of practically all development stages, including water economy, plant protection, veterinary care, laboratories etc.;

– in expediently uniting the supply of equipment and production systems with the questions of organization and the training of specialists.

From this aspect, notwithstanding their abundant capital, developed capitalist countries and firms are not ideal partners. Capitalist attitude focusses onesidedly on the final efficiency rather than on the efficient operation of the whole society in a complex manner. The very attempts to solve the food problem ("green revolution") testify that in the developing world a one-sided concentration on the final efficiency of production does not mitigate but, because of indirect social consequences, even aggravates, the economic problems of the country.

The next basic problem is to raise the rate of *employment* of the population. This is partly related to the development of agriculture. Development of the agriculture through land reforms and collectivization provides, in the case of a sufficient security of production, stable livelihood for a significant part of the rural population if the rate of the modernization of the basic branches of agriculture is in harmony with the increase in labour-absorbing capacity of other sectors of the national economy.

Extension of the conditions of secure livelihood is related to the absorption of urban *unemployment* in a great number of developing countries. It must be taken into account, however, that the masses of unemployed in the cities of the developing countries are yet of a poor quality as potential labour reserves, and cannot be regarded as a mature labour class as regards either skill or discipline. For this reason, application of European patterns leads to failure, at least in the short and medium run. Consequently, plans for the creation of new working places must reckon with gradualness (small shops, larger shops using manual labour, mechanized medium-sized plants, large-scale factories) and also with the productive activities corresponding to the traditions of the country. They also must cope with a parallel solution of schooling and educational problems, including improvement of living conditions in the cities, eradication of slums, creation of more civilized housing and health conditions, establishment of communications facilities etc.; all combined with the special customs deriving from ethnic and religious tradition (women in the society, rigid social stratification etc.).

Parallelly with the creation of industrial and service facilities, the vocational training of local labour must be carried out, the special knowledge of organization and management must be passed on, and the selling of the commodities produced must be solved on the domestic or regional markets or in those of the industrialized countries. This concept is qualitatively different from the capitalist, neo-colonialist alternative of the "new economic order". For, according to this concept, industrialized countries must undertake an intensive and very long lasting cooperation in the following fields:

— in a gradual, planned and complex development of the *human forces of production;*

— in the planning and realization of the *simultaneous existence and cooperation of different stages of technological development*, in securing a gradual transition to the more advanced stages;

— in devising how to combine the primary requirement of gradually extending the internal market with a gradually more extensive and more sophisticated participation in the international division of labour.

The export and import requirements of the industrialization leading to economic independence serve unambiguously the interests of the less developed partner country only if the fulfilment of the commodity supply and research and development tasks, following from the division of labour set up with the developing countries are secured not simply by preferential tariffs but by inter-state agreements. This will have a significant stabilizing effect on industrialization on the one hand, and on the training of specialists on the other and, finally, on the selling markets of the products of new industrial branches.

When the division of labour is established between developed and developing countries, it must be assessed where, what kind and what standard of technology can contribute the most to the extension of employment and domestic markets, what technology represents the greatest feasible step in the development of the forces of production in the given cultural and market environment. It is advisable for developing countries to seek a partner who is capable of introducing into the developing countries industries producing investment goods, and who is also capable of providing

continuous assistance for the further development of these at a rate demanded by the development of the forces of production in the developing countries.

Finally, the partner disposing of more developed forces of production must contribute with plans, experts, equipments, and installations to improving the human conditions of industrial, urban environment (supply of drinking water, environmental protection, town planning, the establishment of health care network, urban transport etc.).

The capitalist alternative of the "new economic order" offers a rather poor perspective from this complex *socio-economic* aspect. It envisages the transfer of a few industrial branches, under the condition that the basic requirements of profitability and of the possibility to transfer profits are secured. Transplanted works would be operated mainly by foreign specialists and the local population would be trained to perform work not requiring greater skill. This would lead to the transfer and utilization of highly advanced, capital-intensive technologies in the first place, which would be facilitated by considerable credits. For the imports into the developed capitalist country of the products of the industrial branches transplanted into developing countries tariff preferences are envisaged, which would, combined with the very low wage level, make these products perhaps saleable. Finally, according to the economic situation, it would undertake to accept products manufactured on a contractual basis or in cooperation.

This is something and cannot be left out of consideration. In the *long run*, however, this would be advantageous for the developing countries only if it were coupled with the development of the human and social conditions of industrialization, and with the provision of extensive, stable markets, especially by rapidly and evenly expanding the domestic market and by stabilizing export markets.

The formation of a skilled, educated *working class*, capable of performing disciplined and productive work, is the main pledge of the economic independence of developing countries, together with the formation of a collectivized and also educated *peasantry*, which together should produce a progressively thinking strata of the intelligentsia, realistically evaluating local conditions and opportunities. This cannot be achieved overnight, not even during a generation. However, the solving of the task should begin the earliest possible. Society, and within it, human forces of production, must be developed proportionally. It is not sufficient to give high education to a few thousand people; if, for example, on returning home these cannot establish contacts with the masses of skilled workers or with those educated on a medium level, they will fail to turn their knowledge to good account and their majority will not stay at home at all.

The "new economic order" is, thus, unthinkable without a long-term, *general schooling and training program*, embracing all educational levels, which would combine the purposeful training of the youth of the developing countries abroad with setting up a domestic educational network. The whole program must be in strict coordination with the programs for the development of agriculture and industry and must take into account extensively the different endowments of the different regions and countries.

This perspective, again, is alien from the concept of capitalist development. Developed capitalist countries are not stimulated by obvious economic interests

toward a program of a general and complex educational improvement, which would found the economic progress of developing countries. Developing countries must seek such partners for cooperation who possess the general, and vocational educational and the cultural system capable of accepting great masses of youth coming from developing countries and, with due modifications, can serve as a prototype for the educational systems to be established in the developing countries, and, finally, which can provide consultants and equipment for the establishment of such systems.

Nevertheless, it is not enough for cutting the last threads of the economic dependence of the developing world to neutralize the "wheat weapon" of the capital, or to break the monopolies of "manufacturing" or "toolmaking" or even that of vocational training. In the final analysis, the "developing" world can only catch up with the developed societies if it also contributes to the development of the forces of the production of the world. *In the long run, capital must also be deprived of its monopoly of innovation.*

If the "new economic order" does not contain the "germs" of this trend of development (the full unfolding of which will take generational in most of the developing countries), the efforts can only lead to the transformation of the capitalist world into one which provides more advantageous and more "humane", i.e. less explosive, conditions for its neo-colonialist strivings in the developing world. Therefore, the long-term program for the establishment of *research centres* in the *developing world* must be awarded a preferred status in the alternative of the non-capitalist world economic order. At first, these research centres would undertake the task of processing, adapting and spreading the borrowed scientific-technological achievements, and would later, gradually, transform into self-reliant bases of innovation as personal and material conditions become available.

This perspective is also qualitatively different from the capitalist variety of the "new economic order". Advanced capitalist power centres have no interest in developing the scientific-technological activity of the developing world. There are two parallel tendencies in practice now: Western universities employ a growing number of successful individuals as a consequence of the brain-drain, whereas the research centres established here and there in the developing world are engaged in subordinated measurements, experiments etc. The basic tendency is invariable on a higher intellectual level as well: the scientific capacity of countries with less developed forces of production are exploited on a "guest worker" or "contractual" basis.

Developing countries must attempt to establish such cooperation by which partners would provide substantial assistance in the training of researchers, in the organization of research centres, in the establishment of a division in research work among the institutions of socialist and developing countries, in the continuous information of research centres in the developing world and in the common exploitation of scientific and technological achievements.

Chances of the gradual unfolding of the non-capitalist alternative

Conditions for a fast spread of the world economic alternative described above have not matured yet. Monopolist power centres are not willing to play the role of a partner in such a type of cooperation. The socialist community is able to enter into

such cooperation, or, more exactly, it pursues this very type of cooperation, based upon the principle of mutual assistance, following from its inherent laws and intentions. For the time being, however, the socialist community is also engaged in the fight for liquidating the historically inherited backwardness of its own forces of production. Scarcity of capital is also a concern for it, and, lacking a colonialist past, its economic ties with the developing countries are, as yet, considerably weaker than those of the developed capitalist powers: its trade with the developing countries is about 9 per cent of the total trade of this group. Nonetheless, the countries of the socialist community have provided invaluable help to the former colonies at the time when they were fighting for *political* independence. They also provide *economic* help, of a measure considerable in relation to their own opportunities, to countries with underdeveloped forces of production, including, of course, countries which belong to the category of developing countries as to their per capita national income, but which belong to the socialist world regarding their social system. This assistance is the more remarkable because it comes from a wealth which had not been accumulated by former exploitation of the nations of other countries. On the contrary, the socialist countries themselves had been the victims of imperialist exploitation. Yet, in spite of all endeavour, the potential of the countries of the socialist community is limited especially as far as disposable additional means of development (aids, credits) are concerned.

Finally, the claims for, and the enforcement and historical necessity of, the alternative of the non-capitalist world order as against the neo-colonialist one, have not yet been recognized by a great proportion of the developing countries, just as the necessity of those internal, social reforms of a revolutionary nature has not, without which the struggle against the backwardness of the forces of production will fail to bring lasting achievements. The struggle against neocolonialism will unfold under neo-colonialist endeavours. In the meantime, a growing number of developing countries will demand economic cooperation with the socialist community, the basic principles of which as drawn from the existing practice are as follows:

The principles of stability. The trade agreements concluded between developing countries and socialist ones are integrated into the national economic plans, thus the imported goods enjoy a guaranteed market, and similarly, the developing countries get guaranteed shipments in exchange. The option of the elimination of short-time price fluctuations and the gradual assertion of long-term ones is open.

The principle of complexity. Following from the centralized nature and planned control of their economies, socialist countries can undertake the solution of large-scale, complex development projects (agricultural and food, industrial development, regional development, water management, transport development, health, and education programmes) from the stage of research and planning to the running-in of the plants and the education and training of local specialists.

The principle of internally integrated economy. Socialist countries are ready to help efficiently in the preparation and realization of development programs which contribute to the harmonious development of the forces of production and the social structure of a given developing country (or a region of several countries) including the utilization of the natural reserves of the country and the extension of employment and internal market. They will help in the formation of a production structure

appropriate in the light of the educational and vocational stratification and regional distribution of the available labour; in the establishment of healthy proportions among production for the internal market, for exports and the import requirements of the economy; in the establishment of production systems and management forms suiting the requirements of economic development (organization of the nationalized sector, collectivization, organization of commercial networks etc.).

The principle of orientation towards mass consumption. The quality and the range of choice of goods produced for a socialist market under an agreement on the division of labour (or under a long-term commodity agreement) must fulfil the demands of an exacting mass consumption. The technological standard and handling of capital goods, equipments, and technologies delivered in exchange are suited to the standard of the skills of the labour force in the developing country.

The principle of gradual elimination of differences in development. The transfer of certain producing activities to developing countries under the socialist division of labour is coupled with the creation of opportunities for a further development of the products and technologies, such as

– the training and continuous retraining of local specialists in the socialist countries or in the country accepting the technology;

– cooperation in the establishment of domestic research and development bases;

– the opportunity of linking the special training and development activities in the developing country with those in the socialist country in the long run;

– continuous technological and plant organizational aid and information;

– in their "non-capitalist" type of international economic relations the socialist countries do not strive for conservation of their advanced position in the fields of innovation and development.

The principle of the primacy of aid through division of labour. The socialist community offers such a division of labour to the developing countries as will stimulate a massive development of internal energies, and put the externally acquired and internally created material and intellectual goods at the service of the achievement of actual economic independence. In proportion to their means, the socialist countries are willing to grant credits as well, but they see the basic external source of economic development in such an international division of labour as would create advantageous external conditions for liquidating the lag of the forces of production. Bilateral or multilateral aids and credits (i.e. transfer of incomes realized in another country) are efficient only if they are applied as a *complementary means* to such type of division of labour. *The more important advantage of cooperation lies in the accelerated growth of the productivity of social labour.*

When judging the present world economic order, we must start from the fact that it is bad *not only from the aspect of the relations between developing and developed countries, but in all respects: it fails to serve satisfactorily the development of economic relations also between the capitalist and the socialist countries*, further, it causes serious disturbances in the whole of the international division of labour: it causes inflation, crisis, brings monopolies to life and puts the weaker at the mercy of the stronger: in one word, it is bad because it is *capitalist*. The objective of the progressive mankind is to help the realization of a world economic order based not on the monopoly of edu-

cation, on the privilege of riches and fortune, on exploitation and capitalist competition, but on mutual, planned help provided by one to another.

ВОЗМОЖНОСТИ ОБНОВЛЕНИЯ МИРОВОГО ЭКОНОМИЧЕСКОГО ПОРЯДКА

Ф. КОЗМА

Стремления развивающихся стран изменить свое положение в мировом хозяйстве за последние годы воплотились в единую стратегию с далекоидущими последствиями во всей сфере международной экономической и политической жизни. Для социалистического мира небезразлично направление экономического развития этих стран и исход реформы мирового эко номического порядка.

Стратегия империализма в отношении «нового мирового экономического порядка» направлена на расширение в глобальных масштабах неоколониального международного разделения труда. Вызванные распадом старого колониального строя изменения мирового хозяйства сделали бессмысленным сохранение монополии обрабатывающей промышленности развитых капиталистических стран, которые стремятся теперь к такому разделению труда, в том числе и с развивающимся миром, при котором на базе использования дешевой рабочей силы происходит перемещение ряда отраслей обрабатывающей промышленности в менее развитые регионы. Однако и в дальнейшем остается в силе стремление к сохранению монополии технического развития и к контролю производства важнейших сырьевых материалов.

Этой стратегии империализма развивающиеся страны хотят противопоставить монопольное обладание важнейшими сырьевыми материалами и усиление своей роли в международных организациях. Эта стратегическая концепция содержит много прогрессивных, антиимпериалистических элементов. В то же время этот проект реформы явно остается в рамках мирохозяйственных механизмов монополистического капитала, стремясь приспособить их к перераспределению доходов в интересах развивающегося мира. Однако природа монопольно-капиталистического механизма мирового хозяйства такова, что даже далеко идущие реформы в основном действуют в направлении неоколониального международного разделения труда. Дело в том, что в руках монополистического капитала остаются все важные козыри: монополия инноваций, высококвалифицированная рабочая сила, ключевые позиции в мировой торговле и банковской системе, возможности замены сырьевого материала развивающихся стран, а также обладание преобладающей частью мирового экспортного фонда продовольствия на экспорт. Такой реальной силе развивающиеся страны не могут успешно противостоять ни экономически, ни политически. Противостояние возможно лишь при укреплении революционных, прогрессивных сторон общественного строя этих стран.

Статья отмечает важнейшие задачи, стоящие перед развивающимся странами в области их индустриализации, производства продовольствия, развития инфраструктуры, образования и здравоохранения как условий их экономической и интеллектуальной независимости от монополистического капитала, а также излагаются принципы международного разделения труда и механизма мирового хозяйства, которые создают благоприятные условия для развивающихся стран в решении этих задач.

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B. KÁDÁR

PROBLEMS OF THE INTERNATIONAL RESTRUCTURING OF INDUSTRY

The article examines the process, and domestic and international driving forces of structural changes that have grown in importance in the course of world economic development. It also deals with absolute differences in the technological standards of particular industries, demand trends, conditions for capital realization and labour mobility, as well as the relocation of industrial production, the system of foreign workers, and the effects all these have had on structural transformation, pointing to connections between structural transformation and world-economic differentiation, and East-West economic relations.

Emergence of the structural transformation

The unprecedented high rate of economic growth in the twenty-five years following World War II entailed qualitative shifts in the structure of production, consumption and the division of labour, that led to changes in the institutional system and in ways of life as well. Some of the developing countries ceased to be traditional agrarian societies and turned into *industrial-agrarian ones*, while others started to link up the dualistic structures inherited from the colonial period. The socialist countries entered the stage of *intensive growth* in the seventies and are facing the problems characteristic of industrially developed countries. The most advanced capitalist countries are encountering the novel problems of "industrial over-ripeness" and an emerging *servicing economy* on an ever wider scale.

The character of the growth process, and the nature of participations in the international division of labour allow one to distinguish three main fields in the structural transformation process. Industries in the vanguard of technical progress and the growth of productivity gradually drain off the growth energies of those that lag behind. *Competition between these dynamic industries and those that develop more slowly* exerts its growth-stimulating effect depending on the degree of freedom with which labour, capital and technology flows among industries.

A similar process is taking place *within particular industries*, also involving changes in the proportions of production, utilization and consumption. But, beside competition among and within industries, an ever growing influence – depending on the stage of development of the forces of production and the size of the particular economy – is exerted on structural development by competition among *national economies*, that is by the nature of their participation in the international division of labour, whose scope is affected by particular national economic policies

and by the protectionistic or free-trade atmosphere prevailing in the world economic environment.

The historical processes stimulating structural changes in the world economy promoted an acceleration of economic development in all three fields, creating more favourable conditions for the industrialization of the socialist and the developing countries, for a transformation of the earlier system of international economic relations based on inequality, and for the development of more up-to-date forms of the international division of labour. The emergence on an ever wider scale of international structural transformation is, in the seventies, perceptibly linked to irreversible processes objectively acting and mutually intertwining in the particular economies and in the world economy.

Acceleration of the structural transformation processes in the world economy is comprehensively reflected in the extent of changes in the particular national macrostructures and industrial structures.

Economists already in the early sixties called attention to the fact that the level of structural development was closely correlated with the development level of the forces of production. Later research explained deviations from this by particular features deriving from the social systems (e.g. the "dualistic" structures developing in the colonial system of imperialism, or the structures developing in the framework

Table 1

Structural changes in manufacturing industry
(Total manufacturing = 100)

	Electrical machinery	Textiles	Clothing	Timber	Building materials	Chemical industry	Metallurgy	Engineering industry (excl. electrical)
World								
1963	12.3	5.1	4.2	3.4	4.5	10.5	7.0	31.0
1970	11.1	4.5	3.8	3.3	4.2	11.6	7.0	34.2
1973	10.5	4.2	3.4	3.3	4.2	12.1	6.8	35.4
Developed countries								
1963	10,8	4.7	4.1	3.2	3.8	11.7	7.0	32.2
1970	9.7	4.0	3.5	3.5	3.5	12.2	7.3	35.6
1973	9.2	3.5	3.2	3.7	3.5	13.0	7.2	35.9
Socialist countries								
1963	13.7	4.5	4.6	4.0	6.1	7.7	7.6	34.0
1970	12.6	4.1	4.0	3.2	5.8	9.5	7.2	38.1
1973	12.0	3.8	3.6	3.0	5.7	10.0	6.6	40.6
Developing countries								
1963	20.1	10.6	4.0	2.8	4.0	11.1	4.2	10.9
1970	16.4	8.8	4.3	2.4	4.3	14.1	4.3	12.7
1973	15.3	8.3	4.4	2.2	4.3	14.2	4.1	14.9

Source: U. N. Monthly Bulletin of Statistics —various issues

of socialist planned economies), by natural geographic conditions, differences in the endowments with "factors of production", by the facts of accelerated growth (latecomers to industrialization), as well as by the scale of a particular economy (structures characteristic of larger and smaller countries).

What indicators can be used to describe structural development? In the last decade processes have emerged in consequence of which the basic indicator of the development of macrostructures is no longer the ratio of industry to agriculture, – at least not in the more advanced countries. In countries on a higher stage of development production and consumption are increasingly shifting towards products satisfying higher quality needs and, particularly, towards services. The development of up-to-date technologies demands large-scale servicing capacities and the raising of the general productivity level of the economy is more and more constrained by the growth of tertiary industries. Thus, the growing weight of economic activity that does not produce tangible commodities also reflects the development of the forces of production. In conformity with these processes, the transformation of macrostructure is indicated by shifts in the accumulation of intellectual and material resources, by the diminishing ratio of material production within the GNP and by the growing ratio – even preponderance – of services.

In the developing countries the most essential change in economic structure is the diminishing ratio of agriculture, with its low productivity, and the preponderance of industry. In some Latin-American and South East-Asian countries that have attained a relatively higher stage of industrialization, however, the shift in the ratio of industry to agriculture already begins to slow down.

In the CMEA countries the transformation of macrostructures was relatively slow in the last decade. In these, owing to special historical requirements, the industries reckoned to be pioneering from the point of view of structural indicators had been established already in the extensive stage of economic development at a rate well ahead of the world average.

Owing to the nature of the changes in economic structure, structural transformation is described in quantitative terms no longer by the share of industry in production, but by structural shifts *within industry*. Within manufacturing the general tendency is emerging that technologically simpler industries, or those with essentially mature technologies, operating with much smaller per unit capital inputs than the average, while requiring considerable unskilled manpower, are lagging behind, and the share of industries which are capital-intensive, which require advanced technologies and skills, is on the increase. Beyond the structural shift among industries, *within the individual industries* a process has started in the advanced Western countries, and it is even spreading, whereby production is passed on to developing countries and activities are concentrated on research and development, control and on marketing even in industries that are lagging behind. In the case of the socialist countries the main motivation of structural development in industry is to improve *microstructures*, the product pattern within the industry concerned, the technologies used, the level of productivity, marketability and profitability.

The most important structural changes within manufacturing industry as such show a considerably diminishing ratio of the textile, clothing, leather, shoe and the food processing industries, and the starting of the decrease in the ratio of

metallurgy, while the weights of the engineering and the chemical industries, which are already responsible for the majority of manufacturing output, are steadily increasing. It is remarkable, that in the seventies the diminishing of the weight of the food processing, textile and clothing industries has accelerated, while in the developing countries the decrease has slowed down and the weight of (ready-made) clothing has even increased. Recently, from among the industries carrying the structural transformation, the metal working industries accelerated mainly in the developing countries, while the chemical industry did so in the advanced capitalist countries.

Changes in the structure of production are complemented by those in employment, which show the following picture in Europe.

Table 2

Pattern of employment by branches of manufacturing

	1958–60	1967–69	58–60	67–69	58–60	67–69
	Western Europe		Southern Europe		CMEA countries	
Employment, millions	32.2	34.1	4.6	5.9	29.0	40.0
Pattern of employment, per cent						
Textile and other light industries	32.2	28.4	40.6	38.4	34.5	29.5
Food processing industry	10.8	10.5	16.7	13.8	11.1	10.3
Metallurgy	6.6	6.3	3.9	4.1	6.8	6.5
Chemical industry	7.2	8.0	6.7	6.8	5.3	6.4
Metal-working industries	34.6	38.1	23.5	27.6	34.4	38.7
Other industries	8.6	8.9	8.6	9.3	7.9	8.9

Source: (16)

Changes in structural development are well reflected also by the employment situation. Employment in light industry started to decline fast in Western Europe – particularly in the textile and the clothing industries – already in the sixties, and only the metal-working industries were able to absorb more labour. Essentially similar trends emerge in this decade also in the CMEA countries.

It is particularly remarkable that between 1950–1970 90 per cent of the increase of industrial output derived from the increase in productivity in Western Europe (56 per cent in the CMEA countries); within that, the ratio of the growth of productivity to that of output was 119 percent in the textile and light industries, 98 in the food processing industry, 95 in metallurgy, but only 68 per cent in the metal-working industries. (16)

Experience shows that in the developed western countries, with more than three fifths of the production potential of the world economy in their hands, the food, textile, clothing, and shoe industries – that is, industries representing more than one fourth of the industrial output of these countries – became lagging industries by the beginning of the seventies. The lag will emerge in the second half of the seventies in industries turning out household electrical appliances, certain vehicles and in some industries producing intermediary goods. At the same time, the share of the industries determining the direction of technological progress (nuclear industry, computers,

control techniques, telecommunications, machine tools and the armament industries) as well as of those producing means of production and intermediary goods for them will increase.

Internal forces motivating the structural transformation of industry

The structural transformation of industry reflects the effect of various processes. In the wake of the acceleration of technical progress, the fast spread of the technological division of labour and the differentiation of technological development levels beginning with the second half of the sixties, views began to spread which linked the changes in the economic structure essentially to the specific features of technical progress, and to the life-cycle of the technological development of individual products. According to the assumptions of the Hirsch-Vernon model of *product-cycle* (14, 15), the lifetime of technological "cultures" is given and it is cyclical. After development, production and marketing an up-to-date product loses its novelty, it becomes mature. At the point of technological maturity the production process is stabilized, it changes less and less with the passing of time and also requires less skill.

Before reaching the point of maturity, in the so-called running-in period, those developing the technology and realizing it on highest level enjoy a technological rent. Activities at the peak of technological development or in its declining phase are judged by the market to be socially necessary labour to a diminishing extent. This conception thus approaches the problem of structural development not from the aspect of structure by industry and the product pattern, but by relying on the stages in the technological lifetime curve of the various activities, independently of the technology and the nature of the product.

It is undeniably to the credit of the theory of product-cycle elaborated on the basis of experiences of structural shifts between 1930–1970 that it included technological development amongst the constituting elements of industrial growth and the division of labour. At the same time it blurs the importance of the structure by industries and of the product pattern, and diverts attention from non-technological elements. Recent economic processes have made it look even more doubtful. Between 1955–1970 the growth rate of productivity was higher in light industry in the advanced western countries than e.g. in the engineering industry. Industries carrying on a stubborn rear-guard fight wanted to delay the weakening of their positions precisely by accelerating technological development. Nor do new facts in the international division of labour confirm the assumptions of the theory of product cycle. Finally, it is precisely the acceleration of structural changes, the growing share of industries with a higher productivity and acting as carriers of growth – while their rate of technological progress may well be slower – that indicate the weakness of the hypothesis.

Thus, the rate of structural transformation is linked not so much to the rate of technological development, but to absolute differences in technological development levels. According to 1970 figures the value of output per man-year was DM 83.000 the West-German engineering industry, DM 115.000 in the chemical industry, while it was only DM 30.000 in the textile and DM 36.000 in the clothing industry. (17).

The productivity differences among industries are hardly reflected by wage levels, since, owing to the action of organized labour and to the mobility of less skilled labour, industries on a lower productivity level are also compelled to keep pace with the general level of wages prevailing in the economy. Thus, e.g. in the average of the years 1967–69 wages paid in the textile industry amounted to 84 per cent, those in the food industry to 101 per cent, in engineering to 104 per cent and in the chemical industry to 125 per cent of the West-European average for manufacturing industries. (16) Thus the differences in wages are slight in comparison to those in productivity.

The industries that for reasons of production or technology employ less skilled and less productive labour to some greater extent, necessarily take increasing additional costs upon themselves as a consequence of the wage-levelling tendencies, and their profitability diminishes accordingly. The huge differences in productivity and the emerging tendency of wage-levelling among industries will – even without competition from the outside – gradually lead to a withering of industries which are on a lower technological level for historical, technical or economic policy reasons.

The rate and direction of structural transformation also reflect the changes in the *pattern of demand* and the related expectations. The branches lagging behind are such for whose products, at a higher stage of economic development, the elasticity of internal demand with respect to income is lower than average. In the advanced western countries the market for light industrial products reached relative saturation already in the sixties and that for durable consumer goods will do so in this decade; demand no longer receives stimulation by the inclusion of new sections of consumers, but is a function of the demand for replacement which is highly sensitive to business fluctuations. Stabilization of the production level of industries releasing durable consumer goods reflects trends in demand and the adaptation of producers to less dynamic markets. The progress of the dynamic industries reflects changes in demand linked to the structural shifts in material consumption, investment and armaments.

Structural transformation is also promoted by the efforts at improving the *realization* conditions *for capital* in the capitalist world economy. In the absorption of the relative capital surpluses of the countries at a higher stage of economic development the traditional methods and those emerging after World War II are no longer suited under the changed realities of the seventies. Capital exports into the less developed countries have to face up to limits set by the growing political risks, the collapse of the Bretton-Woods monetary system, and the foreign exchange sensitivity developed in the wake of the price explosion of crude oil. A further dynamic expansion of the government market is hindered partly by the consequences of the era of peaceful coexistence (mitigation of armaments related to the military equilibrium position), partly by the world-wide inflationary process evolving since the end of the sixties and by the need to do something to eliminate economic disequilibrium at home. The absorption of capital surpluses is facilitated by the growing weight of material- and capital-intensive industries and by the diminishing ratio of those realizing capital with a lower efficiency and or of those which are less capital intensive and use more though less skilled labour. This both mitigates and endangers the internal and external disequilibria of the process of capitalist reproduction. The increase in capital intensity accompanying the structural transformation is illustrated by the fact that,

against the average capital-output ratio of industrial production (taken now as unity) in West-Germany, the value of the coefficient was 0,7 in the textile industry, 0,3 in the clothing industry, 0,4 in the leather, 0,6 in the shoe and 0,8 in the industry producing electrical machinery, while it was 1,9 in the chemical industry. (17)

Finally, the process of structural transformation is influenced also by the features of the mobility of *labour*. There are two possible major directions for labour squeezed out from industries that do not keep up with standards of development: "downward", that is, doing jobs which, though socially useful, are performed under unfavourable environmental conditions and are, therefore, not generally filled in the more developed countries, or "upwards", that is, by adapting through retraining to satisfy the usually higher requirements of more dynamic industries. The downward trend is usually held up by the very low, even negative social prestige of such work, while the upward movement is frequently handicapped by age, territorial distribution, personal endowments and talent as well as by development policies. Thus, structural change is accompanied by structural unemployment. In the more developed countries the bulk of the labour force shows upward mobility, making efforts to acquire the qualifications necessary for work in the more dynamic fields that are accompanied by higher social prestige and income. The growth of human capital-intensive industries making higher demands as regards qualifications does not meet with any mentionable limits of supply in an advanced economic environment and promotes a more efficient utilization of the human potential of particular economies. The human capital-intensity of the industries that have fallen behind is much lower than the average (e.g. 0,6 in the textile industry, 0,3 in the clothing, 0,5 in the leather, 0,9 in the shoe and 0,9 in the food industry). Thus the established qualities of labour, which can be though conditioned by social and economic policies, have a role to play in the speed of structural change.

A survey of the process and the driving forces of structural transformation highlight the *relativity* of the notions of pioneering and lagging behind. The role of being the pace-making industry is not constant by far, it quickly wanders among industries; technological progress increasingly shortens the duration of the domination of a particular industry. The textile industry, for instance, could play the role of growth carrier for more than two centuries, the steel industry for a century, the motor-vehicle-industry for hardly half a century and household electrical appliances for merely twenty-five years — after that their development slowed down and they ceded their place to others which were more up-to-date from the point of view of structural development. On the other hand, the notion of lagging behind is not *uniformly* valid in different sectors of development. A decreasing share in output, employment or in capital absorption does not necessarily entail a similar lag in technological growth or in international economic relations.

World economic components of the structural development of industry

The growing interdependence of the international division of labour and structural development is explained partly by processes emerging in the industrially advanced countries, and partly by industrialization in what had been backward areas

of the world. In industrially advanced areas structural change is accompanied by the *migration* of declining branches from the industrial centres. The low-productivity industries lagging behind cannot keep pace with high-productivity industries which are pioneers from the aspect of technological and structural development even by taking greater burdens upon themselves. In addition to the problems related to higher per unit wage costs, industrial centres are overripe and their infrastructure is overburdened. Increasing infrastructural and social costs can no longer be taken by the technologically simpler industries creating lower social value per unit of output, in congested industrial centres dynamic new industries secure a place for further expansion for themselves – both in a physical and a social sense – by squeezing out struggling industries that lag behind. Similar problems are caused by growing emphasis on the quality of life and on the protection of the environment. Investments into environmental protection that have become necessary in recent years cannot be paid for by industries that do not develop adequately.

In countries extending over large geographical areas industries that lag behind gradually settle in the first stage of structural transformation in the backward areas of the country. In the high-income advanced eastern states of the US the migration of agriculture started already in the forties, that of the light industry in the fifties, followed in the sixties by the light- and medium-weight machine production; most of these industries found a location in the South and the Mid-West. In Western Europe the process of internal migration, perceptible already in the sixties was mitigated partly by the shorter distances and partly by importing labour, the fast growth in the number of foreign "guest"-workers. Employment of foreign labour coming from areas with lower wage levels seemed transitorily to be a suitable instrument for putting a brake on the rise of wages, which could lead to a decline in competitivity and profitability.

Thus, internal sectoral migration and the system of guest-workers transitorily slows down the process of structural transformation within the national and the world economies. But territorial levelling in the particular economies and extensive resort to the system of guest-workers – with the social and political tensions emerging in the wake of the system, sharpening with the rising wage level of guest-workers as a result of their organization – could secure but a brief respite for declining industries. Thus, by the beginning of the seventies the lagging sectors in industrially advanced countries faced the dilemma whether to ensure their survival by technological development and capital intensive automation, by asking for protectionistic tariffs and budgetary subsidies, or by emigration, settling in countries with lower costs.

A solution of the dilemma of these industries was promoted by the emergence of new processes in the world economy. Industrialization in the developing countries accelerated after World War II and, when limits to the internal markets of most of the developing countries began to be outlined in the second half of the sixties, in a growing number of countries development became export-oriented, replacing the earlier import-substituting policy. For various reasons also the industrialization of the smaller socialist countries became gradually more export-orientated in the second half of the last decade.

Owing to changes in international power relations the developed Western countries could no longer consider the objective of defending the earlier colonial

division of labour as realistic, if only for political reasons they could not build protectionistic walls around their home markets. In a period of growing inflation the budgets of particular countries could less and less take upon themselves the growing social costs of declining industries. They were increasingly forced to accept (election periods excepted) that national economic interests were linked to an acceleration of structural development and not to the protection of the industries that could not keep up with the pace.

At a higher stage of economic development the steadily growing share of capital, research and market-intensive industries meets with obstacles within national limits (particularly in smaller countries), and thus demands a continuous expansion of external markets. Concentration on the structurally more developed industries thus assumes and makes possible a continuous expansion of exports. Competitivity of export is, however, beneficially affected by the gradual liquidation of the socially more and more costly declining industries, thus by a lessening burden on the labour market, the infrastructure, the capital market and, in certain cases, the budget, and also by a greater reliance on cheaper import sources. At the same time, the export-orientation of the most modern industries requires effective demand on the part of the external markets. Resettlement of structurally declining industries increases the foreign exchange earning capacities of the host countries and extends the absorptive markets of the modern industries requiring ever wider international economic relations.

In countries which are in the vanguard of structural transformation the liberalization of import policy was given priority over forced technological development and the protection of industries in relative decline. Emerging import competition started self-generating mechanisms. Since the products of industries that lagged behind are turned out in advanced countries with hourly wage rates of 2–5 dollars, as against 20–50 cents in the developing countries and 50–100 cents in the South-European countries, such differences in wages cannot be balanced in industries requiring major live labour inputs by means of productivity differences or general tariff protection.

The second stage of structural transformation, emerging in the seventies, is characterized by the fact that the more flexible enterprises within industries that lag behind in the rear-guard fighting against the dynamic branches and the competition of imports defend themselves by resettling some of their activities in countries on a lower level of development, by establishing an international division of labour in industry. Naturally, this form of defence further increases import competition, undermining the positions of the least competitive enterprises at an accelerating rate, while also accelerating structural development within the industry, and the economy and in international relations as well.

In the acceleration of this process a particular role has been played by the expansion and increasing international role of the *multinational corporations* in the last decade. These enterprises can to a considerably extent act independently of the decisions of national governments which are compelled to consider social and political problems. Their moves are inspired by considerations concerning the efficient world-wide use of resources. The multinationals, which are in the vanguard of con-

Table 3

Commodity pattern of world trade, exports;
total exports = 100

Export	Food, beverages, tobacco	Raw materials	Fuels	Chemicals	Machinery	of which: Vehicles	Other industrial articles	of which: Textiles	of which: Clothing	Metallurgical products
World export total										
1960	17.5	16.7	9.9	5.8	21.8	3.2	27.1	4.9	—	9.0
1965	16.6	13.3	9.6	6.6	24.5	2.7	27.8	2.5	—	8.8
1970	13.2	10.6	11.7	7.0	28.8	3.7	29.0	4.0	2.0	9.4
1973	13.4	10.1	11.0	7.1	28.9	4.0	27.8	4.0	2.2	7.9
Developed market economies										
1960	13.9	13.2	4.0	7.6	28.0	4.5	31.8	5.6	—	10.2
1965	13.7	10.6	3.4	8.2	30.5	3.7	31.2	4.9	—	9.4
1970	10.8	8.7	3.4	8.7	35.1	5.0	31.7	4.3	1.8	10.2
1973	12.3	8.6	3.5	8.8	35.0	5.4	30.5	4.2	1.7	8.7
Developing countries										
1960	29.5	27.9	28.0	1.1	0.7	—	12.3	3.3	—	5.2
1965	28.4	22.4	31.0	1.4	1.1	0.1	15.0	3.7	—	5.8
1970	23.8	18.2	32.3	1.6	2.6	0.1	19.6	3.5	2.4	7.5
1973	19.0	15.7	39.6	1.6	4.2	0.3	19.0	3.7	3.5	4.7
CMEA countries										
1960	14.2	13.6	12.5	4.8	28 8	1.4	25.3	1.9	—	9.2
1965	11.6	11.9	11.5	5.2	30.4	1.1	27.4	1.8	—	10.5
1970	10.3	10.0	9.7	4.7	31.5	1.2	25.6	1.7	2.5	10.5
1973	9.5	9.4	10.7	4.8	33.1	1.4	23.4	1.9	2.7	9.1

Sources: UN Monthly Bulletin of Statistics, March, April and July issues in 1964, 1968 and 1975.

Table 4

Commodity pattern of world trade, imports;
total imports = 100

Import World	Food, beverages, tobacco	Raw materials	Fuels	Chemicals	Machinery	of which: Vehicles	Other industrial articles	of which: Textiles	of which: Clothing	Metallurgical products
World import total										
1960	17.5	16.7	9.9	5.8	21.8	3.2	27.1	4.9	—	9.0
1965	16.6	13.3	9.6	6.6	24.5	2.7	27.8	4.5	—	8.8
1970	13.2	10.6	11.7	7.0	28.8	3.7	29.0	4.0	2.0	9.4
1973	13.4	10.1	11.0	7.0	28.7	4.0	27.8	4.0	2.2	7.9
Developed market economies										
1960	18.9	20.0	10.2	5.5	18.1	3.6	26.6	4.5	—	9.3
1965	16.9	15.1	10.1	6.1	21.9	3.2	28.6	4.3	—	9.2
1970	13.4	11.6	9.8	6.5	26.9	4.6	30.1	3.8	2.2	9.8
1973	13.4	10.9	12.3	6.6	26.6	4.9	29.0	4.0	2.5	7.7
Developing countries										
1960	16.4	7.5	10.2	7.7	28.2	3.5	28.4	7.0	—	6.9
1965	16.5	7.0	9.1	9.0	32.0	2.2	28.3	6.0	—	6.9
1970	12.7	6.5	7.3	9.0	33.6	2.0	26.4	5.3	1.1	8.3
1973	13.4	6.7	8.4	9.0	33.7	2.1	24.5	4.9	1.0	7.4
CMEA countries										
1960	16.4	20.3	7.6	4.6	25.8	1.1	30.4	2.8	—	11.7
1965	16.7	14.5	6.9	5.7	29.2	0.9	26.5	2.3	—	9.6
1970	13.3	11.6	6.9	6.2	34.0	1.1	28.3	3.0	3.0	10.4
1973	13.1	9.7	5.9	6.2	35.8	1.2	26.2	3.0	2.9	9.8

Sources: UN Monthly Bulletin of Statistics, March, April and July issues in 1965, 1968 and 1975.

centration of international economic power and the dynamism of economic relations, are interested in accelerating structural transformation.

Finally, structural transformation was influenced also by the *collapse of the Bretton-Woods international monetary system*, by the increasing foreign exchange imbalances and monetary instability. The frequent changes in exchange rates, and the revaluation of the currencies of countries in stronger foreign exchange positions had a considerable damaging effect on industries lagging behind, whose profitability is low and which mostly turn out *products sensitive to price changes*. The latter usually could not pass on losses due to changes in parity to consumers by referring to the technological and quality level. At the same time, the devaluation of currencies increased the protection of industries that lagged behind. In the final analysis, changes in exchange rates had a role in both the internal and the international structural transformation.

The extension of structural transformation to external economic relations is well reflected by changes in the commodity pattern of world trade, particularly in the processes that evolved since the second half of the sixties.

Although the figures expressing the structural changes in world trade should be handled with caution because of the shifts in relative world market prices observable already in 1970–1973, yet they call attention to several important international processes. The share of foodstuffs, raw materials and fuels that still amounted to half of world trade in 1955 fell to 35 per cent by the early seventies. Just as the earlier assumptions based on extrapolations of 1955–1970 trends proved to be false, a projection of the price explosion in 1973 is not well-founded either, and the relative stability of the structural weights developed by the early seventies secures a dampening of the cyclical and structural imbalances emerging at times in various parts of the world.

The high share of primary products in world trade indicates that *natural conditions* still play a considerable role in the structure of the international division of labour and world trade, while the peculiarities in the pattern of trade of the individual main regions highlight that *utilization of the natural conditions is increasingly linked to the economic and technological level as well as to the system of objectives of economic policy*.

Similarly, the growing importance of the socio-economic conditions of the international division of labour is reflected by the increasing intensity of the exchange of industrial articles which was only transitorily broken by the explosion of raw material prices in 1973. While the share of industry is hardly one third in the world's gross output, in international trade it is almost two thirds. The intensity of the international industrial division of labour is greater and its increase faster than that of the internal division of labour. The international industrial division of labour is of decisive importance particularly from the point of view of the smaller countries intending to develop their structurally up-to-date industries, but the share of exports in the output of manufacturing industries in 1973 was 17 per cent in the USA, 22 in Japan, 35 in France, 43 in West-Germany, 45 in Italy, 57 in Great Britain and 75 per cent in Canada.

Of the main branches of industry the production of machinery requires greatest intensification of the division of labour from the aspects of both production and

markets. The share of machines is much greater in world trade than in world output. At the same time, because of the lower demand on the development of the economic environment, a more homogeneous technology, the preferences of national economic policies and, last but not least, the increasing price level of crude oil, the degree to which the chemical industry has joined the international division of labour is lower than that of engineering.

Structural changes in world trade appear with a different intensity in particular groups of countries. A developed state of the international division of labour is characteristic mainly of the advanced western countries and the CMEA countries, while the process of structural transformation proceeds fastest in the exports of the developing countries: in these the share of industrial articles in exports rose between 1960–1973 from 14 to 25 per cent.

On the import side the most important and forward-looking element of the recent past has been – beside increasing division of labour in the machine building and chemical industries – the division of labour precisely in those industries which count as declining ones in the advanced countries. This process cannot be restricted to the assertion of a single comparative advantage or to some driving power of the division of labour. In the imports of the advanced western countries, and to some extent in those of the socialist countries *the products of such "declining industries" are dynamic*, which:

- are based on the favourable raw material supply of the exporting country and on an industrial policy aimed at increasing the degree of processing of local raw materials (e.g. various intermediary products of metallurgy, the petrochemical industry, the timber processing industry, processed food);
- are based on the low wage level of the exporting country, on the live-labour intensity of production, on its lower than average capital and technological requirements, and on the fact that the minimum requirements regarding quality can be more easily met (e.g. textiles, clothing articles, leather products, timber products, metal mass products, toys, sporting articles etc.);
- are based on the relative development of the technological environment of the exporting country, on its relatively lower wage level and on the "ripeness" of production technology as well as on the steady level of technology. In respect of products which are less dynamic from the point of view of demand and technological progress in the advanced countries, but which are wage-intensive (e.g. electric consumer durables, motor vehicles, optical products, etc.) at present the semi-industrialized countries have competitive advantages over both the most industrialized and the least industrialized ones.

The effect of said processes is indicated by the growing share in world trade of textiles, food and motor vehicles between 1970–73. The declining share of light industrial and metallurgical products in the imports of the developing countries is also a result of structural development.

Structural changes in world trade are closely interlinked *with the structure of world economic power* and this fact increases the weight of elements of power politics in the structural transformation. In the world trade of primary products only a negligible fraction of the products is realized through free market transactions. At the same time the share of trade transacted through the channels of international cor-

poration-empires and under long-term delivery contracts has increased. The share of large corporations in the international trade of industrial articles has attained 30–35 per cent, and a much higher share within that in respect of products closely related to technical progress. The three leading capitalist countries: the USA, Japan and the Federal Republic of Germany transact 30 per cent of world exports, but their combined share is 50–60 per cent in quite a number of engineering categories.

A close interdependence is coming about between *the international industrial division of labour and the flow of capital and technology*. The latter, of increasing importance between the advanced countries, is mostly concentrated on industries which are in the vanguard of structural transformation. The structure of capital exports to the developing countries is also undergoing a change: the weight of investments into the manufacturing industries, particularly into the export-orientated ones, is growing against investment into the conventional extracting industries. The starting relocation of industries unable to keep up in the developed countries also means an ever more important channel for the international flow of capital and technology.

Obviously, the structural transformation of the world economy *does not evolve uniformly in every country*. Smaller countries cannot develop modern industries on a too broad front, they necessarily specialize in a smaller number of products and, in the interest of avoiding too great dependence on the world market, they are compelled to concentrate on activities which are less sensitive to power pressures and to the scale of production. In less dynamic countries it is difficult to create the energies necessary for accelerating structural development, to absorb the transitorily released labour; and here slower growth and structural rigidity may create a vicious circle even in the longer run. In recessions, at the time of political tension, the structurally backward industries exert a powerful pressure for subsidies, seeking protection against competition.

The varying rate of structural transformation thus *differentiates the world trade positions and international bargaining power of particular countries.*

The bulk of the world's financial resources, research and development capacities, and potentials for the export of technologies as well as the production of the means of production needed for the technically most advanced products and intermediary goods are concentrated in the large countries which are in the vanguard of structural transformation. The countries which relatively lag behind in structural transformation such as the United Kingdom, Italy, France and the smaller developed countries partly undertake a "subcontractor's" role by turning out technologically most up-to-date consumer goods and intermediary products while establishing similar relations with countries which are even less developed as suppliers of means of production necessary for producing consumer goods and intermediary products. The third step in the structural pyramid of the international division of labour is constituted by those moderately industrialized countries of the Far East, Latin America and the Mediterranean, which specialize, relying partly on comparative wage advantages, partly on the exploitation of their natural resources, in the production of staple consumer goods and intermediary products. At the base of the pyramid are those developing countries which are doomed to slow technological progress because of their labour surpluses and lack of capital. Thus, while structural development stimulates important flows in world trade and levelling processes in a narrow group of countries, *for a*

great number it means additional obstacles to growth created by increasing differentiation.

The structural changes in the world economy and in world trade influence, of course, *the external conditions of East-West trade as well.* In the last decade most of the CMEA member countries entered an intensive, more export-oriented phase of economic growth. Within CMEA exports to OECD countries the share of industrial goods has risen to above 40 per cent, reflecting nevertheless a lower degree of the industrial division of labour than would be justified by either the general development level of the CMEA countries or the import pattern of the OECD countries. Since the agricultural protectionism of the advanced western countries and the slow rate of growth in their demand for agricultural products does not allow East-West relations to be based on trade in agricultural products, the *expansion of East-West relations is determined* for the smaller socialist countries which are poor in raw materials *mainly by their participation in the international industrial division of labour.* But exports of industrial goods from the CMEA countries face various difficulties, depending on the shape of the growth process in the individual OECD countries, as well as such as derive from their import patterns. According to experience the elimination of these difficulties and the boosting of industrial exports is more successful in those countries where the process of structural transformation is advancing dynamically. Of course, a deepening of the industrial division of labour with the structurally most advanced OECD countries assumes that economic policies are regulated on the basis of mutual interests, that the supply patterns of the CMEA countries exporting industrial articles develop faster than those of the developing and the Mediterranean countries, and that the market possibilities emerging in the wake of the dropping out of some OECD industries still carrying on a rear-guard fight are exploited.

The importance of the process of structural transformation is illustrated from another aspect by the fact that, in the medium term, the share of those markets has diminished in the exports of the CMEA countries with which the degree of the industrial division of labour was also low. In these OECD countries the rate of structural transformation was much more modest than in the OECD average and, because of deeply rooted powerful and lasting protectionist trends and the deterioration in international competitivity, they can less and less offer adequate variants for the industrial division of labour with the socialist countries. They possess much fewer possibilities and are less inclined to establish more lasting and more complex forms of industrial cooperation which already represent about 30 per cent of the world trade today.

The new stage of growth of the CMEA countries, the fact that the requirements of efficiency and quality improvement have been given priority by economic policy, and the starting of structural transformation programs strengthened particular trends *in imports* as well. Most of the socialist countries want to establish cooperation with OECD partners mainly in respect of *structure-developing major investment projects.* With major projects, however, solution of the novel problems emerging in the cooperation of enterprises operating under different socio-economic systems requires considerable expertise, a broad organizational background, a capacity for the adaptation of technologies, and financial resources. The system of overall management of the

socialist economy, its system of economic-policy goals, and the planning of socio-economic processes lead to preference for *stability* in external economic relations.

The growth of structure-transforming imports of the socialist countries, the requirements of industrial division of labour and of stability, and the new types of enterprise cooperation promoting their implementation strengthen, other things being equal, the relations with countries in the vanguard of structural transformation also on the side of imports.

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This paper only examined certain aspects of the structural transformation of the world economy, partly because of lack of space, and partly owing to the fact that the proportions of the final use of the goods produced, of consumption and of investments, of the distribution of personal incomes have not by far changed on an international scale to an extent that would be comparable to shifts in proportions in the structures of particular economies, or in that of the international division of labour. It is thus not unfounded to assume that in the present stage of development of the world economy structural transformation may receive an impetus – particularly in countries on a higher stage of development and more sensitive to changes in the world economy – mainly from the new trends evolving in *international economic* relations.

Thus, structural transformation urges also on an international scale a planned coordination of internal and external factors of economic development, the establishing of *international cooperation*, bearing in mind world-wide economic, political and technological movements, to be regulated in the long term.

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ВОПРОСЫ МЕЖДУНАРОДНОГО ПРЕОБРАЗОВАНИЯ СТРУКТУРЫ ПРОМЫШЛЕННОСТИ

Б. КАДАР

Автор стремится показать процесс структурного преобразования мировой экономики, его движущие силы и его обратное воздействие на международные экономические связи. Развернувшиеся после второй мировой войны политические и экономические процессы ускорили преобразование структуры отдельных отраслей, национальных экономик и международных экономических связей в развивающихся, развитых капиталистических и социалистических странах. На относительно высокой ступени экономического развития уровень структурного развития выражает уже не столько удельный вес промышленности в народном хозяйстве, сколько происходящие внутри промышленности структурные преобразования. Так, к концу истекшего десятилетия отстающими отраслями стали текстильная, швейная, обувная, пищевая промышленность, а во второй половине 70-ых годов — многие отрасли, выпускающие товары длительного пользования, причем одновременно происходит мощный рост доли промышленных отраслей, определяющих направление технического прогресса, и отраслей, поставляющих им средства производства.

Автор объясняет темпы структурного преобразования не темпами технического прогресса или теорией цикла жизни продукта, а абсолютными различиями в техническом уровне развития отраслей. Он отмечает, что огромные различия между уровнем производительности труда в различных отраслях при развертывании тенденции к нивелляции отраслевых уровней заработной платы постепенно приводят внутри отдельных национальных экономик — даже при отсутствии конкуренции внешнего рынка — к свертыванию отраслей, находящихся на низком техническом уровне. Структурному преобразованию содействуют стремления к повышению эффективности капитала, специфика подвижности рабочей силы. В то же время внутренняя миграция отдельных отстающих отраслей в слаборазвитые регионы стран или система найма иностранной рабочей силы могут временно замедлить процесс структурного преобразования национальных и, соответственно, мировой экономики. Индустриализация ранее отсталых стран, изменение соотношения сил на международной арене, стремления к глобальному использованию ресурсов с различных сторон ускоряли структурное развитие промышленности и международного разделения труда, включение ранее отсталых стран в международное промышленное разделение труда, усиливали взаимное переплетение международных потоков промышленных изделий, капитала и техники.

Структурное преобразование мирового хозяйства по-разному сказывается на отдельных странах, дифференцирует их экономический рост и позиции в мировой экономике, приводит к возникновению структурной иерархии в международных экономических отношениях.

Структурные изменения в мировом хозяйстве влияют также на внешние условия экономического сотрудничества между Востоком и Западом, поскольку для многих стран-членов СЭВ расширение связей с Западом определяется в первую очередь возможностью включения в международное промышленное разделение труда. Согласно накопленному до сих пор опыту, внешнеэкономические связи стран-членов СЭВ могут успешнее расширяться с такими развитыми капиталистическими странами, в которых процесс преобразования структуры развертывается динамично, в связи с чем формы сотрудничества отличаются стабильностью и перспективностью.

В заключение автор подчеркивает, что в предстоящие годы структурное преобразование мирового хозяйства может получить импульсы в первую очередь из сферы международных экономический связей, что вызывает потребность в организации долгосрочного регулируемого международного сотрудничества, основывающегося на учете развертывающихся в мировом масштабе экономических, политических и технических процессов.

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К. ПЕЧИ

К РАЗВИТИЮ МЕЖДУНАРОДНОЙ СОЦИАЛИСТИЧЕСКОЙ ВАЛЮТНОЙ СИСТЕМЫ

В развитии международной социалистической валютной системы автор различает несколько этапов. Он останавливается на применении двухсторонних клирингов, на противоречиях двусторонних и первых попыток многосторонних финансовых решений. И, наконец, анализируется роль переводного рубля. Автор приходит к выводу, что многосторонние расчеты, производимые Международным банком экономического сотрудничества, носят до сих пор технический характер, и существующие в действительности двусторонние расчеты препятствуют осуществлению интеграции стран-членов СЭВ, ускорению перехода на новый этап интенсивного развития. Именно поэтому в интересах дальнейшей интеграции СЭВ автор рассматривает необходимость и возможные варианты расширения международной роли рубля.

Валютно-финансовые связи между странами, вступившими на путь социалистического развития после второй мировой войны, были вначале неразвитыми. Экономика этих стран была привязана в основном к экономическим и валютным отношениям ведущих капиталистических стран. (В довоенный период доля Советского Союза во внешней торговле юговосточных и среднеевропейских социалистических стран составляла только 1%.) В изменившихся условиях эти страны должны были переориентировать свою внешнюю торговлю, ввиду политической и экономической дискриминации со стороны империалистических держав. Большинство социалислических стран унаследовало от капитализма слаборазвитую экономику, не было у них и валютно-золотых резервов, требуемых для ведения нормальной внешнеторговой деятельности.

В первые послевоенные годы в двусторонних клиринговых расчетах между социалистическими странами применялись различные валюты. Первое послевоенное соглашение о платежах между Венгрией и СССР было заключено 27 августа 1945 г. По этому соглашению центральные банки взаимные платежи проводили в венгерской валюте, пенгё, а в феврале 1946 г. перешли к долларовым счетам. Платежи между Венгрией и Чехословакий производились до 1951 г. форинтах и кронах. До 1949 г. СССР платежи по торговым операциям с Албанией, Болгарией, Венгрией, Польшей и Румынией вел на долларовых счетах.

Усиливающаяся дискриминация со стороны капиталистических стран, необходимость изменения структуры внешней торговли, а также образование в 1949 г. СЭВ потребовало внести изменения и в валютно-финансовой области.

Рубл на различных этапах развития международной социалистической валютно-финансовой системы

Применение двустороннего клиринга между социалистическими странами (1950–1964 гг.)

После перевода курса советского рубля на золотую базу (1 марта 1950 года) стало возможным, чтобы расчетной валютой в платежах между странами-членами СЭВ стал двусторонний клиринговый рубль. Золотое содержание клирингового рубля было равным золотому содержанию внутреннего советского рубля (то есть 1 руб. = 0,222168 грамма частого золота), и исходя из этого его курс в долларах составлял 4 клиринговых рубля = 1 доллару, учитывая золотое содержание доллара. Таким образом рубль мог выполнять международную роль — при неизменном сохранении его внутренней роли — и стал ведущей валютой складывающейся международной социалистической валютно-финансовой системы.

Сущность двустороннего клиринга как одной из организационных форм международного денежного обращения состоит в том, что участвующие в нем две страны свои взаимные долги и требования регулируют на двусторонней основе, как правило, без вовлечения третьей стороны. Относительно выравнивания платежного баланса это означает, что стороны во взаимных расчетах непосредственно обеспечивают равновесие платежей. Такая задолженность не подлежит переводу в другую валюту или на золото.

Целью настоящей статьи не является подробное рассмотрение сущности двустороннего клиринга. В этой связи мы должны только отметить, что после 1950 года сложился и внешнеторговый механизм, соответстующий механизму двусторонних клиринговых расчетов. Сущность его состоит в том, что стороны в двустороннем порядке устанавливают межгосударственные контингенты на товарные поставки в соответствии с долгосрочными соглашениями о товарном обороте. Важная характерная черта этого механизма — это обязательный характер взаимных поставок зафиксированных в соглашениях количеств товаров.

Характерной чертой соглашений о платежах, образующихся между странами-участницами двустороннего клиринга, было то, что платежные операции концентрировались в центральных или специальных внешнеторговых банках. Соглашения о платежах распространялись на все платежи, связанные с внешнеторговым оборотом и издержками по внешнеторговому обороту. Следовательно, таким способом устранялись платежные связи между предприятиями. В целях контроля выполнения платежей, предусмотренных в соглашниеях, банки открыли и вели счета в клиринговых рублях. 1 января 1961 г. в Советском Союзе изменился масштаб цен, и золотое содержание рубля возросло до 0,987412 грамма, что действительно и по настоящее время. В соответствии с этим повысился и курс рибля в долларах, и сложилось соотношение рубля и доллара 1 : 0,9. Соответственно изменилось и золотое содержание клирингового рубля, поэтому и вся дебиторская и кредиторская задолженность по клиринговым счетам была переоценена пропорционально изменению золотого содержания.

Параллельное функционирование двусторнних и многосторонних расчетов (1957—1964 гг.)

Первая крупная в условиях социализма попытка ослабления барьеров, созданных двусторонними расчетами, и совершенствования на многосторонней основе кредитных и расчетных связей была предпринята 20 июня 1957 г. Правительства стран-членов СЭВ подписали соглашение о многостороннем клиринге. Система многосторонних клиринговых расчетов функционировала параллельно с системой двустороннего клиринга. В соответствии с этим наряду с двусторонним клиринговым рублем возник в качестве расчетной валюты также и многосторонний клиринговый рубль. Его курс и золотое содержание совпадали с курсом и золотым содержанием двустороннего клирингового рубля.

Основной принцип соглашения о многостороннем клиринге заключался в том, что платежи каждой из стран-участниц соглашения должны были совпадать в каждом календарном году с поступлениями из других стран, иными словами, было постулировано требование совокупного равновесия в пределах каждого календарного года. Эта система многостороннего клиринга существовала до 1 января 1964 года. Однако многосторонний товарный оборот между странами СЭВ не играл существенной роли. Безуспешность первой попытки стала очевидной. Одну из главных причин этого следует искать в параллельном функционировании двусторонних и многосторонних форм расчета и, соответственно, параллельном функционировании расчетных валют. Дело в том, что страны-участницы не были заинтересованы в расходовании полученных в двустороннем клиринге активов на поставки на многосторонней основе так называемых «мягких» товаров.

Другая причина заключалась в условиях кредитования, предусмотренных соглашением. Дело в том, что эти условия были намного строже, чем условия кредитования в механизме двустороннего клиринга. Был установлен только относительно узкий беспроцентный лимит. Рестриктивные черты кредитного механизма позволяли странам-должникам не переводить свою — возникшую при благоприятных условиях кредитования на двусторонней основе — задолженность на счета многостороннего клиринга.

Соглашение о многосторонних расчетах в переводных рублях и Международный банк экономического сотрудничества (с 1964 г.)

С 1 января 1964 г. страны-члены СЭВ рассчитываются по своим долгам и требованиям друг с другом на основе соглашения о многосторонних расчетах. Со всеобщим переходом к системе многосторонних международных расчетов Международный банк экономического сотрудничества (в дальнейшем МБЭС) ввел в качестве расчетной единицы переводной рубль. Золотое содержание переводного рубля равно золотому содержанию советского рубля — 0,987412 грамма. Новая расчетная единица заменила ранее существовавшую расчетную единицу — клиринговый рубль.

Эта система заменила расчеты по двустороннему и многостороннему клирингу, действовавшим согласно соглашению 1957 г. В новой расчетной системе все участники упорядочивают сальдо взаимных расчетов как бы с совокупностью всех прочих участников. Страны-участницы обязаны при заключении торговых соглашений обеспечивать в пределах календарного года балансирование поступлений и расходов в отношении всех других участников как единого целого. При этом следует также учитывать образовавшиеся резервы, а также кредитные операции в переводных рублях.

В соответствии со своим Уставом МБЭС осуществляет кредитование внешнеторговых и прочих платежных операций стран-членов. Кредитование производится на определенное время, на условиях возвратности. Банк в основном занимается краткосрочным кредитованием. Кредиты имеют целевой характер. Цели кредитования, порядок предоставления и погашения кредитов определяются Советом МБЭС. Кредиты в то же время носят плановый характер. За предоставляемые кредиты банк начисляет процент. В своей процентной политике банк исходит из экономичного использования денежных средств, необходимости укрепления платежной дисциплины и рентабельности МБЭС.

Существенно, однако, то, что при новых условиях основные принципы внешнеторговой основы многостороннего механизма расчетов остались неизменными. Это означает, что при заключении годовых внешнеторговых соглашений в рамках данного календарного года обеспечивается двустороннее балансирование товарооборота. В конечном счете основой механизма расчетов остался механизм двустороннего товарооборота.

Итак, мы рассмотрели в общих чертах этапы развития финансовой системы и расчетной валюты между странами-членами СЭВ. После 25-летнего функционирования этой системы представляется особенно важным рассмотреть ее преимущества, по сравнению с валютной и расчетной системой капиталистического рынка, пораженной все более углубляющимся валютным кризисом.

1. Двусторонняя и нынешняя многосторонняя система расчетов, а также ее валюта *позволяют осуществлять международные расчеты между участниками без значительных валютных резервов*. Планомерный характер расчетного механизма делает излишним замораживание на длительный срок значительных средств. (Под словом «значительных» мы понимаем валютные резервы, необходимые для капиталистического валютного обращения, но это не означает, что в нашей расчетной системе нет необходимости поднимать вопроса о накоплении валютных резервов.)

2. *Покупательная способность расчетной валюты* нашего рынка из-за стабилизации внешнеторговых цен на длительный период была *более устойчивой*. Основным преимуществом этого является то, что нам удалось более-менее устранить внеэкономические инфляционные эффекты капиталистического рынка (например, ухудшение покупательной способности, вызванные войной в Корее, Суэцким кризисом, то есть внеэкономическими причинами), благодаря этому приспосабливание к структурным сдвигам в ценах мирового рынка проходило безболезненно.

3. По упомянутым выше причинам наша валютная система обеспечивает

устранение риска ревальвации и девальвации расчетной валюты. На нашем рынке ревальвация или девальвация не может закончиться выигрышем или убытком для стран, участвующих в расчетном механизме.

4. Расчетная валюта и примыкающая к ней внешнеторговая система, двусторонние контингенты обеспечивают *стабильность планирования и платежей.* Они обеспечивают надежность размещения товаров. Социалистический рынок с его почти неограниченной емкостью находится в распоряжении участников на двусторонней основе. Это представляло собой гарантию и в том отношении, что конъюнктурные колебания капиталистического рынка существенно не сказывались на товарообороте социалистического рынка.

5. Подчиненная роль процента в расчетном и кредитном механизме, а также благоприятные сроки погашения подчеркивали *значение кредитов как международной помощи.* Это способствовало ускоренным темпам индустриализации.

6. Одно из весьма важных преимуществ введенной в 1964 г. многосторонней расчетной системы, по сравнению с прежней — это *возможность познания объемов платежеоборота между странами.* Это — несомненное преимущество, так как стали более обозримыми платежные возможности отдельных стран, что позволяет компенсировать сальдо на двусторонней, трехсторонней или многосторонней основе.

В начале 70-ых годов взаимные расчетные связи стран мировой социалистической системы можно подразделить по характеру расчетов и применяемых валют на пять групп: 1. переводной рубль, 2. клиринговый рубль, 3. клиринговый доллар, 4. национальные валюты, 5. конвертируемые валюты.

В переводных рублях осуществляют страны-члены СЭВ платежный оборот через Международный банк экономического сотрудничества; в клиринговых рублях проводятся расчеты с дальневосточными социалистическими странами на основе двусторонних торговых соглашений: в национальной валюте и клиринговых долларах ведутся расчеты с Кубой и Югославией; в национальной валюте, а также в иных западных валютах осуществляет платежный оборот Китай с социалистическими странами Азии и некоторыми европейскими социалистическими странами. Национальную валюту применяют страны-члены СЭВ в неторговых платежах, хотя итоговые суммы таких платежей в определенных соотношениях балансируются в переводных рублях. Наконец, следует упомянуть, что в целях устранения выгоды посредников на капиталистических денежных и товарных рынках, а также по другим причинам при расчете за некоторые виды товаров между странами-членами СЭВ встречаются и расчеты в конвертируемой валюте.

В дальнейшем будет рассмотрена, в первую очередь, платежная система между европейскими социалистическими странами и роль рубля в ней. Однако на развитие платежных связей этого региона оказывает влияние состояние платежных связей всех стран мировой социалистической системы.

Характер расчетных валют в рублях и их денежные функции

Наряду с рассмотрением этапов развития расчетной системы важное значение имеет исследование характера расчетных валют (двустороннего клирингового рубля и коллективной валюты — переводного рубля). После перевода рубля в марте 1950 г. на золотую базу создались условия для применения рубля в качестве клиринговой валюты в расчетах между социалистическими странами. Образовавшуюся задолженность в клиринговой валюте можно реализовать только по отношению к другой стороне — участнику двустороннего клиринга. Таким образом, может идти речь о советском, чехословацком, болгарском и т. д. клиринговом рубле.

Клиринговый рубль — валюта закрытая. Это определяется в первую очередь тем, что он может использоваться только в расчетах между двумя странами и только в целях, предписываемых двусторонним соглашением о платежах, и технически только в формах, установленных соглашением. Закрытый характер двустороннего клирингового рубля проявляется в следующих основных формах:

— Клиринговый рубль как расчетная валюта обособил взаимный товарооборот социалистических стран от других товарных и денежных рынков мира. Как одно из орудий механизма международных экономических связей между социалистическими странами клиринговый рубль защитил внешнюю торговлю социалистических стран от конъюнктурных колебаний капиталистических товарных и денежных рынков. В этом смысле закрытый характер клирингового рубля можно считать благоприятные явлением. В то же время можно отметить, что закрытый характер этой валюты привел к определенному укреплению автаркии мирового социалистического рынка.

— Клиринговый рубль как расчетная единица исключительно двусторонних расчетов обособил друг от друга также и товарооборот между социалистическими странами. В результате этого товарно-денежные связи между социалистическими странами — поскольку для интенсивного расширения кредитных связей между странами-членами СЭВ (кроме СССР) нехватало средств — определялись возможностями потенциально более слабого участника двустороннего товарооборота. Ввиду того, что социалистические страны вступили на путь социалистического развития, находясь на различном уровне развития, а темпы их экономического развития также неодинаковы, то на определенных этапах такое воздействие закрытой валюты сказывалось также и на общих темпах роста социалистического лагеря.

— Клиринговый рубль как закарытая валюта обособил денежное обращение между социалистическими странами от воздействий мирового социалистического рынка. Этот аспект вопроса связан с проблематикой валютных курсов. Вследствие того, что ценообразование, взаимные расчеты и кредитование стали производиться в клиринговых рублях, официальные курсы валют отдельных стран не играли роли во взаимном товарообороте, расчетах и кредитных связях. В результате этого экономические рычаги социалистических стран — их системы цен, кредита, таможенных тарифов, валютных ограничений, налогообложения, заработной платы, регулирования доходов — прак-

тически развивались независимо друг от друга. Этот факт осложняет осуществление действительной экономической интеграции, сближение народных хозяйств в настоящее время и будет осложнять и в ближайшем будущем. В то же время это воздействие сказывается также и в недостаточном росте экономической эффективности.

С переходом к многосторонним международным расчетам МБЭС в качестве расчетной единицы ввел переводной рубль. Золотое содержание переводного рубля, как уже отмечалось, равняется золотому содержанию советского рубля. Как коллективное средство расчетов переводной рубль сменил клиринговый рубль.

При двустороннем клиринге, собственно, нет денежного обращения, так как оборот средств начинается и завершается между двумя партнерами-участниками клиринга. Денежная единица — будучи расчетной валютой — представляет собой денежное выражение объема товарооборота. При ликвидации сальдо активное сальдо балансируется задолжавшей стороной не деньгами, а товарами.

В нынешней системе многосторонних расчетов функции переводного рубля с точки зрения техники расчетов расширяются. Возможность многостороннего компенсирования взаимных требований позволяет в принципе свободный перевод денежных единиц между странами-членами. Каждая страна может использовать свое активное сальдо, возникшее в обороте с другой страной, для погашения своей задолженности третьей или четвертой стране. Обладающая переводными рублями страна может использовать свои средства на следующие цели:

а) может оплатить ими товары, импортируемые из любой участвующей в соглашении страны;

б) может свои требования в переводных рублях полностью или частично внести как вклад в МБЭС;

в) может перевести их в национальную валюту по системе неторговых платежей;

г) может предоставить из своих требований в переводных рублях кредит другой стране-участнице.

д) Устав МБЭС позволяет в принципе Банку выпускать чеки в переводных рублях. Поэтому любая из стран в принципе имеет возможность проводить при посредничестве МБЭС любые чековые операции.

Особенность эмиссии переводного рубля взаимосвязана с изменением кредитных связей расчетной системы. Если при двустороннем клиринге одна сторона предоставляла другой стороне технический кредит в размерах существующего пассивного сальдо, то в новой расчетной системе место этой операции занял банковский кредит. В этой связи на счетах участников появились кредитные деньги. Количество кредитных денег, т. е. их эмиссия растет параллельно росту пассивного расчетного сальдо отдельных стран. Масса выпущенных денег равняется количеству предоставленного МБЭС технического кредита и одновременно соответствует сумме денежных средств на счетах стран, имеющих активное платежное сальдо. В проведении расчетов и предоставлении кредитов МБЭС выполняет роль посредника. Для него действительным кре-

дитором является страна, имеющая активный расчетный баланс. Основой эмиссии являются товарные поставки, временно не компенсируемые параллельными поставками остальных договаривающихся сторон.

Сущность денежных средств, имеющихся на счетах стран-членов, определятся экономическим содержанием и характером эмиссии переводного рубля. Активные сальдо счетов могут быть преобразованы в срочные вклады. Сроки вкладов могут базироваться только на приближенных оценках сроков выполнения взаимных поставок. Экономическое содержание этих вкладов существенно отличается от экономического содержания традиционных банковских вкладов на капиталистических денежных рынках. Дело в том, что целью последних является сохранение стоимости реализованных товаров в форме универсального средства покупок, т. е. в форме денежных средств. Денежные же средства на счетах стран-членов МБЭС не могут стать источником финансовых операций в данном кругу расчетов.

Важная особенность, что ни двусторонний клиринговый рубль, ни сменившая его коллективная расчетная единица — переводной рубль, не конвертируются в другие валюты. Следовательно, их выход из расчетного круга в денежной форме невозможен. Ясно, что денежные функции в расчетной системе отодвинуты на задний план. И двусторонний клиринговый, и многосторонний переводной рубль как формы стоимости создают специфическое единство актов купли-продажи посредством учета обмена согласованных в двустороннем порядке объемов и ассортимент товаров двусторонней торговли. Вследствие оттеснения на задний план денежных функций обмен расчетных единиц на товар имеет заведомо ограниченный и гарантированный характер. Это вытекает прежде всего из основы расчетной системы, из двустороннего характера внешней торговли. Безусловная гарантированность реализации и исключение самостоятельной денежной формы представляет, таким образом, диалектическое единство. Расчетные единицы — и двусторонний клиринговый рубль, и коллективный переводной рубль — рассматривают внешнеторговую цену в основном как учетную категорию. Общеизвестно (и здесь нет необходимости это доказывать отдельно), что до сих пор в результате так называемого бухарестского принципа ценообразования на рынке СЭВ внешнеторговые цены не играют особо активной роли в товарообороте.

Вследствие всего этого кредиты и денежные резервы выступают как учетные отражения расхождений между двусторонне согласованными объемами и составами плановых товарных контингентов и фактическими товарными поставками (перевыполнений, недовыполнений, переноса сроков, досрочных поставок, ассортиментных отклонений). Объем кредитов и денежных резервов ограничивается взаимно признанным принципом двустороннего балансирования. Этот принцип балансирования формируется совместимостью и противоречивостью взаимных интересов на ежегодных переговорах между сторонами.

Экономическое содержание двустороннего балансирования определяется противопоставлением товарных групп, фигурирующих во внешнеторговом обороте. Таким образом, несмотря на применение коллективной валюты переводного рубля как технического орудия расчетов, в действительности происходит взаимное и ограниченное балансирование спроса и предложения между

странами по-парно. Средством этого служит расчетная единица. Следовательно, *коллективный переводной рубль многосторонним является только формально, по своему же содержанию он двусторонний.* Поэтому свобода покупки в расчетном кругу ограничивается в двустороннем порядке, и, таким образом, мировой социалистический рынок распадается на двусторонне обособленные, разобщенные рынки. Поставщики и кредиторы, должники и покупатели определяются в двустороннем порядке, хотя расчетная единица и является многосторонней и коллективной. Таким образом, точнее, на такой базе складывается единый характер ассортимента товаров, уровней цен, механизмов функционирования и расчетной системы двусторонних рынков, применяющих коллективную валюту.

Формально многосторонний, а по содержанию двусторонний характер расчетной единицы приводит к тому, что требования не могут выйти за рамки расчетного круга, сбалансированность спроса и предложения носит внутренний характер, что приводит к проблемам международного качественного ранжирования ассортимента товаров. Степень и способ обособления социалистической расчетной валюты и капиталистической валютной системы определяются различием уровня экономического развития двух мирохозяйственных систем, их внешнеторговой конкурентоспособности, исключением валютного риска, связанного с неравномерным — циклическим — развитием мирового капиталистического хозяйства, отличиями механизма двух рынков, а также политическими причинами. Следетвием этого является ограниченное использование выгод связей между двумя рынками, а также отсутствие реального и прямого мерила стоимости, безусловно необходимого в условиях экономического соревнования двух систем.

Такое состояние денежных функций чувствительно затрагивает международную социалистическую кредитную систему. Что касается кредитной системы финансирования внешней торговли, то кредитный механизм МБЭС — лишь применение (распространяющееся в настоящее время уже на все страны) ранее существовавшей двусторонней системы технического кредита, и он попрежнему не может итрать особенно активной роли в преодолении структурных проблем между странами. Изменения заключаются только в том, что если ранее на технические кредиты начислялись проценты только сверх определенного лимита между странами, осуществляющими крупномасштабный товарооборот, то в настоящее время рамки технического кредита каждой отдельно взятой стороны определяются суммированием технического кредита, предоставляемого всем остальным странам, и соответственно этому начисляются проценты. Сумма кредита равняется сумме требований стран, имеющих в течение года активные балансы. Страны с активным сальдо предоставляют этот кредит МБЭС, который передает его странам с пассивным сальдо по обороту. Таким образом, Банк в этом процессе выполняет роль посредника, и собственными ресурсами не обладает. А экономической основой кредита, стало быть, является недовыполнение странами с пассивным сальдо плана поставок или временная несбалансированность по сезонным причинам. Кредиты, как правило, предоставляются на краткие сроки.

Ввиду того, что активный механизм многостороннего кредитования функционирует только ограниченно, для преодоления структурных проблем и

балансирования платежного баланса в принципе необходимо заключать двусторонние кредитные соглашения. Роль кредита по расширению оборота между двумя странами, обладающими различным внешнеторговым потенциалом, не может развернуться.

Безусловно, нельзя считать преимуществом ни двусторонней, ни ныне функционирующей многосторонней расчетной системы то, что накопившиеся требования нельзя мобилизовать. Страна с активным сальдо замораживает свой актив до тех пор, пока должник не рассчитается плановыми или дополнительными товарными поставками. Это отнюдь не стимулирует рост импорта. Таким образом, накопление денег является нерешенным вопросом внешней торговли между социалистическими странами. Отсюда же и ограничительная кредитная политика, вытекающая из требований соблюдения глобального равновесия, которая была основной причиной не совсем удовлетворительного функционирования уже и многосторонней расчетной системы 1957 г. Поскольку переводной рубль выполняет свои денежные функции только ограниченно, внешнеторговая кредитная система стала в основном краткосрочной и превратилась в кредитную систему технического характера. В системе по-прежнему отсутствуют среднесрочные кредиты, кредиты фирм, или кредиты между предприятиями.

Долгосрочные кредиты в основном стали межправительственными кредитами. Их условия (низкая ставка процента и, как правило, десятилетний срок погашения) оторвались от динамики потребностей и источников кредитования. Поэтому на практике нашей кредитной системы встречается как недооценка действительных возможностей при предоставлении, так и получение кредитов, превышающих фактические потребности, причем все это происходит на весьма чувствительной базе экстенсивного развития. Возможности категории кредита недоиспользуются с точки зрения интегрированного интенсивного экономического развития. (Несколько иные проблемы возникают в связи с кредитами и ценами, связанными с участиями в капитальных вложениях, однако они выходят за рамки данной статьи.)

Вследствие всего вышесказанного использование кредитов имеет низкую эффективность, а его обратное воздействие на предложение кредитов носит ограничительный характер.

Поскольку расчетные единицы имеют ограниченные денежные функции, категория кредита отодвинулась на задний план, и двустороннее равновесие платежного баланса получает во внешнеторговых связях национальных экономик с различным уровнем экономического развития и различной структурой видимость национального интереса. Таким образом, поддержание равновесия как совокупного внешнеторгового, так и оборота по основным товарным группам, и сохранение его географической структуры становится условием самостоятельного экстенсивного развития. В результате этого более развитые страны ограничиваются в своих возможностях перехода к интегрированному интенсивному этапу развития. Глобальная и двусторонняя сбалансированность национальных платежных балансов при относительно небольших долгосрочных кредитах складывается таким образом, что динамика экономического развития отдельных стран ориентируется на двустороннюю основу.

При росте внешнеторгового оборота, подчиненного требованию равно-

весия двусторонних платежных балансов, существующие диспропорции производства и внешней торговли воспроизводятся и накапливаются. Возрастающее производство сопровождается увеличивающимся импортом, а превышение экспорта для выравнивания сальдо приводит к новым потребностям в импорте, что в свою очередь вызывает необходимость в производстве новых — нередко не пользующихся спросом — изделий. Так становится состояние двусторонних балансов оборота между странами определяющим фактором динамики экспорта и импорта. Для регулирования балансов применяется торможение экспорта и импорта по отдельным странам, а нередко в интересах восстановления двустороннего равновесия прибегают к такому поощрению экспорта или импорта, при котором не всегда надлежащим образом учитываются требования экономической эффективности и товарной структуры.

Влияние денежных функций расчетных единиц находит свое отражение и в ценообразовании. При решающей роли объемов и структуры двусторонних товарных поставок цена выступает как показатель соотношений двустороннего обмена. Степень централизации ценообразования зависит от объема поставляемых товаров и их народнохозяйственного значения. Пропорции и уровень внешнеторговых цен подчиняются требованию бесперебойности предусмотренных в контингентах товарных поставок. Дискуссии о ценах практически направлены на обеспечение требования о двустороннем балансировании сумм путем согласования противоположных интересов стран-экспортеров и стран-импортеров.

Валютно-политическая стратегия применения рублевых расчетных валют

25-летнее развитие международной финансово-расчетной системы социалистических стран и ее расчетной валюты наряду с безусловными успехами поднимает также и определенные проблемы. При анализе развития системы до сих пор мною были рассмотрены чисто валютно-финансовые эффекты и цели.

Само собой разумеется, однако, что развитие международной финансово-расчетной системы социалистических стран проходило в определенных хозяйственно-политических и политических условиях. Очевидно также и то, что это развитие было направлено на достижение в данных хозяйственно-политических условиях определенных стратегических целей в области валютной политики. Эти аспекты развития системы, иными словами, наличие возможной стратегической цели, еще не были рассмотрены. Тем не менее такой анализ также необходим. Ведь с точки зрения перспективного планирования и, вообще, при оценке возможностей дальнейшего развития расчетной системы первоочередное значение имеет ответ на вопрос: можно ли ожидать в предстоящие 10—15 лет каких-либо изменений в области валютно-политической стратегии. Такого рода анализ в то же время выходит за рамки валютных аспектов в узком смысле слова, связывая трактовку возможных проблем с оценкой политического и хозяйственно-политического положения. Более того, во многих случаях выясняется также и то, что тот или иной фактор валютной системы является неизбежным на данном этапе развития.

Международная финансовая и расчетная система социалистических стран представляет часть сложившегося международного хозяйственного механизма.

А этот механизм является формой международного экономического сотрудничества суверенных стран-членов, осуществляющих централизованную модель экономического управления. Национальные рамки этой формы экономического сотрудничества в основном характеризуются централизованным планированием, административным воздействием, методами централизованного управления и финансирования производства и капитальных вложений, Стало быть, сложившийся международный механизм и непосредственно обслуживающая его международная финансово-расчетная система являются определенным продуктом развития народных хозяйств и безусловно необходимым условием экономических связей между странами-членами системы.

Органическую часть совместной валютно-политической стратегии составляет также осуществляемая странами внутренняя валютная политика. Если сущность валютно-политической стратегии рассматривать с этой точки зрения, то следует отметить, что страны-члены СЭВ, защищаясь от неблагоприятных эффектов мировой экономики и мировой политики, наметили в качестве цели валютно-политической стратегии такое экономическое развитие, которое находит свое воплощение в количественных и валютных ограничениях. Сущность этой стратегии, по моему мнению, заключается в стремлении к постепенному достижению независимости от неблагоприятных процессов, происходящих на мировом рынке и в дезинтегрирующейся мировой экономике, и в создании внутренними мерами условий для нормального функционирования национальных экономик на базе быстрого экономического развития. Эта стратегия в области экономических связей между социалистическими странами, с одной стороны, способствовала созданию внешнеторгово-валютных условий ускоренного экстенсивного экономического роста, а с другой стороны — обеспечила возможности для относительно самостоятеллного развития национальных экономик. Внешним ресурсом такого развития (по крайней мере, до конца 60-х годов) служили кредиты Советского Союза.

Стратегию валютной политики, наконец, можно оценивать и с точки зрения денежной политики. Рассматривая развитие системы на протяжении 25 лет, в настоящее время уже можно с уверенностью отметить, что внутренняя денежная политика стран-членов СЭВ не намечала в минувших годах осуществления какого-либо экономического и валютно-финансового союза. Ясно и то, что совместная стратегия была, скорее, направлена на установление четких и весьма узких рамок для международного движения факторов производства. Речь идет в основном о вещественных факторах производства — инвестиционных благах, сырье, энергии, горючем и т. п. Денежную политику, может быть, следовало бы характеризовать таким образом, что ее цель — обеспечение экономического роста участвующих стран без согласования бюджетной и финансовой политики стран, участвующих в политическом содружестве. Основной характерной чертой валютно-политической стратегии является то, что ответственность за экономическое развитие, рост жизненного уровня и социальную политику несут коммунистические и рабочие партии соответствующих стран. А поэтому недопустимо, чтобы упомянутые три фактора, составляющие органическую часть экономической политики данной страны, подлежали вмешательству органа, обладающего международной компетенцией, или же подвер-

гались изменению в результате применения последним орудий международной валютной политики. Таким образом, практически это определяет сущность валютно-политической стратегии.

Оценка вероятных изменений факторов, влияющих на валютно-политическую стратегию, и дальнейшее повышение роли рубля

Итак, валютно-политическая стратегия международной финансовой системы социалистических стран заключается в обеспечении с международной стороны самостоятельной внутренней валютной политики. Это находит свое выражение главным образом в том, что во всех странах внутренняя валютная политика исключает международные экономические функции национальных валют. Поэтому национальные валюты не могут играть внешнеторговой роли во взаимном платеже обороте. Они появляются только в неторговом платежном обороте, которым в данном случае можно пренебречь.

Какие мотивы делали данную валютно-политическую стратегию на протяжении 25 лет главным определяющим фактором международной платежной системы стран-членов СЭВ? С этой точки зрения вопрос следует разбить на две части.

Одна сторона вопроса заключается в том, что СССР следует рассматривать отдельно, учитывая его экономический и валютный потенциал. Дело в том, что экономика Советского Союза определяющим образом сказывается на связях между странами, потому что СССР обладает наиболее крупным экономическим и внешнеторговым потенциалом, и главным фактором межгосударственного движения кредитов является кредиторская способность советской экономики. Таким образом, Советский Союз играет определяющую и решающую роль также и с точки зрения валютного платежного оборота между странами.

Советский Союз обладает разнообразными природными ресурсами, многоотраслевой производственной структурой, большим фондом накопления, его внутренние ресурсы можно относительно легко перегруппировать, а вытекающая из крупномасштабности производства экономия может широко и полностью использоваться, СССР устойчив от конъюнктурных колебаний мировой экономики и обладает в определенных областях и по некоторым видам сырья, а также с точки зрения валютных резервов таким потенциалом, который позволяет оказывать существенное влияние на мирохозяйственные процессы. Поскольку Советский Союз может развивать свою экономику и решать проблемы экономического роста, опираясь в основном на собственные силы, его валютно-политическая стратегия, направленная на повышение роли рубля, наряду с экономическими, включает в себя в основном политические мотивы.

Второй стороной вопроса является то, отвечает ли изложенная выше валютно-политическая стратегия интересам других стран-членов СЭВ, входящих в расчетную зону. По всей видимости, эта стратегия на протяжении истекших 25 лет была для них приемлемой и кажется приемлемой также и на предстоящие 10 лет.

Дело в том, что на основе оценки происшедшего развития можно поста-

вить вопрос, ведет ли создание в качестве орудий международного сотрудничества политико-экономических союзов, больших интегрированных единиц и соответствующая им валютная политика к ликвидации барьеров в международных экономических связях; является ли это наилучшим путем интегрированного развития производства. В долгосрочной перспективе, безусловно наилучший выход — это интегрированное развитие производительных сил. Однако преждевременные попытки такого решения могут вызвать значительное сопротивление и даже причинить экономические потери. Имеется много факторов, свидетельствующих о том, что усиление и улучшение нынешнего экономического сотрудничества таит в себе еще значительные резервы. В странах-членах СЭВ против согласованной и интегрированной валютно-политической стратегии выдвигаются такие аргументы с точки зрения экономической, внешней и социальной политики, согласно которым значительное сужение функций национального государства в этой области в настоящее время невозможно осуществить. Особенно в малых странах, имеющих еще многочисленные нерешенные национальные задачи, возникли бы серьезные проблемы, если ради интересов согласованной валютно-политической стратегии функции национального государства были бы полностью или хотя бы частично переданы наднациональному органу.

Структурная детерминированность (примерно одинаковая доля сырья в структуре умпорта и примерно одинаковая доля продукции машиностроения и потребительских товаров в структуре экспорта) побуждает эти страны к сохранению и в будущем самостоятельной валютно-политической стратегии. Внешние симптомы этого проявляются в том, что эти страны склонны развивать производственную интеграцию и внешнеторговый товарооборот без использования денежностоимостных отношений. К этому их побуждает также и обострение соперничества между ними в получении советских импортных контингентов по машинам и оборудованию, советских поставок сырья, а также обострение конкуренции между ними и на западных рынках.

Итак, подводя итоги, можно сделать вывод, что сохранение воплощенной в расчетной валюте самостоятельной валютно-политической стратегии в основном соответствует хозяйственно-политическим интересам как Советского Союза, так и других, меньших по величине стран-членов СЭВ. Эта валютно-политическая стратегия соответствует нынешнему уровню предложения и спроса товаров на этом рынке, и оказывает на него желательное воздействие. Базирующаяся на рубле расчетно-валютная система соответствует сложившимся национальным системам планирования, основанным на планово-директивных методах, и позволяет каждой отдельной стране вести на свободных валютных рынках координированную, но отвечающую их национальным интересам валютную политику.

Таких же положений придерживается и принятая на XXV Сессии СЭВ Комплексная программа дальнейшего углубления и совершенствования сотрудничества и развития социалистической экономической интеграции стран-членов СЭВ. Этот документ содержит программу экономической интеграции суверенных национальных экономик и не намечает на предстоящий период трех-четырех пятилеток слияния национальных рынков. В Комплексной программе

подчеркивается, что система экономического и научно-технического сотрудничества стран-членов СЭВ покоится на основных принципах управления социалистической экономикой, на органическом сочетании координации планов как основного метода сотрудничества с широким использованием товарноденежных отношений.

В соответствии со сказанным, весьма важной частью Комплексной программы является активизация валютно-денежных отношений, комплексное решение задач в этой области. Таким образом может развернуться новый этап развития платежной системы между странами-членами СЭВ. Его сущностью является необходимость совершенствования расчетной системы путем дальнейшего развития коллективной валюты.

Работа, связанная с ролью переводного рубля, в основном будет характеризоваться дифференцированным подходом. С одной стороны, на первый план выдвинутся реально существующие положительные элементы, а с другой стороны, будут мобилизованы существующие и при нынешней конструкции расчетной системы неиспользованные резервы. Относительно этого Комплексная программа содержит подробный план и сроки. В частности, в ней говорится: «В период 1976—1979 гг. страны-члены СЭВ будут изучать возможности и производить работы над созданием предпосылок для введения единых курсов национальных валют». В программе говорится: «базирующаяся на коллективной расчетной единице расчетная система таит в себе возможности дальнейшего развития финансирования торговли.» Здесь в первую очередь речь может идти о создании необходимых предпосылок для дальнейшего развития финансово-технических методов расчетной системы. Решение о введении единого курса национальных валют, а также о сроке введения будет принято в 1980 г.

Иные вопросы возникают в связи с введением внешней — ограниченной — конвертируемости национальных валют, в том числе советского рубля и переводного рубля. Это облегчит разрешение финансовых проблем сотрудничества между Востоком и Западом, позволит вовлечь — в соответствии с предписаниями Комплексной программы — третьи, прежде всего развивающиеся страны, в расчеты в рублях или в многостороннюю расчетную систему, базирующуюся на коллективной валюте (переводном рубле). Вместе с тем это может послужить также и средством введения более строгих условий платежной системы между странами-членами СЭВ.

Наибольшими возможностями для введения конвертируемости национальных валют — в краткосрочной и среднесрочной перспективе — располагает Советский Союз. Осуществление внешней конвертируемости советского рубля позволило бы формирование соответствующей стратегии валютной политики во внешней торговле и международных кредитных операциях, при этом отпала бы необходимость в каком-либо приспособлении внутренней экономики Советского Союза к требованиям международной платежной системы. Осуществление такого рода конвертируемости открыло бы большие возможности и для малых социалистических стран, так как стало бы возможным дальнейшее развитие внутренних хозяйственных механизмов на нынешней основе, а также их активное участие в расчетах в конвертируемом рубле в соответствии с их

интересами. По сравнению с таким решением более сложным представляется осуществление внешней конвертируемости коллективной валюты — переводного рубля. Во всяком случае дальнейшее повышение притягательной силы рубля — будет ли избрано первое или второе решение — становится актуальной задачей ближайшего будущего.

Обозрение достижений и проблем позволило выяснить, что рубль находится в постоянном развитии, движении, поисках новых путей. Анализ применения этой валюты с точки зрения валютно-политической стратегии подсказывает нам весьма важный вывод о том, что наши проблемы необходимо рассматривать в первую очередь не в сопоставлении с другими валютными системами, а с той точки зрения, насколько применение рубля соответствовало нашей собственной стратегии развития, насколько оно соответствовало коллективным и национальным интересам, экономическим, политическим и хозяйственно-политическим условиям интегрирующего содружества. Мы считаем, что наш анализ однозначно свидетельстует о том, что применение рубля в качестве расчетной валюты было неизбежным, необходимым и полезным, оно служило интересам социалистического содружества в области внешнеэкономических связей.

TO THE HISTORY OF THE SOCIALIST INTERNATIONAL SYSTEM OF FINANCES

K. PÉCSI

The article reviews the financial system of the CMEA integration. It points out that, because of the persistence of trade transacted on the basis of bilateral agreements, in spite of the multilateral accounting introduced in 1964 the transferable rouble differs from its predecessor, the clearing rouble, only in respect of technical accounting. As regards its form, the transferable rouble is though multilateral, yet it is bilateral contentually, since a claim in transferable roubles can be used only in bilateral relations, and only under a separate agreement can it be used in a third country. From this also follows the limited role of credit.

The article examines the role of the transferable rouble in the framework of the strategy of foreign exchange policy. The latter is conceived as an element of national and international economic mechanism and considered as being determined by their mutual interplay.

The domestic monetary policy determining the international foreign exchange policy has not yet set as an aim to implement a coordinated approach necessary for convertibility or monetary union since both foreign exchange and monetary policies have been considered as parts of autonomous economic policy formulated in a sovereign manner, in which no international body had a say. This conception and the isolated foreign exchange strategy involved basically corresponds, according to the author, to the economic policy interests of both the Soviet Union and the other smaller CMEA countries and it seems a passable way also in the next ten years. In the long term, namely, the solution is an integrated development of production, the demolition of limits to international economic relations and an integrated foreign exchange policy accompanying them, but an early implementation of these might release considerable opposition, perhaps economic losses.

In the medium term the possibilities and endowments of the USSR are most favourable for implementing convertibility. The creation of the external convertibility of the common currency, of the transferable rouble seems to be a relatively more complicated task. The analysis in the article suggests the conclusion that the problem of the CMEA should be investigated first of all not relative to other monetary systems, but from the point of view to what extent the application of the rouble corresponds to the own development strategies, to the collective and national interests of the integrating community, to the economic, political and economic-policy conditions.

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KURSSYSTEM UND WÄHRUNGSKURSPOLITIK IN UNGARN*

Die Verfasserin zeigt die Entwicklung, den Aufbau und die Funktion des ungarischen Währungskurssystems seit der Einführung der Forint-Währung bis zum im gegenwärtigen Wirtschaftslenkungssystem. Ferner werden die neue Aufgaben erörtert, die sich für die ungarische Währungskurspolitik seit Beginn der 1970er Jahre aus der Veränderung der internationalen monetären Lage sowie aus der weltweiten Preisexplosion ergaben.

Es wird von der grundsätzlichen These ausgegangen, daß der Währungskurs, wie bekannt – wenigstens prinzipiell – den gegenseitigen Kaufkraftwert der verschiedenen Währungen ausdrückt. Dementsprechend sind Kurspolitik und Kurssystem wichtige Regulatoren des im weiteren Sinne ausgelegten internationalen Austausches von Waren und Dienstleistungen. Allerdings können ihre Aufgaben und die an sie gestellten Anforderungen nicht für jedes Land und für jeden Zeitraum gültig formuliert werden, denn sie hängen einerseits vom Wirtschaftssystem und von der Rolle der Außenwirtschaft in betreffendem Lande, andererseits von der jeweiligen Methode der Wirtschaftslenkung ab.

Auch in der sozialistischen Planwirtschaft sind diese Aufgaben nicht immer und überall gleich. Erfüllen die Unternehmen die im Volkswirtschaftsplan aufgeschlüsselten und in natürlichen Maßeinheiten bestimmten Planaufgaben, so spielen die Währungskurse bei wirtschaftlichen Entscheidungen – ebenso wie die anderen Wertkategorien – eine geringere Rolle. Das war auch die Situation in Ungarn bis zum Jahre 1967.

Das Währungskurssystem zwischen 1946 und 1967

Im zweiten Weltkrieg setzte in Ungarn eine Inflation von bislang unbekannten Ausmaßen an: Ende Juli 1946 stellte der Wert des im Umlauf befindlichen Pengő 400 Quadrimillionstel des alten Pengőwertes dar (zum Schreiben dieser Zahl braucht man 29 Nullen!). Zur Einführung der neuen stabilen ungarischen Währung wurde ein Regierungsprogramm ausgearbeitet, in dem einerseits die Anhäufung von erheblichen zentralen Warenvorräten zur Schaffung der Umlaufbasis der neuen Währung vorgesehen war; andererseits legte die Ungarische Nationalbank, die

* Aufgrund eines Vortrages der Verfasserin am 12. Mai 1976 vor der Sektion Geld- und Kreditwesen der Kammer der Gewerblichen Wirtschaft, im Rahmen der Ungarischen Kulturwoche in Graz.

Notenbank des Landes, entsprechende Gold- und Devisenvorräte an. Voraussetzung für die Durchführung des Stabilisierungsprogrammes waren in Ungarn die Verstaatlichungs- und staatliche Kontrollmaßnahmen.

Mit einem Goldgehalt von 0,07575 g wurde *die neue Währung, der Forint*, am 1. August 1946 eingeführt. Das Verhältnis zwischen dem Goldgehalt des Forints und der verschiedenen ausländischen Währungen bestimmte den Forintkurs der letzteren. Nachdem die Weltmarktpreise der meisten im Außenhandelsverkehr befindlichen Waren in Dollar angegeben waren, und obendrein der Dollar auch nach dem monetären System von Bretton-Woods als Schlüsselwährung galt, stand der Dollar auch im Kursnotierungssystem Ungarns an erster Stelle, gleichsam als Basis. Gemäß dem Verhältnis des Goldgehaltes der beiden Währungen (Dollar rund 0,888 g, Forint 0,0757 g) ergab der offizielle Forintkurs des Dollars 11,74 Ft, während aufgrund der Fixparitäten für die anderen konvertiblen Währungen Pro-rata-Kurse festgesetzt wurden.

Auch später waren die Kursverhältnisse, z. B. zwischen den nationalen Währungen der RGW-Länder ähnlicherweise nach dem Verhältnis ihres Goldgehaltes bestimmt. Für den sowjetischen Rubel wurde z. B. im Jahre 1961 ein Goldgehalt von 0,987412 g festgesetzt; aufgrund dessen und des Forint-Goldgehaltes betrug der offizielle Kurs des Rubels 13,044 Ft. Natürlich entsprach das Verhältnis zwischen 11,74 und 13,044 Ft genau dem Verhältnis zwischen dem Goldgehalt des Dollars und des Rubels. Die offiziellen Währungskurse wurden später unter dem Namen Devisenforint bekannt und auch in statistischen Publikationen so angeführt.

Die bei der Einführung der Forint-Währung festgesetzten neuen Preise blieben nicht lange unverändert, denn die Kriegsverheerungen übten noch eine arge Wirkung auf das Wirtschaftsleben des Landes aus; es herrschte insbesondere eine Lebensmittelknappheit, doch auch die Industrie war noch außerstande, selbst den bescheidenen Ansprüchen nachzukommen. Nach Abschluß des ersten Dreijahrplanes (1949) begann also die Ausgestaltung des neuen Preissystems, welches mit einer allgemeinen Regelung der Produzenten- und Konsumentenpreise Ende 1951 in Kraft trat und zu einer allgemeinen Steigerung des Preisniveaus führte.

Den Goldgehalt des Forints hat man nicht verändert, doch wurde es infolge der Preisveränderungen irreal, die auf den Goldgehalt basierten offiziellen Währungskurse ohne ergänzende Konstruktionen in der Praxis anzuwenden. Die ergänzenden Konstruktionen waren also notwendig, doch derart weitverzweigt, daß fortan die eigentlichen Währungskurse in den Hintergrund gedrängt wurden.

Als damals diese ergänzenden Konstruktionen ins Leben gerufen wurden, erfolgte in den Kursen die *Trennung der Verrechnungen der nichtkommerziellen Operationen und der Außenhandelstätigkeit*. Unter den ersteren sind hauptsächlich die Devisenverrechnungen mit der Bevölkerung zu verstehen, so etwa in der Touristik der Kauf und Verkauf der Fremdwährungen, die verwandschaftlichen und sonstigen Unterstützungen, die Verrechnung von Honoraren und Erbschaften usw. Die Außenhandelstätigkeit läßt sich demgegenüber eindeutiger definieren, denn es handelt sich ja um Export und Import, womit Transport, Versicherung und sonstige Verrechnungen einhergehen.

Sehr weitverzweigt waren die erwähnten ergänzenden Konstruktionen schon deshalb, weil auch in den beiden genannten Hauptverrechnungssphären eine Viel-

fältigkeit herrschte. So wurde beispielweise im Tourismus und falls Privatpersonen durch die Nationalbank verwandtschaftliche Unterstützungen erhielten, ein Kurszuschlag von 100% gezahlt, woraus sich ein Dollarkurs von 23,48 Ft ergab. Kam jedoch die verwandtschaftliche Unterstützung durch das sog. IKKA-Unternehmen, dann war der Dollar schon 28 Ft wert.

Im Außenhandel bezogen die Unternehmen vom Staatshaushalt nach den Exportprodukten einen sog. Preisausgleich, der je nach den einzelnen Warenkategorien festgesetzt wurde, während sie im Import eine gleichfalls differenzierte sog. Abschöpfung in die Staatskasse einzuzahlen hatten. Eigene Spezialzuschläge galten für die Transportverrechnungen. All dem sei noch hinzugefügt, daß die Außenhandelsunternehmen mit den Produzenten, d.h. den Herstellern der Exportartikel und den Verbrauchern der Importwaren, zu den sog. inländischen Übergabepreisen verrechneten, die von den effektiven ausländischen Preisen unabhängig waren; diese konnten also das Werturteil des Außenmarktes nicht kennenlernen und sich auch kein Bild darüber machen, ob ihr Export überhaupt rentabel ist bzw. wo es besser wäre, die inländische Produktion durch Import zu ersetzen.

Das Währungskurssystem der Wirtschaftsreform

Wie bekannt, bemüht sich die ungarische Volkswirtschaft seit 1968, die Möglichkeiten des dynamischen Wirtschaftswachstums *mit der gleichzeitigen Anwendung der Planung und der ökonomischen Regelung* zu schaffen. Das System der bis auf Betriebsebene aufgeschlüsselten, verbindlichen Plananweisungen wurde abgeschafft. Wohl werden nach wie vor die Hauptziele der Wirtschaftspolitik sowie die wichtigsten Richtungen und Proportionen der Wirtschaftsentwicklung im Volkswirtschaftsplan formuliert; der Plan bringt die Ziele mit den Mitteln in Einklang, die zu ihrer Verwirklichung verfügbar sind. Doch die Funktion der Plananweisungen wurden größtenteils von den ökonomischen Regulatoren übernommen, deren oberstes Prinzip das Recht und die Möglichkeit der Unternehmen zu selbständigen Entscheidungen ist; dieses Recht und diese Möglichkeit kommen im Rahmen des Planes zur Geltung und werden von der Interressiertheit am Gewinn gesteuert.

Unter solchen Verhältnissen, wo nur die wichtigsten wirtschaftspolitischen Fragen von zentraler Stelle entschieden werden, während die Unternehmen die operativen Fragen der Produktion und Förderung in Kenntnis des Planes und des Regulatorensystems selbst entscheiden, haben die zentralen Stellen dafür zu sorgen, daß all jene Informationen, die zu den in volkswirtschaftlicher Hinsicht effektivsten betrieblichen Entscheidungen beitragen können, den Unternehmen tatsächlich zur Verfügung stehen. *So gewinnen auch Kurspolitik und Kurssystem als Voraussetzungen der richtigen Orientation offenbar an Bedeutung.* Der Umstand, daß die Produktions- und Außenhandelsunternehmen seit 1968 in bezug auf Organisation und Verrechnung voneinander nicht mehr getrennt waren, verlieh den Währungskursen noch zusätzliche Wichtigkeit. Gegenüber den bisherigen rund 30 spezialisierten Außenhandelsunternehmen betreiben heute etwa 100 Unternehmen eine Außenhandelstätigkeit, davon sind mehr als die Hälfte Produktionsunternehmen, die zum Außenhandel berechtigt sind. Der überwiegende Teil des Umsatzes wird auf Komissionsbasis oder aufgrund

gemeinsamer Interessen realisiert. So beziehen die Produktionsunternehmen ihre Forinteinkünfte aufgrund der Devisenpreise, die für ihre Exportprodukte im Ausland erzielt wurden und umgekehrt, auch die Preise der Importwaren stützen sich im wesentlichen auf die ausländischen Bezugspreise.

Im Jahre 1968 wurde als organischer Bestandteil des ökonomischen Regulatorensystems und im Einklang mit den anderen Regulatoren *ein neues Währungskurssystem* geschaffen, welches zwecks Steigerung der volkswirtschaftlichen Effizienz sämtliche praktische Funktionen der Währungskurse einsetzen und an erster Stelle die richtige Orientierung gewährleisten soll. *Worüber orientieren die Kurse?*

– Sie verbinden gemäß den realen Wertverhältnissen die Preise der Außen- und Binnenmärkte, wodurch sie das Werturteil der Außenmärkte den Unternehmen in bezug auf ihre Erzeugnisse und Dienstleistungen in objektiver Weise vermitteln.

– Sie verweisen darauf, bis zu welchem Forintaufwand der Devisenerwerb für die Volkswirtschaft rentabel ist, bzw. darauf, wann Inlandsprodukte vorteilhafter durch Importe ersetzt werden können.

– Sie liefern eine zuverlässige Kalkulationsbasis für die Entwicklungsentscheidungen und fördern dadurch die möglichst breit gefächerte Eingliederung in die wirtschaftlich vorteilhafte internationale Arbeitsteilung.

Die Struktur des Produzenten- und Konsumentenpreissystems gestattete uns nicht, auf allen Gebieten der internationalen finanziellen Verrechnungen – also auf die nichtkommerzielle und die Außenhandelstätigkeit insgesamt – gleiche, einheitliche Währungskurse einzuführen.* So wurden also Währungskurse gebildet, die sich zwar in den beiden Verrechnungssphären separat geltend machen, *innerhalb einer Sphäre jedoch einheitlich* sind. Gleichzeitig wurde der weite Kreis der früheren Ergänzungskonstruktionen abgeschafft, und die Kurse machten den substantiellen Kern der Verrechnungen aus.

Der Goldgehalt des Forints blieb weiterhin unverändert; infolgedessen wurden die sog. offiziellen Grundkurse von der Nationalbank auch weiterhin notiert, doch wurden diese aus den praktischen Verrechnungsfunktionen völlig ausgeschaltet und sie beschränkten sich lediglich auf die Bereiche der Statistik.

Das in der Praxis funktionierende *doppelte Kurssystem* war wie folgt strukturiert:

a) Die für *nichtkommerzielle Verrechnungen* eingeführten, mit Zuschlag erhöhten Währungskurse wurden aufgrund der Konsumentenkaufkraftverhältnisse bestimmt, die sich Mitte der 60er Jahre zwischen dem Forint und den wichtigsten konvertiblen Währungen zeigten. Berechnungen zufolge schien der Kaufkraftwert des Forints auf der Basis von 1 Dollar = 30 Forint real zu sein. Die mit Zuschlag erhöhten Kurse der übrigen konvertiblen Währungen wurden von den Fixparitäten

* Bis 1958 war das ungarische Preissystem im Grunde genommen zweistufig, da zwischen den um die Handelsspanne verringerten Konsumentenpreisen und den Produzentenpreisen ein Umsatzsteuer von 35–40% realisiert wurde. Dieser Unterschied betrug 1959 nur mehr 13,5% und ging nach den Preisveränderungen im Jahre 1968 sogar auf 3–4% zurück. So wurde unser Preissystem – vielleicht als einziges in Europa – im wesentlichen einstufig. Der Reingewinn wurde aus der Realisierungssphäre im Grunde genommen in die Produzentensphäre verlegt, wobei gleichzeitig die auf volkswirtschaflicher Ebene berechenbaren Kosten der Devisenerzeugung in der Produzentensphäre stark gehoben und – durch die Stützung der Konsumentenpreise, die auch von ausländischen Ungarnbesuchern genossen wurde – die Währungskurse der nichtkommerziellen Sphäre (z. B. des Tourismus) künstlich »herabgedrückt« wurden.

bestimmt, die in dem damals noch störungsfrei funktionierenden System von Bretton-Woods galten (z.B. 1 DM = 7,50 Ft, 100 Schilling 115 Ft, usw.). Die Bezeichnung »mit Zuschlag erhöhten Kurs« rührt davon her, daß zum erwähnten offiziellen Grundkurs einheitlich ein Zuschlag von 155% hinzukam – dies entsprach dem Verhältnis zwischen 11,74 und 30 Forint.

In den nichtkommerziellen Verrechnungen zwischen den RGW-Ländern haben sich die Kurse im Jahre 1968 nicht geändert, denn in dieser Sphäre wurden sie in einem multilateralen zwischenstaatlichen Abkommen im Jahre 1963 festgelegt. Als Grundlage der Errechnung diente ein spezieller »Konsumentenkorb«, zusammengestellt von den 12 Mitunterzeichnern des Abkommens und basiert auf das Volumen und die Struktur des Konsums einer vierköpfigen Familie, die dauernd in einem anderen RGW-Land als sein eigenes lebt. Diese Kurse blieben bis zum Frühjahr 1975 unverändert.

b) Nach eingehender Prüfung und anhaltenden Diskussionen wurde *für den Außenhandelsbereich* folgende Entscheidung getroffen: Bei der Feststellung der einzuführenden Währungskurse gilt als Ausgangspunkt der durchschnittliche Forintaufwand, der im Export auf volkswirtschaftlicher Ebene erforderlich ist, um eine Einheit Deviseneinnahme (z.B. 1 Dollar oder 1 transferabler Rubel) zu erzielen, inbegriffen die gegenüber dem Staatshaushalt bestehenden Zahlungsverpflichtungen der Unternehmen, d.h. die verschiedenen Formen des Reingewinnentzugs (Steuer, usw.). Bei den Berechnungen wurden also die Devisenpreiseinkünfte der Mitte der 60er Jahre exportierten Waren den Forintpreiseinkünften gegenübergestellt, die für den Fall der inländischen Verwertung dieser Waren errechnet wurden. Berechnungen zufolge kosteten die Erwirtschaftung von 1 Dollar der Volkswirtschaft durchschnittlich 60 Forint, die von 1 transferablen Rubel 40 Forint.

Allerdings wurden die im Außenhandel angewendeten Dimensionen in das Kurssystem nicht als Währungskurse, sondern als *Preismultiplikatoren* eingegliedert und bis Ende 1975 in den offiziellen Kursnotierungen der Ungarischen Nationalbank gar nicht angeführt. Dies vor allem deshalb, weil die internationale Praxis ein doppeltes Kurssystem noch akzeptiert, ein dreifaches aber schon schwerlich. Dem könnte man freilich mit Fug und Recht erwidern, die Zahl unserer Währungskurse hänge ja nicht davon ab, ob und wieviele Kurse in den Notierungen erscheinen, und obendrein hätten wir ja weder Existenz noch Ausmaß dieser Preismultiplikatoren des Außenhandels verheimlicht. Immerhin haben diese als Währungskurse funktionierenden Preismultiplikatoren den ihnen gebührenden Platz auch in der Kursnotierung erst am 1. Januar 1976 eingenommen.

Wie bereits erwähnt, betrachten wir die entsprechende Orientierung als wichtigste Aufgabe der Währungskurse. Außer dem Währungskurs ist nämlich kein Instrument des umfangreichen Instrumentariums der Wirtschaftslenkung dazu geeignet, die ganze Wirtschaft über die internationalen Wertverhältnisse objektiv zu orientieren. Die darüber hinausgehenden Aufgaben – Unterstützungen und Einschränkungen – können aber nur mit Hilfe der *mit den Wechselkursen verbundenen »Brücken«* gelöst werden. Die Währungskurse geben nämlich zu den Rentabilitätsberechnungen und den Entwicklungsentscheidungen Informationen aus dem Blickwinkel der Auswertung aus volkswirtschaftlicher Ebene, während die finanziellen Brücken auch zur Selektion je Unternehmen geeignet sind. Es folgt aus der Natur der auf den durchschnittlichen

Devisenerzeugungskosten beruhenden Währungskurse, daß im Falle von Produktionen, die aus verschiedenen Ursachen (z.B. bei neuen Artikeln, die auf dem Markt erst eingeführt werden sollen) vorübergehend überdurchschnittlich aufwendig sind, der Währungskurs allein außerstande ist, dem Unternehmen einen rentablen, gewinnbringenden Export zu sichern. In diesen Fällen müssen die Unternehmen von den vorübergehenden zusätzlichen Lasten befreit werden, denn sonst verlieren sie ihr Interesse am Export, wodurch die Modernisierung der Produktions- bzw. Exportstruktur verlangsamt wird. Die Lösung: Vorübergehend bezieht das Unternehmen eine Unterstützung aus dem Staatshaushalt, in Form einer *Steuermäßigung oder Steuerrückzahlung*. Beim Import ist der *Zoll* jene finanzielle Brücke, die importhemmenden und teils industrieschützenden Zielen dient. Über einen Teil der Importwaren wird vor allem je nach ihrem Verarbeitungsgrad ein Zoll verhängt, womit wir gegenüber unseren Außenhandelspartnern dem Prinzip der Gegenseitigkeit Geltung verschaffen. Die Steuerrückzahlung beim Export und die Zölle beim Import bilden die beiden grundlegenden finanziellen Brücken, deren sich die meisten Länder mit entwickeltem Außenhandels- und Finanzsystem zwecks wirksamen Funktionierens ihres Währungskurssystems bedienen. Die Wirtschaftsorganization GATT, zu deren Mitgliedern auch Ungarn zählt, akzeptiert die Anwendung dieser Mittel. Freilich sind Anwendungsmethoden und Terminologie der finanziellen Brücken, insbesondere auf der Exportseite, in den verschiedenen Ländern nicht einheitlich; in dem einen wird die Exportstützung in einem sog. »Mehrwertsteuersystem« realisiert, in einem anderen auf andere Art. Doch sind die Ursachen ihrer Anwendung und die Konstruktionen eigentlich wesensgleich: Es geht im wesentlichen um die Erkenntnis, daß den Währungskursen nicht mehr Aufgaben anvertraut werden dürfen, als sie effektiv zu verrichten imstande sind.

Der Übergang zu einer aktiven Kurspolitik

Wie bereits erwähnt, haben wir unser Kurssystem als einen organischen Bestandteil des umgestalteten Wirtschaftlenkungssystems im Jahre 1968 als ein langfristig stabiles Instrument eingeführt. Dies war der inländische Hintergrund, doch auch *der internationale »background« ist*, gleich von zwei Gesichtspunkten aus, von nicht zu unterschätzender Bedeutung.

1. Der relativ langsame und geringe Anstieg des Weltmarkt-Preisniveaus deutete darauf hin, daß das Verhältnis des Kaufkraftwertes zwischen dem Forint und den konvertiblen Währungen in absehbarer Zeit keine wesentliche Veränderung erfahren wird und infolgedessen unsere Forintkurse im allgemeinem stabil bleiben können.

2. Das monetäre System von Bretton-Woods mit seinen Fixparitäten funktionierte noch auf verhältnismäßig normaler Weise und so sahen wir auch von dieser Seite her – den Kursverhältnis zwischen den konvertiblen Währungen – keine Gefahr für die Stabilität unserer Forintkurse.

Diese Voraussetzungen erwiesen sich aber nicht als zeitbeständig, bereits vom Beginn der 70er Jahre an erfolgte auf dem Weltmarkt eine Preisexplosion, an Stelle der schleichenden Inflation trat eine galoppierende Geldentwertung und das internationale monetäre System zerfiel. Die ersten Jahre dieses Jahrzehntes stellten auch Ungarn vor neue Aufgaben. Fortan wurde das Wort »Kurspolitik« mit einem Attri-

but versehen, welches andeuten sollte, daß unsere Kurspolitik in der veränderten Situation die Initiative zu ergreifen hat. Das neue Attribut lautet: »aktiv«.

Was versteht man in Ungarn unter einer aktiven Kurspolitik? Zwei wichtigen Erfordernissen hat sie zu entsprechen:

1. Die Forintkurse der verschiedenen konvertiblen Währungen sollen *die intervalutären Kursverhältnisse* richtig darstellen, gleich ob diese auf Fixparitäten oder auf dem Urteil des Geldmarktes beruhen. Diese Aufgabe – die Veränderung der Forintkurse der einzelnen Währungen – ist ein Teil der operativen Arbeit der Finanzbehörden.

2. Die Forintkurse der ausländischen Währungen sollen einzeln und insgesamt *die in- und ausländischen Preisverhältnisse* richtig widerspiegeln, mit anderen Worten, ein reales Bild vom Verhältnis des Kaufkraftwertes des Forint und der ausländischen Währungen geben; sie sollen überdies den diesbezüglichen Veränderungen entsprechend erfolgen und somit auch seitens der Außenmärkte die Wertstabilität des Forint gewährleisten. Die richtige Erfüllung dieser Aufgabe – die »Instandhaltung« des Wertniveaus unserer nationalen Währung – verlangt verschiedene wirtschaftspolitische Entscheidungen.

Im Folgenden möchte ich darlegen, wie man in Ungarn in den vergangenen Jahren diesen beiden Erfordernissen nachkommen konnte.

In Bezug auf die Aufgaben waren keine besonderen Schwierigkeiten vorhanden, solange die Kurse der verschiedenen Währungen in Form von offiziellen Auf- und Abwertungen verändert wurden. Umso mehr Probleme traten später, mit dem Zerfall der Fixparitäten und dem Übergang zum allgemeinen floating, auf. Die Ungarische Nationalbank verfügt hinsichtlich von 16 wichtigen konvertiblen Währungen über ausgedehnte tägliche Marktpreisinformationen, die entsprechende Informationsbasis zur Veränderung der Forintkurse war und ist also vorhanden. Zwei Dinge wußten wir aber mit Gewißheit:

a) Bei der rechtzeitigen Anpassung an die Kursverhältnisse zwischen den einzelnen Währungen ist die Flexibilität das Hauptfordernis. Dies darf aber *keine tägliche* Forintkursveränderung bedeuten, zumal es unter unseren Verhältnissen ungewöhnlich wäre und im Falle geringerer Kursveränderungen eine unbegründete Unsicherheit für die Betriebswirtschaft bedeuten würde.

b) Zugleich darf man aber die von der Marktsituation bedingten Veränderungen – unter Berufung auf die Stabilität – *nicht auf die lange Bank schieben* oder gar nicht erst durchführen, denn dies würde zuerst die Orientierung gefährden und infolgedessen zu Devisenverlusten der Volkswirtschaft führen.

Das Gesagte vor Augen haltend stellten wir für die Kursveränderungen *folgende prinzipielle Grundsätze* auf:

– Falls die tägliche Beobachtung des Geldmarktes in den Kursverhältnissen einer oder mehrerer Währungen eine Verschiebung in der Größenordnung von $\pm$ 3–5% zu erkennen gibt, und sich diese Tendenz als dauerhaft erweist, dann sind die Forintkurse der betreffenden Währungen zu verändern.

– Die Veränderungen sind nicht an Fixdaten gebunden, sie bedeuten also nicht, daß wir monatlich oder zweiwöchentlich neue Kursblätter herausgeben, vielmehr müssen die Forintkurse je nach Bedarf, nach Erwägung der jeweiligen Lage des Geldmarktes, modifiziert werden.

– Wir haben keine als stabil geltende »Leitwährung«, an die die anderen angepaßt werden könnten. Dementsprechend ist für die Richtung der Forintkursveränderung – dafür also, ob wir die Verschiebung der Kursverhältnisse gelegentlich durch die Auf- oder Abwertung des Dollars oder anderer Währungen oder auch durch eine Kombination beider lösen – die wirtschaftliche-finanzielle Lage maßgebend, die den Hintergrund der bereits erfolgten Verschiebungen bildet sowie die nach unseren Prognosen in den einzelnen Ländern zu erwartende kurzfristige Entwicklung.

Diese Grundsätze versuchten wir *in die Praxis* umzusetzen. Leicht ist es gewiß nicht, denn z.B. wann soll eine Tendenz als dauerhaft bezeichnet und wie lange mit ihr genechnet werden? Läßt sich eine Abweichung von $\pm$ 3–5% genau abmessen? Und so weiter. Schließlich wurde seit der Einführung des Marktfloating, von 1973 bis Ende 1975 der Forintkurs von einer oder mehrerer Währungen zehnmal verändert.

Unter den Forintkursen vom 1. Januar 1968 wurde z.B. der nichtkommerzielle (der sog. mit Zuschlag erhöhte) Kurs des Dollars bis 31. Dezember 1975 in mehreren Schritten von 30 Ft auf 20,45 Ft herabgesetzt, dies entsprach einer Abwertung von rund 32%. In ähnlicher Größenordnung sank auch der Wert des englischen Pfund und der italienischen Lira. Im selben Zeitraum, d.h. vom 1. Januar 1968 bis Ende 1975, stieg der Forintkurs der DM um rund 14%, von 7,50 Ft auf 8,54 Ft an. Beim Schweizer Franken betrug die Aufwertung 6%, beim österreichischen Schilling rund 3%.

Selbstverständlich werden die Kaufkraftverhältnisse zwischen dem Forint und den konvertiblen Währungen von den Kurskorrektionen unterschiedlicher Richtung und verschiedenen Ausmaßes auch insgesamt beeinflußt, und zwar je nach der Bedeutung, die eine auf- oder abgewertete Währung in den verschiedenen Bereichen der Außenwirtschaftsverrechnungen (Export, Import, Tourismus usw.) besitzt. Mittels kontinuerliche Beobachtungen beobachten wir, inwieweit die einzelnen Kursveränderungen diesen *Forint-Währungskorb* insgesamt berühren. Diesen Berechnungen zufolge können die bis Ende 1975 durchgeführten Kursveränderungen in der Außenhandelssphäre (wobei die Devisenstruktur des ungarischen Außenhandelsumsatzes zu Grunde liegt)* *eine Aufwertung der Forint-Währung um rund 13%* zur Folge haben. In der nicht-kommerziellen Sphäre war die Forint-Aufwertung weit geringer, da in diesem Tätigkeitsbereich der Anteil der abgewerteten Währungen – Dollar, Lira, Pfund usw. – am gesamten Devisenumlauf viel niedriger und der aufgewerteten Währungen – DM, Sch., Sfr, usw. – viel höher war. Die primäre Ursache: Der wichtigste Bereich der nicht-kommerziellen Verrechnungen ist der Tourismus, wo Ungarns Hauptpartner Österreich und die BRD sind.

Diese Berechnungen führen uns gleich zum zweiten Erfordernis, das wir an eine aktive Kurspolitik stellen, nämlich zum Schutz der Wertstabilität unserer nationalen Währung. Es stellt sich die Frage, ob die erwähnte 13prozentige Aufwertung des Forints auch die in den Kaufkraftverhältnissen des Forints und der betreffenden Währungen erfolgten Veränderungen real widerspiegelt? Die Antwort ist eindeutig: nein, sie spiegelt diese Veränderungen nicht genau wieder, denn das Kaufkraftverhältnis hat sich viel stärker zugunsten des Forint verschoben. Doch wollen wir

* Mit der Fischer-Formel (d. h. mit geometrischem Mittelwert) gerechnet.

nun die Beobachtungen und Berechnungen unter die Lupe nehmen, mit denen Ungarn zu den einschlägigen wirtschaftspolitischen Entscheidungen beiträgt:

In der Ungarischen Nationalbank wird die Entwicklung des Komsumenten-, Großhandels- und Außenhandelspreisniveaus der Länder mit den wichtigsten konvertiblen Valuten regelmäßig beobachtet und dokumentiert. Damit verfolgen wir eigentlich, von anderer Seite, die Veränderungen im Geldwert dieser Währungen. In Bezug auf all dies verfügen wir auch über ausführliche ungarische Angaben.

Es wird grundsätzlich angenommen, daß eine Abweichung der ausländischen Preisveränderungagaben von den ungarischen Zahlen zugleich auch eine Verschiebung des ausländischen Kaufkraftwertes der Forintwährung andeutet. Die Tendenz ist offenkundig: Stieg das ungarische Preisniveau geringfügiger an, so wurde der Forint wertvoller, während er im entgegengesetzten Fall gegenüber den anderen Währungen an Wert einbüßte. Nachdem, wie bereits erwähnt, die im Jahre 1968 eingeführten Kurse auf die Kaufkraftverhältnisse der Mitte der 60er Jahre basiert wurden, beobachten wir die Veränderungen des Preisniveaus rückblickend bis 1968. Um nicht mit allzuvielen Details zu ermüden, werden nur einige *wichtigere Ergebnisse der Berechnungen* von 1975 erwähnt:

– In den OECD-Ländern stieg das Konsumentenpreisniveau in der untersuchten Periode fast um 60%, in Ungarn hingegen um 16% an.

– Die für konvertible Valuten exportierten ungarischen Waren wurden 1975 zu Preisen abgesetzt, die um mehr als 40% (in 1974 noch um mehr als 45%) höher waren als 1969, während wir die Importwaren um 70% teurer beschafften. Gleichzeitig betrug der Anstieg unseres Produzenten- bzw. inländischen Absatzpreisniveaus nur rund 20%.

In diesen Veränderungen von erheblich abweichender Größenordnung gelangen einerseits die in der westlichen Welt besonders seit 1972–73 erfolgte Preisexplosion und die zweistelligen Inflationsraten zum Ausdruck. Andererseits zeigt sich die wirtschaftspolitische Entscheidung, die diese Preisexplosion und Inflation nicht unkontrolliert in die ungarische Volkswirtschaft eindringen ließ. Wenn auch an dieser Stelle die weiteren finanziellen Zusammenhänge der letzteren außer Acht gelassen werden können, darf man aber z.B. nicht verschweigen, daß – u.a. gerade infolge der in Bezug auf die Kurse nicht entsprechend gezogenen Schlußfolgerungen, wegen der Unterlassung der allgemeinen Forintaufwertung – die aus dem Staatshaushalt bezahlten Importpreisstützungen in den Jahren 1974–75 um das Vier- bis Fünffache höher lagen als 1973.

Obwohl gleichzeitig infolge der steigenden Exportpreise die Unternehmen schnell wachsende Gewinne realisierten, vermochten die daraus resultierenden Mehrsteuern die Importstützung nur teilweise zu kompensieren. Letzten Endes erzielten die Unternehmen höhere Einkünfte als ihre effektiven Leistungen, was schließlich eine mit Waren ungedeckte Kaufkraftemission bedeutete. Freilich steht es mir ferne all dies einzig und allein der nicht unbegründet erfolgten Forintaufwertung in die Schuhe zu schieben. Wir dürfen nämlich die Währungskurse nicht als irgendein ökonomisches »Zaubermittel« betrachten. Die Währungskurspolitik kann die Preis-, die Lohn- und Einkommenspolitik ebensowenig ersetzen, wie diese nicht für die Währungskurspolitik herhalten können. All diese wichtigen Lenkungsinstrumente betätigen sich in einer gegenseitigen Wechselwirkung, doch ist die Reihenfolge

von größter Bedeutung: Die Bewegungsfunktionen der Kurspolitik und des Kurssystems werden ausschlaggebend von der Preis-, Lohn- und Einkommenspolitik bestimmt.

Ich glaube also, mit meiner vorweggenommenen Antwort nicht fehlgegangen zu sein, daß nämlich die infolge der Forintkursveränderung einzelner Währungen für den ganzen »Forintwährungskorb« durchgeführte 13prozentige Aufwertung nur ein Bruchteil der reell notwendigen, aber eigentlich bis Ende 1975 nicht durchgeführten Forintaufwertung war.

Allerdings soll wahrheitsgemäß erwähnt werden, daß es am 1. Januar 1975 – zum ersten Mal – eigentlich schon eine Forintaufwertung gab, aber nur in der Sphäre der nichtkommerziellen Verrechnungen. Die Aufwertung war eher bescheiden, sie betrug durchschnittlich 6%, da die konjunkturellen und touristischen Aussichten für 1975 uns zu Vorsicht mahnten, damit wir unsere Wettbewerbsfähigkeit im Fremdenverkehr von Seiten der Devisenpreise nicht gefährden. Ebenfalls konjunkturelle Überlegungen des Außenhandels motivierten die Entscheidung, wonach gleichzeitig die Kurse (die Preismultiplikatoren) in der Außenhandelssphäre unverändert blieben.

Das modernisierte Währungskurssystem von 1976

In Ungarn hat in 1976 eine neue Fünfjahrplanperiode begonnen. Die Festlegung der anzuwendenden ökonomischen Regulatoren ist zugleich auch ein organischer Bestandteil der Vorbereitung der fünfjährigen Volkswirtschaftspläne.

Eine der wichtigsten Aufgaben des ökonomischen Regulatorensystems, namentlich der mit der Außenwirtschaft zusammenhängenden Regulatoren, besteht im V. Fünfjahrplan in der Sicherung entsprechender Orientierung über die Weltwirtschaftslage sowie in der Entwicklung von Methoden, die den Wirtschaftsorganen eine flexiblere Anpassung an die veränderlichen Bedingungen ermöglichen. Auch die Mittel der aktiven Währungskurspolitik stehen im Dienst dieser Ziele. *Mit Wirkung vom 1. Januar 1976 wurde infolgedessen das ungarische Währungskurssystem modernisiert, mit gleichzeitiger Veränderung der gültigen Währungskurse.* Die erwähnten Maßnahmen bestehen im wesentlichen aus folgendem:

1) Die Ungarische Nationalbank notiert nicht-kommerzielle und kommerzielle Kurse und stellte gleichzeitig die Notierung der sog. Grundkurse ein. Dies bedeutet keine Veränderung des in 1946 deklarierten Goldgehaltes der Forint-Währung und hat somit auch keine wirtschaftlichen Konsequenzen. Die nichtkommerziellen Kurse gelangen nach wie vor hauptsächlich bei den Verrechnungen zur Anwendung, die die Bevölkerung betreffen. (Es handelt sich um die Kurse, die früher unter den Namen »mit Zuschlag erhöhte Grundkurse« erwähnt wurden.) Die kommerziellen Kurse gelangen im wesentlichen bei den Devisenverrechnungen zur Anwendung, die mit der Außenhandelstätigkeit der ungarischen Unternehmen verbunden sind. Die früher in dieser Kategorie gebräuchlichen und in der Kursnotierung nicht angeführten sog. Preismultiplikatoren wurden gleichzeitig abgeschafft. In sämtlichen Bereichen der Außenwirtschaftstätigkeit liegen den statistischen Registrierungen und Publikationen einheitlich die kommerziellen Kurse zu Grunde. Bei der Untersuchung der Devisenerlöse gewisser nichtkommerzieller Aktivitäten

(z. B. des Tourismus) kann man freilic hauch künftig nicht auf die Zugrundelegung jener Währungskurse verzichten, die bei diesen Verrechnungen – Kauf und Verkauf von Valuten – Anwendung finden (d. h. der nicht-kommerzielle Kurs).

Durch die neuen Maßnahmen wurde das ungarische Währungssystem modernisiert und vereinfacht, gleichzeitig wurden die Mängel des Kurssystems, welches schon so kompliziert und unübersichtlich war, daß es den Unternehmen und Lenkungsorganen Mehrarbeit bescherte und sowohl im Inland als auch bei ausländischen Geschäftspartnern den klaren Blick störte, beseitigt.

2. Ein vorrangiges wirtschaftspolitisches Ziel des V. Planjahrfünfts ist die Verbesserung der Preisverhältnisse, die Sicherung einer relativen Stabilität des inlandischen Preisniveaus und eine Festigung des Gleichgewichts. Zu diesem Zweck kam es am 1. Januar 1976 zu einer *Forint-Aufwertung*.

Bei den konvertiblen Währungen wurde das Durchschnittsniveau der nichtkommerziellen Kurse um rund 3%, der kommerziellen Kurse um 8% verringert. Nach Ungarn kommende Touristen erhalten bei der Umwechslung ihrer Devisen weniger Forint, während die Deviseneinkäufe ungarischer Auslandsreisender weniger Forint kosten. Diese Maßnahme geht mit einer verhältnisgleichen Verringerung der Forint-Preiseinkommen der Exporteure einher, zugleich müssen auch für die zum Import notwendigen Devisen weniger Forint gezahlt werden.

Sowohl in ihrer Tendenz als auch in ihrem Ausmaß standen diese Maßnahmen mit dem Volkswirtschaftsplan, der Preisregelung vom 1. Januar 1976, der Neuregelung der Betriebsgewinne und, innerhalb derer, mit der Festsetzung der im Außenhandel geltenden finanziellen »Brücken« im Einklang. Die erwähnte Herabsetzung der Forint-Kurse der konvertiblen Währungen – die Forint-Aufwertung – hat zwar die vom vorangehend erwähnten, unterschiedlichen Anstieg der in- und ausländischen Preise herrührenden Disproportionen nicht abgeschafft, aber immerhin wesentlich gemäßigt, besonders wenn man hinzurechnet, daß in 1975–1976 ein erheblicher Anstieg sowohl der Produzenten- als auch der Konsumentenpreise eintrat. Bei den ersteren erfolgte diese Veränderung größtenteils durch die Erhöhung der künstlich niedrig gehaltenen Importpreise, bei gewissen Erzeugnissen durch die Abschaffung oder allenfalls die beachtliche Kürzung der Preisstützung. (Gegenüber 1974 ist das Produzentenpreisniveau z.B. in der Industrie um 16%, das Konsumentenpreisniveau um 9% gestiegen.)

Die Forintkurse der verschiedenen konvertiblen Währungen wurden unterschiedlich verändert, da bei den Kurskorrektionen die auf den westlichen Finanzmärkten im Dezember 1975 entstandenen Kursverhältnisse berücksichtigt wurden. Die kommerziellen Kurse der einzelnen Währungen wurden um etwa 6% mehr verringert, als die nicht-kommerziellen Kurse. So ist der Unterschied zwischen den Kursen der zwei Tätigkeitssphären wieder 100% geworden.

Die auf zwischenstaatlichen Vereinbarungen beruhenden nicht-kommerziellen Kurse der nationalen Währungen der sozialistischen Länder, wo die Verrechnungen in Rubel erfolgen (z.B. sowjetischer Rubel, tschechoslowakische Krone, DDR-Mark usw.) wurden am 1. Januar 1976 nicht verändert. Die in dieser Sphäre seit 1963 gültigen Währungskurse wurden Ende 1974 überprüft; in einer multilateralen Vereinbarung der Teilnehmerstaaten des RGW wurde der Forint-Kurs der tschechoslowakischen Krone, des polnischen Złoty, der DDR-Mark und des sowjetischen Rubels

Währungen (100 Einheit)	Nicht-kommerzieller Kurs			Kommerzieller Kurs		
	31. Dez. 1975*	1. Jan. 1976	Abwertung, %	31. Dez. 1975**	1. Jan. 1976	Abwertung, %
Belg. Franc	56.90	53.36	6.2	121.07	106.72	11.9
BRD Mark	853.59	806.64	5.5	1816.18	1613.28	11.1
Dän. Krone	359.56	342.45	4.8	765.04	684.90	10.5
Pfund Sterling (1)	46.—	41.71	9.3	97.87	83.42	14.8
Franz. Franc	474.19	473.62	0.1	1008.93	947.24	6.1
Holl. Gulden	821.98	782.20	4.8	1748.93	1564.40	10.5
It. Lira (1000)	32.16	30.23	6.0	68.43	60.46	11.6
Norv. Krone	398.67	379.60	4.8	848.25	759.20	10.5
Ö. Schilling	118.66	114.09	3.9	252.47	228.18	9.6
Schw. Franken	761.81	770.52	1.1***	1620.90	1541.04	4.9
Schw. Krone	494.91	478,—	3.4	1051.96	956.—	9.1
US Dollar	2044.86	2065,—	1.0***	4350.85	4130.—	5.1

* Mit Zuschlag erhöhter Grundkurs
** Preismultiplikator
*** Aufwertung der Währung

im Frühjahr 1975 in einer Größenordnung von 7—10% verändert. Die Veränderung bedeutete eine Aufwertung dieser Währungen, d.h. eine Forint-Abwertung gegenüber denen, mit Ausnahme des Złoty, welcher gegenüber dem Forint abgewertet wurde. Diese Maßnahmen waren durch die seit 1963 in den betreffenden Ländern unterschiedlich gestiegenen Konsumentenpreise bedingt. (Eine direkte Fortsetzung dieser Maßnahme vom März 1975 war eine weitere Kurserhöhung der DDR-Mark im April 1976, eine Aufwertung des rumänischen Leu im Juli und eine weitere Aufwertung des sowjetischen Rubels im August desselben Jahres, in einer Größenordnung von 5—10%).

Der kommerzielle Kurs der im gegenseitigen RGW-Außenhandel angewendeten Kollektivwährung, des transferablen Rubels, beträgt nun 35 Forint (der frühere Preismultiplikator betrug 40 Forint). Diese Veränderung wurde infolge der Erhöhung der verträglichen Außenhandelspreise für die Jahre 1975—76 notwendig.

Die Vereinfachung unseres Währungskurssystems und die gleichzeitige Aufwertung des Forint lösten einen relativ großen Widerhall in der ausländischen Presse aus; der Kern unserer Maßnahmen wurde anscheinend verstanden.

Freilich können die mit dem Beginn des V. Planjahrfünfts getroffenen Kursveränderungen weder in absoluten noch in relativen Zahlen für 5 Jahre gelten, denn ihre »Umwelt« (die Preis- und Kursverhältnisse in der Welt) ist ja ständigen Veränderungen ausgesetzt. Deshalb verfügt das Plangesetz auch dahingehend, daß die Währungskurse im Einklang mit den in- und ausländischen Preisveränderungen nach Bedarf auch in Zukunft verändert werden müssen, um das Preisniveau entsprechend regeln zu können. Auch die Kursproportionen sollen sorgfältig beobachtet und rechtzeitig sowie im entsprechenden Ausmaß korrigiert werden.

Es spricht für die *elastische Anpassung* an die auf den westlichen Finanzmärkten entstehenden Kursverhältnisse, daß nach den erwähnten allgemeinen Maßnahmen vom 1. Januar bereits am 9. und 13. Februar, am 24. März, am 6. Mai,

Forint-Kursveränderung und Kursverhältnisse der wichtigsten konvertiblen Währungen

Währungen	Kursverhältnis zwischen dem US-Dollar und den anderen Währungen in der Kursnotierung der Ungarischen Nationalbank im Jahre 1976						Veränderung des Forintkurses, %
	1. Jan.	9. Febr.	24. März	6. Mai	21. Juni	1. Okt.	(1. Jan.— 1. Okt. 1976)
US Dollar	1.00	1.00	1.00	1.00	1.00	1.00	+1.0
Belg. Franc	38.70		39.07				
BRD Mark	2.60		2.57			2.52	+2.6
Dän. Krone	6.03		6.15				−1.0
Pfund Sterling*	2.02		1.94		1.85	1.74	−13.0
Franz. Franc	4.36		4.58			4.82	−8.7
Holl. Gulden	2.64		2.66				
It. Lira	683.—	720.—	800.—	842.—			−18.1
Norv. Krone	5.44		5.49				
Ö. Schilling	18.10		18.27			17.86	+2.3
Schw. Franken	2.68		2.66		2.62	2.58	+4.9
Schw. Krone	4.32		4.36				

* Invers

am 21. Juni und am 1. Oktober der Forintkurs von mehreren wichtigen konvertiblen Währungen verändert wurde.

Unter Zugrundelegung der Devisenstruktur unseres Außenhandelsumsatzes haben die vom 1. Januar bis einschließlich 1. Oktober durchgeführten Kurskorrektionen den Durchschnitt der Forintkurse der konvertiblen Währungen (d.h. den sog. Valutenkorb) um rund 1,5% herabgesetzt.

Die Aufstellung von *Währungsprognosen* war in letzter Zeit sehr beschwerlich und einstweilen wird es immer schwerer. Die aktive Kurspolitik und die entsprechende Informierung der Unternehmen können sich jedoch nicht mit einer nachträglichen Registrierung der Geschehnisse zufrieden geben. Wir müssen also im Rahmen des Möglichen versuchen auch vorauszusehen. Zur Information der Unternehmen veröffentlicht die Ungarische Nationalbank von Zeit zu Zeit Informationsschriften über die Lage der verschiedenen Währungen, sowie Vorschläge und Empfehlungen zur Wahl der Währungsgattung für ihre Geschäftsabschlüsse. Dies trägt zugleich auch dazu bei, daß die Unternehmen von den zeitweiligen Kursmaßnahmen der Nationalbank nicht überrascht werden.

Um *die Kursrisiken der Unternehmen abzuwehren oder allenfalls zu mäßigen*, haben wir verschiedene institutionelle Möglichkeiten geschaffen. So können die Unternehmen z.B. ihre voraussichtlichen Deviseneinnahmen im Rahmen von *Termingeschäften* der Ungarischen Nationalbank im Vorhinein verkaufen, welche diese bei Anrechnung einer den Marktverhältnissen entsprechenden Terminkommission kauft.

Eine andere Möglichkeit bietet der Abschluß eines *Versicherungsvertrages* mit der Staatlichen Versicherungsanstalt über die Kompensierung der Kursverluste. Im Zusammenhang mit je einem Geschäft kann eine Versicherung für den Zeitraum zwischen dem Zeitpunkt des verbindlichen Angebotes bis zum Deviseneingang

vereinbart werden. Kursverluste über 2% des in der Versicherungspolice angeführten Devisenwertes werden von der Versicherungsanstalt getragen, während bei geringeren Abwertungen das Unternehmen das Risiko trägt. Die Versicherungsgebühren sind für die Unternehmen äußerst günstig, wobei freilich je nach Währungen und Verrechnungsdauer differenziert wird.

*

Schließlich möchte ich nochmals auf die eingangs angeschnittene Frage der *einheitlichen Währungskurse* zurückzukommen. Ich glaube mit meiner Meinung nicht allein zu bleiben, daß in unserem Kurssystem die Zukunft den einheitlichen Kursen gehört. Seine Funktion als Wertmesser, Zahlungs- und Akkumulationsmittel vermag das Geld am besten zu erfüllen, wenn in der internationalen finanziellen Verrechnung die Kurse sowohl in bezug auf die kommerziellen als auch auf die nicht-kommerziellen Operationen einheitlich sind. Mit einem einheitlichen Kurs kann man einfacher als heute den Aufwand auf volkswirtschaftlicher und betrieblicher Ebene die Rentabilität messen, wodurch auf sämtlichen Ebenen der Wirtschaftsleitung schneller und besser fundierte wirtschaftliche Entscheidungen gefällt werden können.

Der einheitliche Kurs würde nicht nur in unserer Volkswirtschaft, sondern auch im internationalen Zusammenhang die wirtschaftliche Klarsicht fördern. Der einheitliche Kurs ist als gemeinsames Ziel der RGW-Länder auch im sog. Komplexprogram vorgesehen, damit die Währungen der sozialistischen Länder ihre Funktion als Wertmesser, Zahlungs-, und Akkumulationsmittel möglichst gut – besser als jetzt – erfüllen können.

Unserem gegenwärtigen Preissystem, wo ein bedeutender Teil des Netto-Sozialeinkommens in den Produzentenpreisen integriert wird – und damit das Produzentenpreisniveau im Unterschied zur internationalen Praxis gehoben wird –, entspricht ein einheitlicher Kurs nicht, nur ein zweistufiges Kurssystem. Wir wissen, wenn wir uns weiter in Richtung des einheitlichen Kurses bewegen wollen, so müssen wir mit der Zeit die Elemente des Netto-Sozialeinkommens aus der Sphäre der Produzentenpreise in die der Verwertung umlenken.

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СИСТЕМА И ПОЛИТИКА ВАЛЮТНЫХ КУРСОВ В ВЕНГРИИ

А. ХАЙДУ

Система и политика валютных курсов — важные регуляторы международного обмена товаров и услуг в широком смысле слова. Их функции и предъявляемые к ним требования зависят, с одной стороны, от общественного строя и роли внешнеэкономических связей отдельных стран и, с другой стороны, от конкретной системы управления народным хозяйством.

В Венгрии, где централизованные решения принимаются только по важным проблемам экономической политики, а решения по оперативным вопросам производства и развития принимаются самими предприятиями с учетом требований народнохозяйственного плана и экономических регуляторов, политика валютных курсов весьма существенна, в первую очередь, с точки зрения правильной хозяйственной ориентировки предприятий. Это обусловило перевод в 1968 году на новые основы венгерской системы валютных курсов. Наряду с сохранением в неизменном виде декларированного в 1946 году золотого содержания венгерского форинта была введена двуступенчатая система валютных курсов, в рамках которой так называемые неторговые курсы применялись главным образом в валютных расчетах с населением, а коэффициенты внешнеторговых цен — в экспортно-импортных операциях. Основой расчета первого курса являлось соотношение покупательной способности форинта и зарубежных валют, а второго курса — средние в масштабе народного хозяйства затраты в форинтах на единицу экспортной выручки в иностранной валюте.

Перед активной политикой валютных курсов в Венгрии сравятся две задачи: 1. выраженные в форинтах курсы различных конвертируемых валют должны отражать соотношения их рыночных стоимостей. Внесение поправок в эти курсы является оперативной задачей финансовых органов; 2. валютные курсы должны реально выражать соотношения покупательной способности форинта и зарубежных валют. Это задача, требующая решений в сфере экономической политики.

В дальнейшем автор показывает, в какой мере венгерская политика валютных курсов удовлетворяла этим двум требованиям. Она приходит к выводу, что вплоть до конца 1975 года не всегда удавалось в должное время и в нужной мере следовать за изменениями соотношений валютных курсов, и что не произошло обоснованной ревальвации курса форинта в сфере внешней торговли.

С началом нового пятилетнего плана на 1976—1980 гг. венгерская политика валютных курсов активизировалась. Одним из симптомов этого явилось упрощение с 1 января 1976 года системы валютных курсов (прекращение основанных на золотом паритете котировок курса форинта и распространение официальной котировки также и на торговые курсы), а другим — одновременная всеобщая девальвация форинта.

В заключение автор отмечает желательность установления в будущем единого валютного курса во всех внешнеэкономических расчетах, который значительно упростил бы измерение экономической эффективности и облегчил бы принятие необходимых решений. Однако это предполагает изъятие сосредоточенных в оптовых ценах элементов централизованного чистого дохода и перемещение их в розничные цены, то есть создание соответствующей международной практике двуступенчатой системы цен.

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EFFECT OF DE- AND REVALUATION OF WESTERN CURRENCIES ON INTERNATIONAL COMPARISONS

The so-called dollar crisis of the 1970's and the subsequent de- and revaluation of currencies, respectively, had an effect also on a part of international comparisons. After more than two decades the deviation between the "international purchasing power dollar" (as a specific unit of measurement used in comparisons) and the dollar corresponding to the domestic price level of the United States has practically ceased. The present study deals with the nature of this deviation and gives an estimation concerning its extent and then presents the process in the course of which the deviation became eliminated.

N-dollar and U-dollar

The duality of valuation to be discussed here concerns a considerable part of international comparisons: those multilateral comparisons which cover a relatively great number of countries (therefore, it does not affect the so-called binary or paired comparisons between two countries) and from among them those whose results are expressed in dollars. In this sphere of comparisons two groups of procedures can be distinguished.

1. Comparisons where official exchange rates are not used at all in the course of computations, but the purchasing power relations of currencies are determined exclusively on the basis of the prices prevailing at the domestic markets of the countries concerned; such are e.g. the OEEC-comparison [1] considered already "classical" and the large-scale comparison going on in the framework of the UN: International Comparison Project (ICP) whose first stage ended two years ago [3], [4].

2. Comparisons which use official exchange rates in some stage of computation either in order to replace any other conversion (which, as a matter of fact, cannot actually be regarded as a real comparison and the results will be far from reality) or to obtain some kind of a common unit of measurement as a starting point (such comparisons are already realistic and well approaching the actual ratios between the individual countries, e.g. [2], [5]).

In the first case the unit of measurement is the domestic dollar of the United States while in the second case the so-called international purchasing power dollar. For the sake of simplicity let us call the first one U-dollar and the second one N-dollar.

It must be noted that from the point of view of the relations (e.g. quantity relations) between the individual countries it does not matter which dollar is taken as a basis of computation (from this point of view not the two groups mentioned,

but the actual method applied within that is important), only mixing up the two should be avoided. However, if e.g. also the per capita national income or GDP of the countries should be expressed in dollars, the deviation mentioned will already appear.

The deviation results from the fact that the purchasing power of the dollar was much smaller on the domestic markets of the United States than if exchanged for another currency at the official rate of exchange. This situation had already been revealed also by the OEEC-comparison referring to 1950 when it was stated that the conversion by the official rate of exchange " . . . very substantially underestimates the position of all the European countries compared with the United States, and gives distorted relationships among the European countries themselves." ([1] – – p. 23). A similar statement is made by Ferenc *Jánossy* who goes even farther in his conclusion: " . . . by means of the rate of exchange the relative development levels are measured on another scale than by repricing the social product." ([2] – p. 112).

Thus, we have two different units of measurement. The question is how much they deviate from each other. The exact extent of this deviation cannot be determined since it depends on the circumstance the currency of what country or countries is converted into dollars. Namely, the various currencies have been undervalued by the rates of exchange with regard to the dollar not to the same extent. An ideal computation method would be such an international average where the rates of exchange of all countries could be taken into consideration and averaged by means of adequate weights. Even if this cannot be solved in practice, the relative magnitudes of the two kinds of dollar can be safely estimated by considering a few countries. The ratio will depend also on the aggregate for which it is interpreted (consumption, investment, total GDP, etc.). The most general sphere of interpretation is the total GDP.

The purchasing power ratio between the U-dollar and the N-dollar (g) can be expressed as follows:

$$g = M(g_i) \tag{1}$$

$$g_i = \frac{Y_{Ui}}{Y_{Ni}} \tag{2}$$

$$Y_{Ni} = f(e_i) \tag{3}$$

where:

Y_{Ui} = GDP of country i expressed in U-dollars,
Y_{Ni} = GDP of country i expressed in N-dollars,
M = weighted arithmetical average,
e_i = official dollar exchange rate of the currency of country i.

The GDP expressed in U-dollars can be only the result of some detailed comparison. For the GDP expressed in N-dollars formula (3) means only that it is a function of the official rate of exchange of the currencies. Here no restriction is necessary concerning the function, because we are not interested in the correctness of the Y_{Ni} data referring to the individual countries – however strange it may seem – but in that of the average according to formula (1). (If an international comparison concerning the individual countries were made, the correctness of the values Y_{Ni} would be, naturally even very important.)

Thus, also the simplest specification of formula (3) can be accepted, namely:

$$f(e_i) = \frac{Y_{si}}{e_i} \tag{4}$$

where:

Y_{Si} = GDP of country i expressed in its own currency.

For an estimation of the numerical value of g the UN comparison already mentioned (ICP) provides an excellent possibility. The first stage of this refers to 1970, i.e. to a date preceding the "dollar crisis". Ten countries participated in the comparison from among which the data of six economically developed countries are interesting for use here. (United States, France, Federal Republic of Germany, Italy, United Kingdom, Japan). These six countries can be regarded as a respectable "sample", since their total population amounts to about 72 per cent of that of the developed market economies and their GDP to more than 80 per cent, respectively.

The source of all data in Table 1 is the ICP [3]. GDP-data in column 2 expressed in U-dollars are the summary results of the comparison.* The data expressed in N-dollars in column 3 result from a simple conversion with the official rates of exchange (formula (4). The g_i quotients of column 4 correspond to the formula (2). The average in the column (g = 1.320) is the weighted average of the g_i data. For computing the average the total GDP (population multiplied by the per capita GDP expressed in U-dollars) was used as a weight.**

Table 1

Some results of the UN-comparison for 1970

Country	Population (millions)	Per capita GDP expressed in		Quotient of the two estimates
		U-dollars	N-dollars	
		Y_{Ui}	Y_{Ni}	g_i
France	50.78	3599	2902	1.240
Federal Republic of Germany	60.99	3585	3080	1.164
Italy	54.50	2198	1699	1.294
United Kingdom	55.99	2895	2143	1.351
Japan	103.50	2952	2003	1.474
Total	325.76	—	—	1.320
United States	(204.90)	(4801)	—	—

* Determination of the data in dollars was made by the so-called Geary-Khamis method. (Concerning the procedure and its characteristics see [6] and [7]).

** For the computation of an average indicated in formula [1] this seems to be the most convenient system of weights, however, there are not always enough data available for its application. As an "emergency solution" also the number of population may be applied as a weighting system.

Therefore, the average distortion of the rates of exchange for the dollar amounted to about 32 per cent in 1970. The purchasing power of the currencies of the developed capitalist countries was underestimated with regard to the dollar on the average to such extent and the level of the GDP of these countries was underestimated to the same extent as compared with that of the United States.

Changes between 1970 and 1974

For the period after 1970 no such detailed comparison is available, for the time being, as the UN comparison mentioned above. Therefore, if we want to examine the effect of the currency crisis on g, estimations have to be used. This estimation will be a variant of the general method by which non-recurrent spatial comparisons are usually "made topical" by projections for a later period. For this method the dynamic indices of the countries considered referring to the period between the non-recurrent comparison (period o) and the year of estimation (period t) are required. Naturally, the less we depart from the year of the detailed comparison, the better the estimation will be.

Consequently, our aim is to determine the indicator g_t by setting out from g_o. (In our calculations 1970 corresponds to period o and 1974 to period t, respectively.)

Several variants of this estimation can be developed theoretically, but if there is only a relatively short time between the two periods, the results obtained with different variants will not considerably deviate from each other (generally within much smaller limits than the limits of error in international comparisons of this type.) Basically four variants are conceivable, namely, the combination of two aggregation and two weighting procedures.

1. Extension for a later period of the individual g_{oi} indicators by countries and an averaging of the g_{ti} indicators obtained in this way:

$$g_t = M(g_{ti}) \tag{5}$$

$$g_{ti} = g_{oi} \cdot \frac{E_i P_u}{P_i} \qquad \left(E_i = \frac{e_{ti}}{e_{oi}}\right) \tag{6}$$

where:

E_i — change in the rate of exchange of the currency of country i as compared to dollar

P_u — domestic price index of the United States between the periods o and t

P_i — domestic price index of country i between the periods o and t.

The two weighting variants are the following ones:

a) in formula (5) the same weighting system is applied for period t as in formula (1) for period o;

b) different weighting systems are applied in the two formulae, for example the weights of period o are assigned to g_o and those of period t to g_t, respectively.

2. Global extension for a later period of the g_o indicator of formula (1) by means of corresponding average indices:

$$g_t = g_o \frac{\overline{E}\, P_u}{\overline{P}} \qquad (7)$$

$$\overline{E} = M(E_i) = M\left(\frac{e_{ti}}{e_{oi}}\right)$$

where:

$\overline{E}$ – average change in the rates of exchange of the currencies of the countries considered

$\overline{P}$ – average of the domestic price indices of the countries considered, $\overline{P} = M(P_i)$.

The weighting variants are here as follows:

a) the weighting system used when calculating the average change in the rate of exchange ($\overline{E}$) and the average change in the prices ($\overline{P}$), respectively, is the same as applied in the calculation of g_O (1);

b) g_o, $\overline{P}$ and $\overline{E}$ all have different weighting systems.

From these variants the former one has been applied. This choice from among the aggregation possibilities is justified by the intention to emphasize not so much the changes to be experienced in the individual countries as the tendencies manifesting themselves in the averages. Further, on the one hand, simplicity speaks in favour of a uniform weighting and, on the other hand, a more solid weighting system than the 1970 GDP-values expressed in dollars as a result of the UN comparison could be hardly found.

The price indices (Pu, Pi) in the formulae (6) and (7) require some explanation yet. Since all calculations refer to the GDP, also these price indices have to express the global price changes of GDP. This can be achieved by using so-called implicit price indices. The implicit price indices are not the results of direct price observations, but derived indicators obtained from accounts at current and constant prices, respectively. The implicit price index of the GDP is usually the quotient of the GDP at current prices and that at constant prices. Calculation of the implicit price index is relatively simple if in a country the year of constant prices (b) is the same as the year of the detailed spatial comparison (o). If this is not the case, one more chaining has to be included for estimating the index of t/o type necessary for our calculation:

$$P_{t/o} = \frac{\Sigma q_t p_t}{\Sigma q_t p_b} : \frac{q_o p_o}{q_o p_b} \qquad (8)$$

In four from among the six countries included in our examination the year of constant price is 1970 (France, Italy, United Kingdom and Japan), but in the Federal Republic of Germany, this year is 1963 while in the United States 1958 (!).

Table 2

Calculation of the relative purchasing powers of the two kinds of dollar in 1974

Country	g_{oi} in 1970	Rate of exchange, (national currency to the dollar)			Price index 1974/70	g_{ti} in 1974
		1970	1974	index number (1974/70)		
		e_{oi}	e_{ti}	E_i	P_i	
France	1.240	5.55	4.81	0.866	136.7	0.988
Federal Republic of Germany	1.164	3.66	2.59	0.708	129.0	0.803
Italy	1.294	625	650	1.040	146.0	1.159
United Kingdom	1.351	0.417	0.428	1.027	148.4	1.176
Japan	1.474	360	292	0.811	154.2	0.975
Average	1.320	—	—	0.862	143.5	—
United States	—	—	—	—	125.8	—

Thus, for these latter the chaining shown in formula (8) had to be applied.* With the application of formula (7):

$$g_t = 1.320 \cdot \frac{0.862 \cdot 1.258}{1.435} = 0.998 \approx 1.$$

Thus, the deviation diminished from 32 per cent to zero, i.e. it has ceased practically. The value obtained for the indicator g_t, so much approaching unity is, naturally, "too good" and may result from the errors made because of the incompleteness of the calculation or the unavoidable inexactnesses in the individual factors, etc. but even a deviation of 3–4 per cent would not change the fact that the purchasing powers of the two kinds of dollar practically coincide.

As can be seen from the data of Table 2, the smallest inflation between 1970 and 1974 was in the United States from among the six countries. Despite this fact the dollar became devalued by about 14 per cent to the average of the other five currencies. From this it may be also concluded that the devaluation was brought about not mainly by the inflation of recent years (perhaps not at all), but by a correction of the rates of exchange which had not been in harmony with the purchasing power relations. Otherwise, it can be seen from the data also that two of the five countries (Italy and the United Kingdom) devalued their currencies to a greater extent than the devaluation of dollar and thus the dollar became revalued with regard to these currencies.

* When our calculations were made the 1974 GDP for France, the United Kingdom and Japan were not yet available. However, an examination of the price trends of about ten developed countries between 1970 and 1974 showed that the implicit price index of the GDP was very near to the index of consumer prices. The same tendency could be observed concerning the price trends in these three countries between 1970 and 1973. Therefore, the consumer price indices between 1970 and 1974 in France, the United Kingdom and Japan have been used.

In these phenomena some development tendencies of the world economy, the international monetary market and the integration of western countries, respectively, are expressed in a very complex way and in specific reflection. In the majority of the developed capitalist countries the attractive power of the dollar, that allowed the maintenance of a higher rate of exchange than justified by its domestic purchasing power in the decades following the World War, has ceased to exist. This rate of exchange was based on the monetary system of the gold exchange standard which disintegrated at the beginning of the 1970's and was replaced by the system of floating exchange rates based on pure dollar standard. At the same time also the United States changed its policy with regard to the rate of exchange of the dollar, a characteristic feature of which was currency dumping.

*

A thorough analysis of causes and effects does not belong to the subject of the present article. For us the basic question is, what all this means for international comparisons. It makes orientation among the various comparative methods and results, by all means easier, since the several variants have decreased by one alternative, there being no difference any more between valuation in N-dollars and U-dollars respectively. However, this statement is valid only for comparisons referring to recent periods, while in case of comparisons referring to 1970 and preceding years – which will be topical for a long time yet – the deviation between N-dollar and U-dollar should be taken into consideration further on, too.

What is more, it is even conceivable that some deviation will have to be reckoned with in the future again. At present, considerable changes in the rates of exchange and inflation of currencies to varying extent can be again observed. Perhaps no such proportions can be expected as before 1973, since the currency policies of the countries and the entire international monetary market are different. Changes in them which – for the time being – cannot be foreseen as yet, might bring about changes also for international comparisons.

However, the present situation does not mean either – and I should like to point out this with great emphasis – that from now on official rates of exchange will provide good tools for comparisons of countries. They will distort the purchasing power relations among individual currencies also further on, but not all of them uniformly downwards: some downwards, while others upwards. If the GDPs of countries were compared on the basis of the official rates of exchange, the level of the Federal Republic of Germany would show an upward bias, while those of Italy and the United Kingdom a downward one, for example. Even greater would be the distortion in case of a comparison between two such countries, in one of which the currency is overvalued while that of the other undervalued. Let us consider, for example, the Federal Republic of Germany and Italy. According to the UN comparison the per capita GDP of Italy amounted to 61 per cent of that of the Federal Republic of Germany in 1970. Between 1970 and 1974 the volume of per capita GDP increased by 11.5 per cent in Italy and by 10.1 per cent in the Federal Republic of Germany, respectively. Accordingly, the proportion Italy/Federal Republic of Germany would be 62 per cent in 1974. However, if the 1974 GDPs of both countries expressed in their national currencies are converted into dollars at the official rates

of exchange, the proportion of the volumes of the two countries would be 44 per cent, which is visibly an irrealistic measure.

If we want to calculate the real proportions between the individual countries, special methods of international comparison will be required in the future, too. It is not the comparison that has become simpler, only the interpretation of the results.

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ПОСЛЕДСТВИЯ ДЕ- И РЕВАЛЬВАЦИИ ВАЛЮТ ЗАПАДНЫХ СТРАН ДЛЯ МЕЖДУНАРОДНЫХ СОПОСТАВЛЕНИЙ

Д. СИЛАДИ

Наряду с общеизвестными последствиями »кризиса доллара« и последующей девальвации и ревальвации валют в 1970-е годы, они оказали влияние также и на часть международных сравнений: после более чем двух десятилетий по сути дела исчезло расхождение между долларом международной покупательной силой (как особой единицы измерения при сопоставлениях) и долларом покупательной силой соответствующей внутреннему уровню цен в Соединенных Штатах Америки. Автор сперва рассматривает характер этого расхождения, а затем показывает процесс его исчезновения.

Расхождение возникает на основе того, что покупательная сила доллара на внутреннем рынке США была значительно меньшей, чем при его обмене, по официальному курсу на какую-нибудь другую валюту. Соотношения величины двух видов покупательной силы доллара можно оценить с удовлетворительной точностью на примере нескольких стран. Автор дает приближенную оценку на основе данных сравнения, проведенного в рамках ООН (ICP).

Для характеристики изменений, происшедших в период между базисным годом сравнения (1970) и 1974 годом берутся индексы внутренних цен измеряемых стран и индексы изменений валютных курсов доллара. В среднем по шести развитым капиталистическим странам расхождение между двумя видами оценки в 1974 году свелось фактически к нулю. Это упрощает выбор среди различных методов и результатов сравнений, так как число вариантов уменьшилось на одну альтернативу. Однако автор обращает внимание также на то обстоятельство, что в случае сопоставлений между отдельными странами официальные валютные курсы приводят по-прежнему искажениям.

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CHANGES IN HUNGARIAN FOREIGN TRADE PRICES AND WORLD MARKET PRICE MOVEMENTS

In the first half of the seventies, basically because of the rising prices of raw materials on the world market, Hungarian foreign trade prices considerably increased. Since the share of the more expensive materials and primary energy is greater in imports than in exports, the terms of trade deteriorated between 1970—1975 by about 17 per cent. In the trade with the socialist countries rouble prices rose to a much smaller extent than the prices accounted in convertible currencies. Between 1970—1975 rouble prices increased in imports by 32 per cent, in exports by 17 per cent. In these five years the price level of imports accounted in convertible currencies rose by 70 per cent, that of exports by 32 per cent.

Characteristics of changes in world market prices

The last 25 years have been accompanied in Western countries by a steady – first slow, then accelerated – rising of prices. It seemed that economic growth was necessarily concomitant with "controlled" inflation. Because of growing costs and wages home prices generally rose quicker than prices in international trade. In these years world trade has been dynamically growing, usually at a rate higher than industrial production.

From the mid-fifties up to the early seventies world market prices were moderately fluctuating, with a very slowly rising tendency. In some years major price movements were observed with certain products in connexion with local and weather conditions. A rise in prices was, however, followed by a fall of almost the same extent, and thus no considerable change in the relative prices of raw materials, semi-finished products and foodstuffs took place. The price level of finished industrial products was rising to a greater extent than that of raw materials, so that there was a slow yet permanent improvement for over 15 years in the terms of trade of advanced countries exporting mainly finished products. As opposed to this, the terms of trade of developing countries were naturally worsening.

In the 1970s it is an essential feature of the rising world market prices that a part of the raw materials have become considerably expensive relative to other raw materials and finished industrial products. These changes in relative prices mark the establishment of new value relations. In this an important though not exclusive, role was played by the "oil crisis". According to an OECD study published in 1974 the rapid price increases since 1972 can be divided into three phases. Between the middle of 1972 and October 1973 the price increase of raw materials was much

faster than the average, basically because of the upset balance of demand and supply. The business boom, namely, boosted demand for industrial basic materials, while supply of foodstuffs went down because of bad weather. From October 1973 up to the peak attained in the middle of 1974 the rise in prices was clearly the consequence of the Middle-East war and of the oil crisis which considerably increased the price not solely of crude oil but also of numerous other raw materials and chemicals. Although the growth of industrial production was not very important in that period, the raw material market situation was further worsened by the suddenly increasing speculative purchases since, in the extremely uncertain inflationary and financial situation, a part of the capitals was being invested into raw materials. Since the middle of 1974 it has been characteristic of the economic situation that industrial production has slowed down in the advanced Western countries, prices have decreased in a few cases, and in 1975, the worst year of the crisis, the average price level was maintained.

The terms of trade of the advanced countries worsened considerably in these years, while those of the developing countries improved on the whole. The latter tried to avail themselves of every possibility to advance their raw material producing economies that had been supressed for so long. The oil producing countries accumulated huge surpluses. In the developing countries that have no oil or other important raw materials (the "fourth world") the economic situation has further worsened.

The increase of foreign trade prices in 1973—74 much exceeded that of home market prices. The rapid rise in raw material prices gave a big push to the home inflations, accelerating anyway, in the Western countries. Economists expect an upswing in the Western countries for 1976: the GDP will probably surpass that of 1975 by a few per cent. Yet a judgement of the price changes expressed in various currencies is influenced by the international monetary crisis and the considerable changes in the rates of exchange. Therefore, in a number of cases the higher price indices reflect also the effect of the relative devaluation of the various currencies.

Hungarian foreign trade price movements

The highly foreign trade orientated economy of Hungary has been hard hit by the world market price fluctuations of recent years. The terms of trade of the country covering a large part of her material needs from imports have considerably worsened as a consequence of the rise in prices. In the last few years the capitalist countries have gone through their worst crisis since World War II and, although in early 1976 the signs of an upward trend were showing, the future is still full of uncertainties. The slowing down of economic growth in the Western countries is the source of further difficulties for Hungary, since it makes considerably more difficult for her to augment exports to an extent necessary for attaining a balanced situation of the country. At the same time, because of sharpening competition export prices are further pressed down, particularly those of industrial finished articles and certain agricultural products.

The equilibrium of the country is not influenced basically in a long perspective by the changes in prices. Yet the changes of the past year were of such extent that

their effect will be felt for a comparatively long time. Although in the second half of the 1970s price movements will be presumably of a smaller scale and perhaps favourable in their tendency for Hungary, it cannot be expected that the rise in raw material prices having taken place in 1973–74 will now stop and the terms of trade characteristic of the 1960s will be restored. This means for Hungary, in other words, that in the 1970s she has to export more for a unit of imports than earlier.

Hungarian foreign trade prices changed only a little in their basic tendency between 1955 and 1970 when world market prices were comparatively stable. Import price indices decreased a little with the given commodity structure, while export prices remained practically unchanged because of the different product structure. As a consequence, the terms of trade showed only a slight improvement in the sixties. The early seventies were characterized by an extraordinary rise in prices and a worsening of the terms of trade.

Table 1

Yearly changes in Hungarian foreign trade price indices (per cent)

	1956–1960	1961–1965	1966–1970	1971–1975
	yearly averages			
Imports	−0.4	−0.4	−0.6	8.1
Exports	−1.5	0.4	−0.1	4.1
Terms of trade	−1.1	0.8	0.5	−3.7

In the fourth Five-Year Plan period (1971–75) import and export prices fluctuated between highly extreme values. In the first two years prices rose only to a slight extent, but from 1973 on the rate of price increases was accelerating. The price increase of 1973–74 was determined by that in the turnover accounted in convertible currencies, and the 1975 price indices by the rise in contractual rouble prices.

Within this five-year period rouble prices were changed twice: in 1971–72 and 1975. At the beginning of the period prices rose only a little, but the rise in import prices definitely surpassed that in export prices. Within the framework of the price adjustment spread over two years the terms of trade worsened altogether by 4 per cent. The price adjustment of 1975 was determined by the preceding rise in world market prices; therefore, import prices rose much more than export prices. The terms of trade worsened by about 9 per cent.

In the first two years Hungarian foreign trade prices accounted in convertible currencies also rose only to a small extent. In 1973 the rise in prices speeded up and in 1974 reached a record height, mainly in imports. In 1975 a stagnation of prices and even some decline was observed. The terms of trade deteriorated considerably between 1973 and 1975.

Table 2

*Foreign trade price indices and terms of trade**

	1971	1972	1973	1974	1975	1975/1970
	changes over the preceding year (per cent)					
Imports						
Total	1.7	2.4	6.3	16.4	14.2	147.2
of wich	1.7	2.4	6.3	16.4	14.2	147.2
Rouble accounts	1.8	2.2	0.2	0.9	25.7	132.2
Dollar accounts	2.2	2.2	16.5	39.5	0.4	170.2
Exports						
Total	0.3	1.6	5.0	7.7	6.1	122.3
of which						
Rouble accounts	−0.4	0.6	0.5	1.3	14.7	117.0
Dollar accounts	1.4	3.6	13.6	18.9	−6.6	132.5
Terms of trade						
Total	−1.4	−0.8	−1.2	−7.5	−7.1	83.1
of which						
Rouble accounts	−2.2	−1.6	0.3	0.4	−8.8	88.5
Dollar accounts	−0.8	1.4	−2.5	−14.8	−7.0	77.8

Price trends of Hungarian foreign trade accounted in roubles

Adjustment of the socialist countries' contractual rouble prices was effected in two steps in 1971−72, within the framework of the regular price adjustments of every five years. Prices were changed by way of bilateral discussions relying on world market price movements over the preceding five years considered as fundamental and lasting. In imports the prices of primary energy, materials and foodstuffs increased, while in exports − because of the different commodity pattern − only food prices were raised. As a consequence, the terms of trade worsened by about 4 per cent.

In the following two years rouble prices remained practically unchanged. Yet in 1975 an extra price adjustment took place because of the changes in world market prices over the preceding three years. Therefore, the prices of primary energy, raw materials and foodstuffs rose considerably in 1975. The rise in prices of finished products, making up the larger part of Hungarian exports, and even of a few materials lagged well behind the rise in import prices, and thus the terms of trade deteriorated considerably.

* Foreign trade turnover had been accounted in "foreign exchange forints" until the end of 1975; the price indices mark the changes in these terms. Since the rate of the foreign exchange forint changed relative to the various convertible currencies several times in the seventies, thus also relative to the dollar, the average of price rises at nominal dollar prices would be higher by about 38 per cent. In early 1971 $1 was worth 11.74 foreign exchange forints, while on December 31st 1975 it was worth only 8.51 foreign exchange forints. The exchange rate of the rouble did not change until the end of 1975.

Changes in import prices

The average price level of imports accounted in roubles surpassed in 1975 that of 1970 by 30 per cent. An important shift took place in the relative prices of materials and finished products.

Table 3

Changes in import prices accounted in roubles

	1971	1972	1973	1974	1975	Share of the main product groups in the 1975 turnover*	
	Change over previous year per cent						
Primary energy electric energy	2.0	2.5	−0.9	−0.2	94.7	201.1	14.1
Materials, semi-finished products, parts	2.2	4.1	−0.2	1.0	32.5	142.1	43.6
Machines, transport vehicles, other investment goods	1.3	0.2	1.0	1.0	5.9	109.6	28.1
Consumer goods	1.0	0.4	1.0	1.5	5.5	109.6	11.3
Materials of the food industry, livestock, foodstuffs	2.4	2.3	−0.1	2.0	19.2	127.2	2.9
Total	1.8	2.2	0.2	0.9	25.7	132.2	100.0

* Total turnover

In 1971−72 the prices of primary energy (coal, briquette, crude oil) rose by 4,5 per cent altogether, and at the 1975 price adjustment by 95 per cent. The price of crude oil exceeded that of 1974 by 131 per cent, that of diesel oil by 96 per cent, that of coal by 103 per cent, and that of electric energy by 37 per cent.

The import price of materials and semi-finished products went up by 2 resp. 4 per cent in 1971−72. Non-ferrous metals, soft sawnwood, foundry coke, mine timber, logs, round timber, cellulose and paper articles became more expensive, while the price of rolled articles, nitrogenous fertilizer, polyethylene and polystyrene went down.

By the price adjustment of 1975 materials indispensable for the Hungarian industry and constituting a large part of turnover became more expensive by about 32 per cent. From among the materials of vegetal origin the prices of raw cotton, soft sawnwood, logs and round timber rose considerably. Imported mining articles became more expensive by 26 per cent because of the higher prices of iron ore and raw phosphate. The prices of metallurgical basic materials (crude iron, ferro-alloys, hot-rolled semi-finished steel products, zinc, lead, aluminium block) rose by 20 per cent, those of iron- and metal intermediary products by 64 per cent. Within the approximately 50 per cent rise of basic chemical materials the most important one is the

change in the price of foundry coke, while the prices of the intermediary chemical products – such as caustic soda, chemical fertilizers, plant protectives – went up by 22 per cent on average in 1975.

The prices of machines and consumer goods rose by about 10 per cent as compared to 1970. More than half of the rise i.e. about 6 per cent of it was that of 1975.

The prices of foodstuffs and of materials for the food industry rose by 2 per cent each in 1971–72. E.g. fodder milk powder, wine and rectified spirit became more expensive. The 19 per cent rise of 1975 was a consequence of the higher prices of tinned fruit, pickles, drinks, salt, and fodder milk powder.

Changes in export prices

The average price level of goods exported for roubles was 17 per cent higher in 1975 than in 1970. The change in relative prices between materials and semi-finished products is observable in exports just as in imports, yet to a smaller extent.

The prices of primary energy, practically unchanged between 1971 and 1974, doubled in 1975.

The price level of materials constituting about one-fifth of exports accounted in roubles rose, after the slight rise of 1971–72, by 17 per cent in 1975. E.g. the prices of bauxite, rolled goods and steel tube went up.

Table 4

Changes in export prices accounted in roubles

	1971	1972	1973	1974	1975	1975/70	Share of the main product groups in the 1975 turnover*
	change over previous year per cent						
Primary energy electric energy	−1.2	−0.8	0.3	−0.3	109.7	205.7	0.5
Materials, semi-finished products, parts	1.1	−0.1	0.3	1.2	17.3	120.2	21.9
Machines, transport vehicles, other investment goods	−0.5	1.8	0.7	0.6	10.9	113.8	41.2
Consumer goods	−3.0	−2.4	0.2	2.2	13.4	109.8	21.4
Materials for the food industry, livestock, foodstuffs	2.1	3.1	0.7	1.8	23.4	133.1	15.0
Total	−0.4	0.6	0.5	1.3	14.7	117.0	100.0

* Total turnover

The prices of machines and consumer goods fell a little in 1971–72. In 1975 there was a rise of over 10 per cent in the price level of both product groups.

Foodstuffs were exported in 1971–72 at prices higher by 2 resp. 3 per cent. Pork, sausage, salami, tinned vegetables, tinned fruit and pickles became more expensive. The export prices of 1975 rose by 23 per cent. Within this the prices of maize, fresh fruit and vegetables, live pig, tinned fruit and vegetables, wine, raw vegetal oil and lard, pork, sausage, salami, slaughtered poultry and tinned meat were higher.

Price trends in the Hungarian foreign trade accounted in convertible currencies

When analysing the price trends of the Hungarian foreign trade accounted in dollars and other convertible currencies one must start from the changes in world market prices. In a comparison of foreign trade price indices and world market price indices it must be taken into consideration that the former comprise a wide range of products and also that they are connected to the actual deliveries. Therefore, they can follow the world market price indices corresponding to the daily transactions but with a few months' delay. It must be further mentioned that foreign trade turnover is made up of transactions in various countries effected with different conditions, and that prices are much influenced by the different features of countries and currencies, terms of delivery, conditions of payment, market research activity of foreign trade enterprises and their "cleverness". As a consequence, although foreign trade price indices move, in their tendency, similarly to world market price indices, the extent of price changes and of fluctuations is much more balanced.

As a consequence of the large world market price movements there were, first of all in 1973–74, large price movements in the Hungarian foreign trade as well. As mentioned in the introduction, the average import price level surpassed in 1975 that of 1970 by about 70 per cent, while the average export price level of 1975 surpassed that of 1970 by somewhat more than 30 per cent. Thus, the most important feature of this period was the worsening of the terms of trade for Hungary because of the extremely high price index numbers of imports. The prices of certain raw materials, foodstuffs and primary energy rose high above the average. As it will be seen in detail in what follows, in imports much more such items can be found than imports whose prices rose much higher. Therefore, the worsening of the terms of trade is explained mainly by the different commodity patterns.

Examining the price movements of materials in themselves (Table 5) it is found that the worsening of the terms of trade is above the average: 24 per cent. This effect is further enhanced by the fact that the share of materials is much larger in imports than in exports.

The extent of the important change in the relative prices of materials and finished products is varying. In imports the rise in the prices of materials relative to finished products is nearly 30 per cent, while in exports it is only 9 per cent. This is also explained by the different commodity pattern.

The worsening of the terms of trade of finished products reaching about 10 per cent is less clear. Presumably it may be explained by the fact that the sharpening

competition on Western markets and a kind of import restricting economic policy created a more difficult market situation for Hungarian finished products. Therefore, in relation to the rise in the prices of the finished products of advanced Western countries the Hungarian prices could be raised but to a small extent.

Table 5

Price changes in the turnover accounted in convertible currencies
(1970 = 100)

Year	Import			Export			Terms of trade*		
	Total	of which		Total	of which		Total	of which	
		materials**	finished products***		materials**	finished products***		materials**	finished products***
1971	102.2	101.7	104.0	101.4	100.8	103.1	99.2	99.1	99.1
1972	104.4	102.9	108.9	105.0	104.9	105.4	100.6	101.9	96.8
1973	121.6	122.8	115.8	119.3	122.9	109.9	98.1	100.1	94.9
1974	169.6	178.7	131.5	141.8	148.9	123.4	83.6	83.3	93.8
1975	170.2	177.6	139.2	132.5	135.0	124.2	77.8	76.0	89.2
percentage distribution of 1975 turnover	100.0	83.3	16.7	100.0	71.4	28.6			

* Export price indices divided by import price indices
** Primary energy, materials, foodstuffs
*** Machines and industrial consumer articles.

From the above-said i.e. from the data of Table 5, the statement can be concluded that the terms of trade of the Hungarian foreign trade accounted in convertible currencies did not worsen because of a change in the price gap between industrial finished products and raw materials in the world market, but because in the accelerating inflation import prices were rising much quicker in the trade of both materials and finished products than export prices.

Changes in import prices

Within imports it was the prices of primary energy that rose fastest, yet the weight of these is not the most important. The rise in foodstuff prices (making up 20 per cent of imports) was also very high: about 100 per cent. Yet the most important factor was the rise of about 70 per cent in the prices of materials and semi-finished products constituting more than half of the turnover. On the other side, the prices of industrial finished articles went up by only about 40 per cent. (Table 6)

The prices of materials and of semi-finished products fluctuated only a little in 1971–72, in 1973 their price level rose already by 11 per cent and in 1974 by more than 50 per cent. In 1975 a mild fall was observed.

Table 6

Changes in import prices accounted in dollars

	1971	1972	1973	1974	1975	1975/1970	Share of the main product groups in the 1975 turnover* per cent
	change over the previous year per cent						
Primary energy, electric energy	20.8	−2.2	41.0	105.5	−6.5	320.3	8.2
Materials, semi-finished products, parts	−1.3	2.8	11.0	51.2	−1.6	167.7	57.5
Machines, transport vehicles, other investment goods	5.4	4.9	6.6	12.1	6.0	140.1	12.3
Consumer goods	0.7	3.8	5.7	15.9	5.5	135.2	4.4
Materials for the food industry, livestock, foodstuffs	9.0	−2.6	42.3	21.9	4.3	192.0	17.6
Total	2.2	2.2	16.5	39.5	0.4	170.2	100.0

*Total turnover

Table 7

Changes in the prices of important materials bought for convertible currencies
(1970 = 100)

	1971	1972	1973	1974	1975
Soft sawnwood	103.2	97.7	149.9	182.9	185.1
Cellulose	101.1	92.4	94.2	128.0	169.0
Raw cotton	105.8	115.9	112.5	214.9	128.1
Raw hides	88.1	137.2	180.1	157.6	107.9
Cleanwool	78.1	77.1	235.5	211.0	134.4
Raw phosphate	—	100.0	106.3	402.2	532.8
Raw copper and semi-finished products	82.4	70.4	100.0	161.3	104.6
Zinc blocks and refined, semi-finished products	104.4	117.6	192.3	333.7	200.8
Tin blocks and refined, semi-finished products	93.4	93.9	101.4	166.2	140.4
Hot-rolled steel bars and profiles	95.6	88.9	119.4	176.4	116.1
Tin-coated steel sheets	112.8	100.0	105.5	140.9	169.8
Caustic soda	185.0	201.9	218.6	346.9	446.6
Polyethylene	113.2	104.9	123.4	245.6	178.1
Ammonia Soda	116.4	121.0	140.0	396.4	407.4
Cellulose-based fibres	104.2	124.0	132.4	201.1	211.7
Phosphoric fertilizers	100.0	120.4	141.8	353.4	335.2
Composed and other chemical fertilizers	100.0	108.2	118.2	237.8	246.2
Cement	99.0	121.6	132.7	149.5	212.8

From among the most important materials e.g. the price of raw hide and wool was the highest in 1973, while in 1974 and 1975 it showed a downward tendency. The price of soft sawnwood, cellulose, raw phosphate, ammonia soda, caustic soda, tin-coated steel sheets and cement rose yearly and reached a peak in 1975. Most of the materials reached a peak price in 1974 (Table 7) and showed more or less a falling tendency in 1975. (E.g. copper, foundry tin, hot-rolled steel bars and profiles, phosphoric fertilizer, polyethylene, zinc, raw cotton.)

Determination of the price index of machines constituting over 10 per cent of imports accounted in dollars and of consumer's articles constituting about 4 per cent is possible, because of the limited number of comparable products, only with a very low representation. Making use also of information coming from other sources, it is estimated that prices rose by 40 and 35 per cent in five years. Even with the higher degree of uncertainty in such calculations the important change in relative prices between materials, foodstuffs and finished products can be clearly established.

Table 8

Price changes of important foodstuffs bought for convertible currencies
(1970=100)

	1971	1972	1973	1974	1975
Fodder grain	100.0	87.1	103.6	179.1	178.2
Raw coffee	95.1	77.0	95.2	139.3	121.7
Cocoa bean	74.0	70.3	108.7	149.8	152.3
Hulled rice	64.8	86.2	114.7	148.8	154.3
Sugar	100.0	98.4	131.7	268 8	427.4
Fodder from vegetal oil	103 4	103.4	189.4	170.9	147.2
Fodder of animal origin	94.2	92.2	213.4	184.5	120.1

Among materials for the food industry and foodstuffs it was sugar whose price rose fastest: in 1975 it was fourfold that of 1970. The price levels of fodder grain, raw coffee, milk powder fodder were highest in 1974 and showed a slow downward tendency in 1975.

Changes in export prices

The prices of products exported for convertible currencies rose only a little in 1971–72. Following world market price increases, in 1973–74 prices increased on average by 14 and 19 per cent. Because of the unfavourable world market position of Hungarian products the price index went down by 7 per cent in 1975 (Table 9).

The price level of material exports making up about 30 per cent of the turnover fell by 4 and 6 per cent in 1971–72. The rise in prices in 1973 was a little more than 10 per cent, similarly to imports. In 1974 prices rose by 42 per cent. In the last year (1975) already a more than 10 per cent reduction was found, because the prices of

the most important articles – mainly of metallurgical materials and rolled goods – began to fall after the peak of 1974. Yet the prices of a few highly demanded articles, such as pulpwood and hot-rolled steel tubes, rose further in 1975.

The prices of machines and consumer articles rose year by year in the course of the five years under investigation. The price rises were, as has been mentioned, not high. A certain change in the relative prices between materials and finished products is found also in exports. However, taking into consideration that the export prices of materials markedly fell in 1975, the relative prices of finished products and materials differ in 1975 considerably from the 1974 proportions, apart from primary energy. This is because in 1974 the price gap between finished products and materials was much wider, similarly to imports. As a consequence of the changes in

Table 9

Changes in export prices accounted in dollars

	1971	1972	1973	1974	1975	75/1970	Share of the main product groups in the 1975 turnover* per cent
	change over the previous year per cent						
Primary energy, electric energy	21.7	−11.4	42.5	110.1	1.0	325.8	4.0
Material, semi-finished products, parts	−4.1	−6.0	12.6	42.4	−12.2	126.8	31.6
Machines, transport vehicles, other investment goods	1.4	1.5	0.9	5.2	3.2	112.7	12.7
Consumer goods	3.8	2.6	5.8	15.6	−1.1	129.0	15.9
Materials for the food industry, livestock, foodstuffs	5.1	14.8	20.6	4.1	−7.2	140.6	35.8
Total	1.4	3.6	13.6	18.9	−6.6	132.5	100.0

* Total turnover

Table 10

Price changes of important raw materials exported for convertible currencies

	1971	1972	1973	1974	1975
Soft sawnwood	107.1	101.2	121.3	176.3	147.0
Pulpwood	119.5	96.9	91.1	123.3	146.6
Pig iron	89.6	67.9	84.7	179.3	144.5
Hot-rolled semi-finished steel products	78.1	77.5	103.3	158.8	114.9
Aluminium, aluminium block	91.8	82.8	89.1	132.6	119.2
Hot-rolled steel bar and profiles	84.2	83.2	105.7	162.6	121.5
Rolled steel plates and broad steel strips	85.0	86.0	106.4	141.5	105.4
Hot-rolled steel tubes	94.0	85.3	96.6	136.7	182.4
Pharmaceutical basic materials	121.4	98.0	93.5	147.3	119.0

world market prices in 1975 the relative average price level, if compared to 1970, of materials and finished products came closer again in exports.

The export price level of materials for the food industry, livestock and foodstuffs rose altogether by 50 per cent between 1971 and 1974, and in 1975 it went down by 7 per cent.

The prices of animals for slaughter (beef-cattle, pig for slaughter, sheep for slaughter) constituting an important part of the turnover were highest in 1973, since then they went down perceptibly, particularly that of beef-cattle. The price level of cereals and maize reached a peak in 1974, and in 1973 the price of cereals went down considerably, while that of maize only to a small extent.

Table 11

Changed in the prices of important foodstuffs exported for convertible currencies
(1970 = 100)

	1971	1972	1973	1974	1975
Cereals	121.1	120.1	164.0	195.1	169.8
Maize	113.6	135.9	145.0	195.3	192.8
Slaughter cattle and calves	101.9	146.3	153.2	112.4	88.2
Pigs for slaughter	100.2	107.8	167.8	129.8	133.5
Horses for slaughter	105.8	122.5	150.4	149.9	147.4
Sheep for slaughter	100.0	130.2	152.2	156.1	155.4
Tinned fruit	98.5	97.2	115.4	145.8	163.3
Tinned vegetables	104.9	97.2	102.7	127.2	125.5
Grape wine	102.5	107.9	106.6	104.7	115.1
Raw beef and veal	102.6	140.6	154.4	119.3	89.9
Salami	106.2	106.8	118.8	130.1	131.9
Lard	100.0	61.6	127.2	161.5	146.3
Slaughtered poultry	103.9	97.2	133.1	122.3	128.4
Fresh eggs	118.4	111.4	120.8	150.6	129.5

ИЗМЕНЕНИЕ ВЕНГЕРСКИХ ВНЕШНЕТОРГОВЫХ ЦЕН И ДИНАМИКА ЦЕН НА МИРОВОМ КАПИТАЛИСТИЧЕСКОМ РЫНКЕ

А. МАРТОН

С середины 50-ых до начала 70-ых годов цены на мировом рынке характеризовались относительной стабильностью. Только в отдельные годы под влиянием конъюнктурных или других факторов имело место значительное повышение цен на некоторые виды сырья, за которым, однако, следовало по существу такое же падение цен. Между тем пропорции обмена между сырьем и готовой продукцией медленно, но постоянно, росли в пользу готовой продукции. В первой половине 70-ых годов положение в корне изменилось, в первую очередь, в результате роста цен на нефть и нефтепродукты, но также и на другие виды сырья и материалов. Пропорции обмена между готовой продукцией и сырьем существенно и устойчиво изменились в пользу части развивающихся стран.

В динамике венгерских внешнеторговых цен тоже получили ясное отражение процессы, происшедшие на мировом рынке. Если в шестидесятые годы пропорции обмена улучшались, то в 1970—1975 годы произошло их ухудшение на 17 процентов.

Более половины венгерской внешней торговли составляет товарооборот с социалистическими странами, где движение цен определяется специфическими изменениями договорных цен в рублях, зависящих только косвенно — и с некоторым запозданием во времени — от цен мирового рынка. Уровень цен такого импорта в 1975 году был на 32% выше, чем в 1970 году, но преобладающая часть прироста цен (26%) приходится на 1975 год. Аналогично положение в области экспорта: из имевшего место на протяжении пятилетнего периода 17-процентного роста цен в 1975 году было реализовано 15%. Так, в венгерской внешней торговле, базирующейся на расчетах в рублях, соотношение экспортных и импортных цен в 1975 году было на 11% менее благоприятно, чем в 1970 году. Рост цен охватил главным образом энергоносители и некоторые продовольственные продукты.

В торговле со странами, расчеты с которыми производятся в валюте насоциалистических стран, действие мировой инфляции проявлялось гораздо быстрее и непосредственно.

Импортные цены — главным образом в результате их роста на 16 и 40 процентов в 1973 и 1974 годах соответственно — были в 1975 году на 70% выше, чем в 1970 году. Венгрия импортирует в большом объеме товары, цены на которые возросли на мировом рынке в несколько раз. (Например, нефть, сахар, фосфаты, едкий натр сода.)

Цены же на экспортные товары за пять лет возросли только на 32%, из-за отличающей от импорта товарной структуры — поэтому ухудшение соотношения экспортных и импортных цен составило более 20%.

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J. KORNAI

THE MEASUREMENT OF SHORTAGE

The paper discusses some phenomena related to the short supply of goods: direct shortage of non-substitutable groups of commodities; involuntary substitution, spending and saving forced by the lack of supply; additional efforts of customers; waiting etc. In case of rigidities of supply and prices there will be a short-term and a long-term adjustment of demand to supply. Therefore it becomes impossible to measure "potential" demand, i. e. what would be demand in the absence of shortages.

If there are no shortages, demand and actual selling and buying are identical. In case of chronic shortages this identity does not hold. An objective observation of the absolute size of excess demand is thus impossible. Questioning of subjective intentions is not reliable. This is true not only on the disaggregate micro level, but on aggregate macro level as well. In a shortage economy "excess demand" is not an operational magnitude.

There are, however, practical possibilities to observe the relative state and the dynamics of shortages. The paper suggests practical methods for that purpose.

1. Introduction

Supply has much improved in Hungary in past years, yet a shortage of some goods and services occurs repeatedly. From time to time certain products and services become so-called "shortage goods". They are either completely missing from stores, or their supply is fluctuating and their regional distribution is uneven. Queueing and waiting are also related shortage. A complete description of the state of the economy would entail quantitative description of the shortage situation. This leads us, however, to very difficult measurement problems. The present article will discuss these problems.

The measurement difficulties are not of technical but of theoretical nature; their bulk may be attributed to the nature of the phenomena to be measured. Economic theory usually holds the expression "excess demand" to be a self-evident concept. But, is excess demand an *operational* category in an economy in which shortage is chronic?* While a few basic questions of demand theory will be touched upon in the course of this analysis, we cannot, of course, make it our aim to discuss the theory comprehensively.

* This kind of permanently asymmetrical state of the market is called shortage economy (*Mangelwirtschaft* in German) or seller's market. In his book (3) the author uses the expression "suction" to mark this state, as opposed to "pressure", which is the case of chronic excess supply.

This article deals mainly with the market sphere, in other words, with such allocation of products and services as takes place in the form of selling and buying (and not by administrative rationing or any other kind of non-market mechanism). The buyer's need is expressed here by buying intention and willingness i. e. in the form of demand expressed in terms of money.* Of course, market is not restrained to the area in which an individual household appears as buyer. What I have to say holds also for trade between enterprises. Accordingly, it can be interpreted in relation to consumers' as well as to producers' goods – even though the illustrative material of the article is taken almost exclusively from the household buying of consumers' goods.

The article is based primarily on Hungarian experience. Consideration of Hungarian problems, however, may promote the drawing of more general conclusions.

Only the issues of *measuring* shortage will be analysed here. The *causes* of shortage and its *consequences* will not even be mentioned.

The first part of the article will treat *substitution* among products, while it will temporarily leave unanswered the question of demand measurement. This is because constraint and types of substitution must be known for a clarification of theoretical difficulties of *measuring demand* in the second part of the article.

2. Constraints of substitution of the buyer's side

If the product wanted is not available on the market, can it be substituted by another product? In other words: is substitution among products constrained?

First of all a few concepts must be introduced. Let us call *concrete product* the type of product or service that is specified to full detail as regards quality and properties in use. A *product group* is a set with concrete products as elements, which may mutually substitute each other in the satisfaction of a well defined need. (The product group is big, consisting of many elements, if it contains many *kinds* of products differing qualitatively, and not if in some country large or small quantities are produced or consumed of a kind of product.)

Closed and open product groups are distinguished. The product group is *closed* if there is no product outside the group that may satisfy the same need. The product group is *open* if the need satisfied by it may be also satisfied by a product outside the group. In other words: products of a closed product group cannot be substituted for by products outside the group.

To the above the category of *closed need* is related. Such need is meant by it as can be satisfied exclusively by products of the closed product group. Non-satisfaction of the consumer (user) cannot be compensated; e. g. it is no compensation if satisfaction of an other closed need is increased.

All concrete products of a closed product group have at least one such common attribute as is by all means demanded by a group of users under normal circumstances. It may be that in other attributes of use the products of the closed product group

* *Demand* is considered a special form of *need*. The consumer has "needs" also in rationing mechanisms, but he has a "demand" only in the market sphere.

can be substituted by products outside the group, but in this (at least one) distinguished attribute they cannot. In respect of the distinguished attribute the closed product group has a "monopoly", which is exactly what makes it "closed".

The category of the closed need indicates that possibilities of substitution are constrained* on the side of the buyer.

Let us take an example. Electric bulb is a closed product group. The various kinds of bulbs substitute each other, but the electric bulb itself cannot be replaced by anything else. Therefore, the need for electric bulb is a closed need. The opal-glass bulb is an open product group: if necessary, it can be replaced by a transparent-glass bulb.

The example makes it clear that the concept of "closeness" should not be meant in absolute sense. It is true that strictly speaking an electric bulb is not unreplaceable. If it were permanently out of stock, we could switch over to the use of torch, candle or kerosene lamp. Yet at the present stage of technological development, under our everyday circumstances we got used to it and with the lighting equipment of our buildings as they are, i. e. under normal circumstances, the electric bulb is unreplaceable.**

Since we are examining here mainly market trading, i. e. selling and buying for money, the following can be added to the preceding definitions: the direct price elasticity of specified demand for various concrete products of a closed product group is usually negative, while cross elasticity is usually positive. This means that as the price of the bulb "A" rises, demand for the bulb will decrease, while it will grow for bulbs "B", "C", etc. in case the other prices remain unchanged. On the other side, *the price elasticity of the total aggregate demand for all concrete products of a closed product group is close to zero.* In the sphere of market trading this is exactly the criterion of a closed product group. (In practice, of course, it is sufficient to define it by saying that price elasticity is small. If a single electric bulb cost $ 1.000, we would switch over to the use of candles.)

The concept of complementarity may be used also in a wider and abstract sense. At a certain level of income, social circumstances and cultural conditions the proportions of normal demand for food, clothing, housing, etc. are formed and they get fixed through social habits and norms. These may be justly called complementary needs, although it is rather *social* than strictly technological or biological complementarity that is involved. The above-mentioned needs and similar ones, *fundamental* in a certain sense, may be considered also as closed. There is no substitution rela-

* *Hoch* [1] [2] made a pioneering work in criticizing "general" substitutability. A seminal role was played by *K. Lancaster* [5] [6] in clarifying similar problems. The two authors carried on their research work independently of each other and almost simultaneously.

** It follows from the above-said that in practice it is not always clear where to delineate a closed product group. Food is by all means a closed product group. Within the set of all kinds of food, however, the closed character of the group "meat and meat products" is less self-evident. The animal protein need of the human organism can be satisfied also by egg, milk, etc. Although delineation is *arbitrary to a certain extent* in such a case, it can be done in practice by taking into consideration the conventions of consumption. Taking the preceding example: the group of "meat and meat products" can be very well categorized as a closed one since, if no meat or any of its products were available, it would be practically a lack that could not be compensated for.

tion among fundamental closed product groups.* Bad housing is not compensated by a good supper.

3. Constraints of substitution on the seller's side

After discussing the constraints of substitution on the buyer's side, we may go on to investigate the constraints on the other side: those raised by the seller. We consider a sequence of recurrent purchases intended to satisfy a closed need. Let us assume that as regards the totality of the closed product group, supply always exceeds the total aggregate closed demand. To stick to the former example: there are always more electric bulbs in stock than the total quantity sought by the buyers. Within this sequence of purchases two main types of substitution may appear.

The first type can be described in the following: At the time of his previous purchase the buyer chose "A" from the mutually substituting products "A" and "B". Now he buys "B" i. e. he substitutes "B" for "A". This is done because, while the quality of both products has remained unchanged and the price of "A" has not changed either, the price of "B" has been reduced to such extent as to make it seem more advantageous for the buyer to choose it. Or, the new product "C" has appeared. The buyer substitutes "C" for the old product "A", because the quality of the former seems better while prices are identical.

In these cases the buyer considers two different ratios: how the *relative prices and relative qualities* of the mutually substituting products compare. The buyer will change his earlier choice, i. e. he will substitute, if a change of relative prices and/or of relative qualities induces him to do so.

This train of thought – well-known in demand theory – correctly reflects the buyer's conduct, but only in case if one important condition is fulfilled: the buyer could choose between "A" and "B" not only in the preceding period, but they are offered to him (and, in the second part of the example, also "C") also at present.** The situation is different if the buyer now chooses "B", although its price *has not changed*, because "A" has disappeared from the shops. Or he will buy the new product "C", although its quality is *not* better than that of the old products, but both "A" and "B" have become shortage articles. In such cases the substitution of "B" or "C" for "A" was not induced by the changing of relative prices and/or qualities but was forced by the lack or supply.

* The relation between small closed product groups (e.g. electric bulb) and fundamental needs as closed product groups is not explained here. For this the constraints of substitution among the elements of the closed group would have to be discussed in greater detail, as well as the different degrees of closedness, and, in general, a more detailed apparatus of set theory and taxonomy ought to be introduced. This is impossible to do in the present article, nor is it necessary for the clarification of our subject.

For an analysis of the question *Lancaster*'s (5) (6) above-mentioned formalism is highly useful, which describes substitution and complementary relations among consumption activities by means of the apparatus of "activity analysis". Its description and transformation for our purposes are beyond the limits of this article.

** This condition is usually an implicit one in Western literature. Authors do not make it explicit, since they feel its fulfilment obvious. Anyone, however, living in the world of many shortage articles knows how little obvious that is.

Let us call the first type i. e. the change which is the result of a comparison of relative prices and/or qualities *voluntary substitution*, and the change resulting from lack of supply *forced substitution*. The first type has been treated in detail by the literature, following *Pareto* and *Hicks*. I assume these as known and do not discuss them in this article. I shall treat only the second type: the case of forced substitution.

In respect of denominations the question may be posed whether it is right to use the adjectives "voluntary" and "forced" for distinction. E. g. if the price of gasoline rises considerably, it may practically force the less well-to-do car owner to use his car only for week-end travels and on holidays, while on weekdays he would travel to his working place by tram or bus. This is true, yet the word "forced" is used in this instance only illustratively, as an abstraction. The car owner might save money by reducing his other expenses: by spending less on food, clothing, etc., and paying the higher price of gasoline. In this sense the situation does not *force* him to use the tram instead of the car; the price increase only *stimulates* him to do so. The situation would be quite different if gasoline were not available. Shortage would in fact deprive him of the possibility of choice and would literally force him to substitute tram or bus for his car.

After the logical delineation of the two main types of substitution it must be remarked that in practice they usually go together. The buyer used to buy "A", which he would like to do now, but it is not available any more. He therefore makes a forced substitution. He makes, however his choice between "B", "C", "D", etc. according to the logics of voluntary substitution i. e. weighing relative prices and/or qualities.

As mentioned in the introduction, this article deals generally with the market sphere. Therefore, fundamentally only forced substitution occurring in the course of selling and buying belongs to the subject. Nevertheless, the category itself is much more comprehensive and may be extended also to cover rationing and other, even non-market, allocation processes. That is the situation in Hungary e. g. with educational or health services. Examples of forced substitution: the student who finished secondary school would like to go to a medical school but is admitted only to the pharmaceutical faculty. The patient would like to get treatment at the clinic of a particular person, but is assigned to the district hospital.

Only as a short digression I must mention the following: forced substitution is a category which is applicable to many kinds of social phenomena beside economy: the life of groups, and of organization, politics etc.

Forced substitution is a basic situation of decision

Let us now return to our subject in a more limited sense: forced substitution on the market. The average Hungarian consumer is prone to the belief that this is a phenomenon specifically characteristic of the economy of his country. He is wrong, however, since forced substitution exists in every socio-economic system. Reduced choice caused by lack of supply is an everyday phenomenon e. g. in developing countries. It is not infrequent in advanced capitalist countries, either. Railway traffic and city bus transport are declining in many regions of the U.S.A., forcing to use cars also those who would not want to do so. The introduction of stereophony

forces to use the more expensive techniques also those who are less demanding and would be content with monophonic equipment.

Forced substitution exists thus in every economy. The essential difference is the field in which it occurs, how often, how strong is its effect, and what kind of mechanism induces or eliminates it.

In order to illustrate the relative frequency of forced substitution in Hungary we shall give only one example. Shoes may be considered a closed product group; there is no shortage in respect of the total product group. No one is forced to go barefoot because no shoes were to be had. Yet the inner structure of the supply is often the object of consumers' complaints. This is demonstrated by the market research carried out in 1970 and presented in *Table 1.*

Table 1

Forced substitution in buying shoes

100 = all Hungarian households buying shoes in 1970

	Rate of households buying		
	men's	women's	children's
	shoes not to their liking		
Budapest	47	66	75
Rural town	55	66	73
Village	50	62	56
Low income	48	60	56
Medium income	53	65	67
High income	50	67	66
Average	51	64	63

Source: Országos Piackutató Intézet (Hungarian Market Research Institute) (9)

4. Direct shortage and forced substitution

Now we have in hand the first analytical tools to distinguish the two pure types of shortage phenomena:

1. *Direct shortage.* Some closed need (in the market sphere: closed demand) cannot be fully satisfied from the available supply of the appropriate product group.

2. *Forced substitution.* Within the closed product group the inner structure of supply differs from the structure of need (in the market sphere: demand). Therefore, the purchase also differs from the original structure of need (demand).

Of course, the two phenomena may occur linked together. E. g. ten thousand electric bulbs are demanded: half of them transparent and the other half opal glass. Supply is, however, only eight thousand, and its division: 3500 and 4500. Thus the direct shortage is 2000 pieces. The proportion of forced substitution is not determined.

It may be zero: everybody insists on his original intention and if it cannot be satisfied, prefers not to purchase anything. But this proportion may be also very large. At one place the consumer looking for a transparent bulb buys an opal one since he cannot find the product he wants. The next buyer wants to buy an opal-glass bulb, but it has been bought before him, therefore he makes forced substitution in another shop by purchasing a transparent bulb.

The general impression is that – at least as regards total turnover – *there is a positive correlation between direct shortage and the frequency of forced substitution.* Regular observations have not been made in a sufficient number to state how close this correlation is. It seems that with a general improvement of supply direct shortage will diminish sooner and more intensively, while the frequency of forced substitution will be only reduced later and to a lesser extent.

Even if the two kinds of shortage phenomena occur together in reality, they must be clearly distinguished, from the analytical point of view. Direct shortage means an unfilled "vacuum". It may happen that in case of a shortage in bulbs the buyer will spend his money on something else, but this will not make up for bulbs. With the exception of time-barred needs, *direct shortage and unsatisfied closed need accumulate. As against this, forced substitution does not leave a "vacuum", but the need in question is satisfied even if with a lower efficiency.*

Now we have come to the first statement about observation and measurement. *A necessary (but, as will be seen, not sufficient) condition of the quantitative description of shortage is to recognize and to delineate empirically, as precisely as possible, the closed product groups.* Unfortunately, ordinary official economic statistical and management or planning commodity nomenclatures apply other criteria for the classification of products at the level of „finer" desaggregation. E. g. concrete products are assigned to a "sub-group" "group" or "main group" according to their basic material of the sector or sub-sector that released them. I would by no means reject the application of such classification principles, since they can be highly useful – depending on the purpose of the nomenclature. E. g. they may facilitate the planning of material supply (grouping according to basic material), or the control of production (grouping according to producers). They are, however, unsuitable for a survey of the *supply situation.* For this products must be grouped from the point of view of *needs.*

5. Relation between forced substitution, shopping effort and waiting

Having thus clarified the meaning of direct shortage and forced substitution let us point out the phenomena that accompany them. To do so, let us follow an imaginary buyer on his way. It is assumed that the buyer knows exactly what he wants to buy. His demand for the closed product group "A" (e. g. electric bulb) is given, moreover he knows exactly the concrete type he wants: "A-1" (e. g. 40-watt, transparent bulb). Prices are given, as well as the purchasing power of the customer, etc. So he enters the first shop. Further course of events is presented on *Scheme I* in the form of a block diagram used to describe algorithms.

Branchings symbolized by rhombuses are to be seen at four points of the Scheme: here are *alternative possibilities*. If the buyer is lucky at the first branching, he has attained his purpose and found the product he wanted. The circle symbolized the terminal step. If, however, he does not find the required article in the shop, he will look whether a substitute is available for it within the product group "A": "A-2" or "A-3". If not, it has become clear at least that "A" it not available here for the time being. If a substitute is available, the buyer has to decide again: ought he to make a compromise on the spot and immediately, i. e. make forced substitution? If he does, it will be again a terminal step symbolized by a circle, although it is less fortunate than the former one. (Let us say he has bought a 60-watt bulb instead of a 40-watt one, which will cost and consume more.) If, however, he insists on his original intention, he will have to make another decision: should he try again immediately? (And then in the next shop the process starts again.) Or he will wait a week, a month or a year and then he tries again, either in the shop visited now, or somewhere else. In this branch the buyer has chosen between the *additional effort of immediate search* and *waiting*.

These possibilities of choice are open to the individual. If, however, the totality of buyers is observed (e. g. by observing a representative sample), *statistical regularities of choices* are found. According to data of the Országos Piackutató Intézet (Hungarian Market Research Institute) the number of shops visited before purchase was – in the case of heating and cooking equipment 2.3. in Budapest, and 2.8 in rural towns and 4.2 in villages (8). The waiting time is illustrated in *Table 2*.

Characteristic *distributions* can be observed and measured: how the shopping effort or waiting time changes by product groups, regions, the various categories of buyers, etc. And, what is most important: whether these distributions have some *dynamic tendency* or a characteristic shifting in time.

Although the individual is given the possibility of choice between immediate forced substitution, visiting another shop and waiting, *as regards the ensemble of all buyers, there is a positive correlation between the three kinds of buying difficulties or losses*. In case of a bad supply situation forced substitution is more frequent, *and* many shops must be visited in turn, *and* waiting is longer.

Table 2

Waiting time in car purchase

Car type	Average number of years passing between order and fulfilment		
	1970	1971	1972
Trabant	5	4	3
Skoda	.	3	3
Wartburg	5	4	3
Polski Fiat	1	1	0.5
Zhiguli (Lada)	2	2	2

Source: information of the competent Hungarian enterprise

If, moreover, there is direct shortage in a whole closed product group, the possibility of choice will be reduced for the individual buyer. He will be forced to repeated trials and/or waiting. In the preceding paragraph the positive correlation between direct shortage and forced substitution was mentioned. It can be completed by the statement that – as regards the ensemble of purchases – *there is a positive correlation between direct shortage, shopping effort and waiting time.*

From the preceding an important methodological consequence can be drawn in regard of observation and measurement. Valuable information of the market situation can be obtained by regularly interviewing the buyers, where they find direct shortage, what kind and how many forced substitutions they make, how many shops they visit before buying, how long they wait because of lack of supply etc. The statistical distribution of answers must be studied according to various criteria (product group, district, etc.), and the changes in distributions over time must also be examined. Later we shall return to the question how reliable answers are, and what is the role of interviews beside other methods of observation. In any case, the following has become clear from the preceding: a parallel observation of the above-mentioned four phenomena (direct shortage, forced substitution, shopping effort, waiting) may supply relevant information about the market situation exactly on account of the positive correlations between these phenomena.

6. Forced spending and forced saving caused by shortage

On Scheme 1 some problems of the choice of the buyer have been left out of consideration. Let us assume that the buyer has not found the transparent 40-watt electric bulb. He does not buy another kind of bulb, it is not urgent, because he has reserves at home. But the 20 forints* intended for the bulb remain in his hands. What is the situation if, e. g., the buyer will immediately spend it on a book? Literature on demand usually calls it substitution as well, setting out from the consideration that both kinds of products increase utility, contribute to the satisfaction of the buyer's total need. Electric bulb and book substitute each other as means of satisfying needs, or as objects of spending money. We do not join this convention. As has been mentioned earlier, we refrain from over-expanding the concept of substitution. We use the word exclusively in the everyday sense. Two mutually substituting products must replace each other in the satisfaction of a clearly defined partial need. A transparent bulb instead of an opal bulb is substitution. A book instead of a bulb is no substitution, simply the spending of money on another object. Let us call such action *shortage-forced spending.*

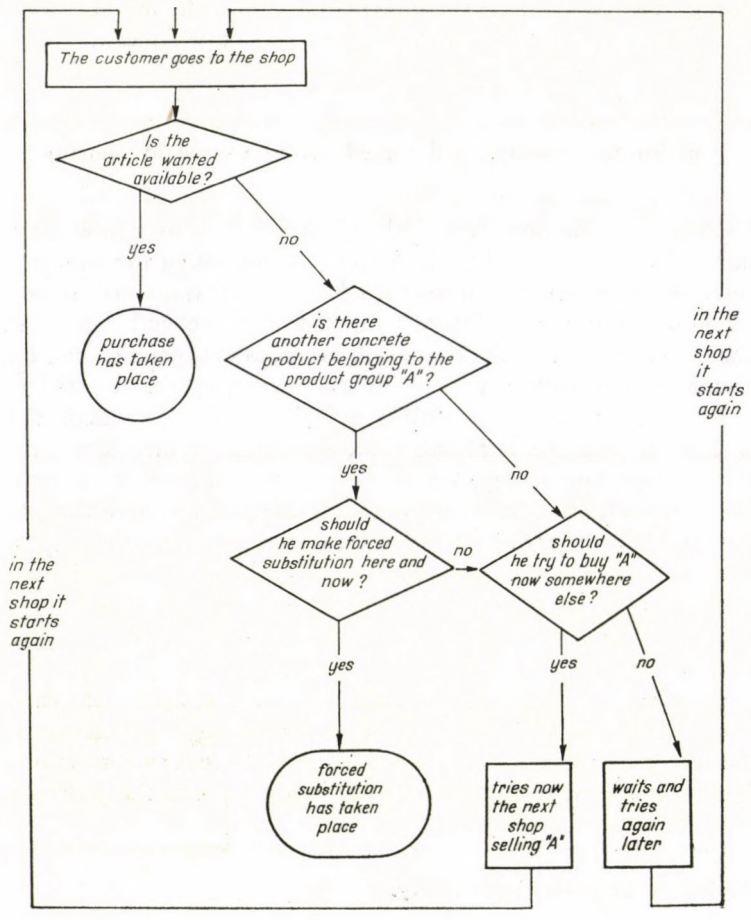
If the product involved is not a bulb but a car, it would be less self-explanatory if – in case of a shortage – the buyer spent the money on something else. Let us assume that the buyer in question would like to buy a car of a definite make and colour. The car is promised for January but is not there at the promised date. It is

* "Forint" is the Hungarian currency.

uncertain, when it will be available. The buyer has got the full amount of money. He may choose forced substitution (another make of car, another colour), or he may wait. In the latter case many ten thousand Forints lie unspent until the vanted type of car is received by the selling company, or until the buyer does not decide for a forced substitution. While the money is unspent, we have a clear *case of shortage-forced saving*.

Shortage-forced spending has been illustrated by the small amount of 20 Forints, while shortage-forced saving by the large amount of many ten thousand Forints. In reality, of course, there are many cases in-between. The choice of the "size" of the two examples is no mere coincidence, however, if there is shortage in the small items of the household budget, the amounts temporarily freed are usually not saved, since it is believed that in case of later supply the product wanted might be covered by future income. The bigger the item in question, the more likely it is that the amount intended for the purchase will not be spent immediately on something else in case of shortage, but will be saved.

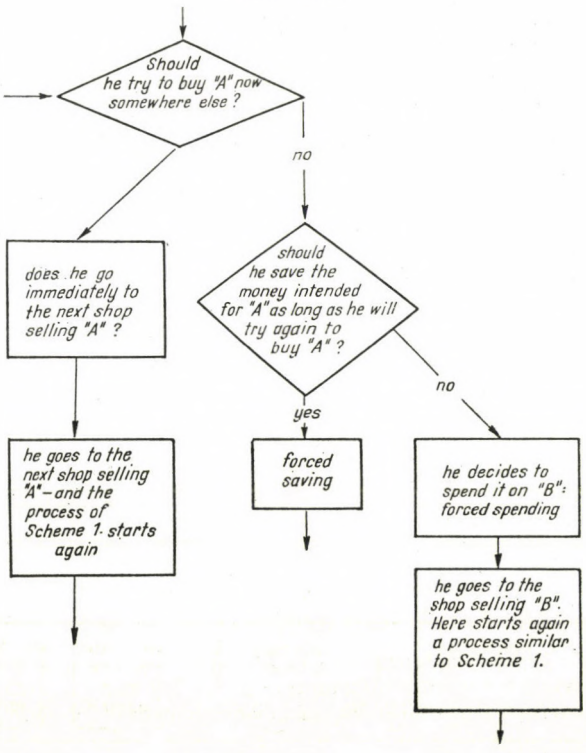
Scheme 1



The choice is presented on *Scheme 2*, which continues to follow the buyer's way where it has been left in Scheme 1. The first rhombus of Scheme 2 repeats practically the last rhombus of Scheme 1. One course of action: the buyer tries to "hunt up" the product "A". The other course: he postpones it and waits, and will try again later. And then the new dilemma appears in the next rhombus: what should happen to the money? Forced spending or forced saving?

It depends on the nature of the product originally wanted, the size of the intended expenditure as well as on the disposition of the buyer, how much conscious thought will be given to the alternative of forced spending *versus* forced saving. The event takes its course anyway, independent of the degree of consciousness. If not one individual buyer but the ensemble of buyers is considered, *we shall see two complementary and intertwining processes take their course: a restructuring of demand because of shortage in supply ("forced spending"), and the appearance of money unspent because of shortage in supply ("forced saving")*. Frequent forced substitution, prolonged search for the product, and queueing decelerate sales of goods, as well as the velocity of money circulation. Practically, a supply worse in comparison with an earlier state "drives out" money from active circulation. In this sense forced saving and other consequences of the lack of goods are also correlated. The two kinds of processes have a statistical distribution according to the various categories of households; distribution has some dynamics in time.

Scheme 2



Unfortunately, it is extremely difficult to observe these processes; not only the elementary individual events, but also the larger aggregates. The problem lies in that both the structure of expenditure and the savings of the population are explained not solely by short supply but by other factors as well; and the other factors have even a primary role. It is difficult – although not impossible – to separate these factors and so to say "filter out" the effect of the lack of supply.*

7. Adjustment of demand to supply

In the introduction of this article it was mentioned that the analysis of substitution and related phenomena leads to the problem of *demand.* Let us now pose the following question:

How does the experience with an earlier purchase affect intentions of a later purchase? Let us assume, for simplicity's sake, that other circumstances affecting demand, such as prices, income, etc. are unchanged.

1. The most important experience of earlier events is, whether demand was satisfied as regards the whole closed product group, or there was direct shortage. In the latter case, as was indicated, a "vacuum" was created. This has to be filled – excepting time-barred needs that cease by themselves – on the next occasion, in the original or in on amended form. *Direct shortage may cumulate in time – at least to some extent.*

2. There are obstinate buyers who, whatever the difficulties they encountered in acquiring the concrete product "A-1", and however easily they could have bought the substituting "A-2", will try to buy "A-1" next time again. Others are more compliant and will look for "A-2" at their next shopping. And there are also buyers who, learning from previous experience, will specify their purchasing intention to less detail next time, so as to cover a wider product group "A" containing "A-1", "A-2", or even other concrete products. (I intend to buy a shirt and shall see later if it should be of synthetic fibre or cotton.)

Besides, as has been shown in the preceding section, the dilemma does not stop with a single closed product group. Part of the customers save the money intended for "A", another part spend it on "B", although "B" is *no* substitute for "A".

3. Under paragraphs 1 and 2 the buyer's *short-term* adaptation was described. If, however, shortages are not temporary, but – in the absence of a flexible adaptive automatism – long-lasting, then a frequent repetition of short-term adjustments may finally bring about permanent modifications in the buyers' demand. In other words, a *long-term adaptation* also takes place. The Hungarian generation that had grown up before World War II misses veal. Most young people, however, do not even know it, never got used to its consumption, therefore do not miss it.

Demand formation is an *autoregressive process.* Today's potential demand for the total closed product group as well as for its further specified particular portion depends on the satisfaction of earlier potential demand. (Here and further on in this

* A successful experiment is described by *M. Lackó* (4) about household's savings in Hungary. It estimates saving functions relying on time series. The paper proves that the household's savings grow – *ceteris paribus* – if supply of building material for housing and of cars is poor on the market.

article the expression: *potential* demand will be used to indicate the size of demand as it would be if there were no direct shortage of forced substitution. Potential demand is, therefore, – in case of shortage phenomena – a hypothetical quantity.)

On the market a mutual adaptation of supply, demand and prices takes place. There is no real economy in which all three would be absolutely rigid, although the normal degree of their rigidity and flexibility differs according to the actual system and its regulation mechanisms.

There is no economy in which exclusively supply and price adjust themselves to some exogenous consumer's preference determined in a sphere outside the economy. Adjustment of demand to given prices and to the given supply takes place in *every* economic system. Here we refer not to the change of demand according a given demand curve, but to the shift of the demand curve *per se*. In this respect several processes may be observed.

a) Demand is affected by the *qualitative renewal* of products. Need for radio or need for television has been created by the industrial production of these appliances. This is the basic effective course resulting in a qualitative development of human wants.

b) The former phenomenon is accompanied by the *manipulation* of the buyer: his "conditioning" to new consumption' habits. This is partly executed by the producer and partly by the culturai and ideological apparatus of society. It is strengthened by numerous features of the buyer's behaviour: imitation, following of fashion, prestige consumption, etc.

c) Processes *a)* and *b) accustom* the buyer to purchase certain goods. Direct shortage and forced substitution, the efforts of search after the goods, waiting and queueing, however, *disaccustom* him to buy other goods.

These three processes usually take place parallelly, although combined in different proportions in the different concrete systems and economic mechanisms. In any case, it is certain that the more rigid the supply and the price, the greater the weight of the process c) to disaccustom the buyer to search for goods and services in short supply.*

8. Fundamental difficulties of measuring demand

The phenomenon discussed in the foregoing i. e. the short-term and the long-term adjustment of demand to supply serves as one of the main explanations of the fact why there are serious difficulties in the measurement of shortage. This is, however, only *one* of the explaining factors; now let us see the explanation in its full complexity.

I shall start with a general statement, an "impossibility theorem", which I shall explain later in detail through several steps:

It is impossible to determine the absolute size of shortage in a reliable manner.

The general theorem may be complemented by two further supplementary statements:

By *objective* observation it is theoretically impossible to determine the absolute size of shortage.

* To avoid misunderstandings: what we have just explained is not a shift *on* the demand curve, but a shift *of* the whole demand curve itself.

Table 3

1	2	3	4
Phenomenon to be described, on which conclusion must be drawn by way of observation	Phenomenon observed; its observation enables conclusion on the phenomenon to be described under column 1	Is a direct conclusion to be drawn from 2 to 1 or only an indirect or none at all	Objective or subjective observation
1. Supply	Supply	direct	objective
2. Actual selling and buying	Actual selling and buying	direct	objective
3. Demand	Actual selling and buying, in case of a general realization of the objective observation condition	indirect	objective
4. Demand	Actual selling and buying, without realization of the objective observation condition	no conclusion is justified from 2 to 1	
5. Demand	Actual selling and buying, with the objective observation condition partly (periodically and/or regionally) realized	indirect	objective
6. Demand	Interview about buying intention	indirect	subjective
7. Demand	Observation of orders and of queueing	indirect	subjective
8. Shortage	Change of stock (i. e. deviation from normal stock)	indirect	objective

Survey of measurement possibilities

5	6	7
Is the observation reliable?	Is the observation full-scope?	Is the absolute size of measured under column 1 obtained through the observation, or only relative statements may be made?
reliable	full-scope	absolute
reliable	full-scope	absolute
reliable	full-scope	absolute
—	—	—
imperfect reliability	not full-scope	may be applicable for approximation of the absolute size; rather a relative indicator
not reliable for a determination of the absolute size of demand; imperfect reliability to signaling shortage phenomena	full-scope	practically only a relative indicator
imperfect reliability	not full-scope	with some products may be applicable for approximation of absolute size; rather a relative indicator
imperfect reliability	not full-scope	relative indicator

By *subjective* observation an attempt can be made to determine the absolute size of shortage, but the result of this observation will be unreliable.*

It is sufficient to prove the first statement *logically*, in a deductive way, which will follow. The second statement must be supported *empirically*, which will be done later in the article.**

Our train of thought will be presented first in relation to *the most detailed desaggregation of the totality of products;* the concrete products; and a more aggregate aspect will be discussed later. Let us therefore consider a single closed product group to which belong, let us say, n kinds of concrete products. (For simplicity's sake we shall leave out of consideration that the product is sold at many locations i. e. we shall aggregate *in space*.) To each can be assigned a unit of measurement, which serves to unambiguously describe the volume of the concrete product in question. (It is not indispensable that this unit of measurement should be identical for mutually substituting concrete products within a closed product group.) Accordingly, for a certain observed period supply, demand, as well as actual selling and buying may be described each by a vector of n components. The definition of shortage is given in mathematical form as follows:

$$h_i = \begin{cases} 0, \text{ if } d_i \leqq x_i \\ d_i - x_i, \text{ if } d_i > x_i, \end{cases} \qquad i = 1, \ldots, n$$

where h_i = shortage in the i-th concrete product,
d_i = demand for the i-th concrete product,
x_i = actual selling and buying of the i-th concrete product.

Table 3 serves to survey our further train of thought. We shall not explain beforehand the whole Table; as we progress, always a new row of the Table will be clarified.

To measure the *supply* vector is no problem. (See first row of Table 3.) The following principles of measurement can be easily satisfied:

– The phenomenon to be described is observed *directly*. It is not necessary that for the phenomenon to be measured indirect conclusions should be drawn from the observation of another phenomenon, as it will be seen later when other phenomena will be measured.

Measurement can be made by *objective* observation. The observing person goes to the stock-room where he will see with his own eyes the stock of goods i. e. the products available for the buyer. This he can do without asking the subjective judgement about supply of persons disposing over the supply. It must be stressed that here the *theoretical possibility* of objective observation is sufficient. It may be simpler in practice to ask the manager of the enterprise to report on the size of stocks. The observer could, however, – if he wanted to – dispense with the manager's

* My remark concerns expressly the specific problem discussed here: the *absolute* size of shortage cannot be described reliably on the basis of subjective observation. As opposed to this, subjective observation may be a useful basis for the description of numerous other phenomena.

** In the general theorem and in the two statements added there are a series of categories requiring closer explanation (objective and subjective observation, reliability, absolute size, etc.). Instead of starting with definitions and explanations, these will be clarified in the further course of discussion.

report and, taking in hand each piece in the strict sense of the word, count the stock himself. (The *theoretical* possibility of observation relating to some feature of observation will be interpreted also further on in this sense; this will be always separated from the everyday practical organization of observation.)

– Observation is *reliable*. This does not mean absolute correctness. (E. g. mistakes may be made in taking stock.) Yet, the observation can be made theoretically without systematic bias.

– Theoretically, supply may be measured in full-scope; it is not limited to some classes of products.

– By observation the *absolute* size of the phenomenon, i. e. supply can be determined. E. g. 20.000 pieces are in stock of "A-1", 14.000 of "A-2" and so on. (This will be confronted later with such observation as may lead only to statements of relative character: some indicator is bigger here than there, or it has increased or decreased in time, etc.)*

The situation is similar with the vector of *actual selling and buying*. (See second row of Table 2.) It has the same criteria as the measurement of supply: by direct, objective, reliable and full-scope observation the absolute size of selling and buying can be stated.

Supply is a stock variable to be grasped in physical form; actual selling and buying is a flow variable also to be grasped in physical form.

Now let us approach *demand*. There are two situations in this regard. In the first one (see row 3 of Table 3.) there is a positive stock of every concrete product for which demand may show at all, at every time and at every selling location. This is a clear and objective proof of the fact that there has never been any shortage in the totality of the product group or in any of its concrete products during the period of observation. Under such circumstances it can be recognized deductively, as a mere truism that actual selling and buying must have been identical with demand. If, therefore, we have observed the selling and buying vector, it must be identical with the demand vector.

Let us call the situation described (there is a stock of every product everywhere and at any time), the *condition of objective observation of demand*. Fulfilment of the condition of objective observation condition of demand is a sufficient (and, as we shall see, also necessary) condition for the measurement of the demand vector to satisfy all postulates – with a single exception – that were statisfied by the supply vector and the actual selling and buying vector according to the foregoing analysis. (See row 3 of Table 3.) The exception is the following: measurement of demand is not direct but indirect; conclusion is drawn from the *ex post* size of actual selling and buying to the *ex ante* demand. But in this way we have performed a measurement which is objective, reliable, full-scope, and which assures determination of the absolute size of demand.

Yet what will happen if the situation is different from the one described above? Let us assume that in the observation period a positive stock was always (or often) lacking in all (or is many) products at every (or at many) selling locations. Under

* The point here is the distinction between cardinal and ordinal measurement. Since in this analysis we cannot go into details of the general theoretical problems of measurement, we rest content with the expressions "absolute" and "relative" — less precise, yet suggestive enough.

such circumstances there is no clear and objective proof to the effect that there was no shortage.* Let us further assume that the buyers' complaints clearly indicate that their demand is not fully satisfied.

Under such circumstances, i. e. if the objective observation condition is not fulfilled, *the actual selling and buying ≡ demand indentity does not hold. From the observation of actual selling and buying no conclusion on the demand is justified.*** The buyer did not purchase what he *searched for*, but what he *found.* Actual selling and buying does not describe demand, but the buyer's action complying with and adjusted to possibilities offered by supply. Actual selling and buying may include the partial satisfaction of the original potential demand, *too*, but it may include *also* forced substitution and forced spending.

After all that it is no use to pose the question whether in this situation measurement of demand through observation of actual buing and selling satisfies the rest of measurement postulates (objectivity, reliability, etc.). There is a prohibition at the head of the list of measurement postulates (see row 4 in column 3 of Table 3.), thus a question concerned with the other postulates is useless.

As a final result, we have come to the first supplementary statement made previously by way of the following very simple syllogism:

Ist premise. The shortage vector is the positive part of the difference between the demand vector and the actual selling and buying vector.

2nd premise. The absolute size of the demand vector may be stated by objective observation only if there is no shortage.

Conclusion: the absolute size of the shortage vector cannot be measured by objective observation.

Let us examine now the other possibility: *subjective observation.* For a moment it is assumed that every buyer knows exactly, at some determined time before actual purchase, what he would like to buy and that he announces it to a market research institution. (See row 6 of Table 3.) In such a case the buying intention announced may be considered identical with demand. This method of observation would fulfil several relevant measurement postulates:

– It is *full-scope* (At least theoretically it may be such, even if practical market research is content with representative samples.)

– The measurement would produce the *absolute size* of demand.

The diffculty lies in *reliability.* And what we are faced with is not a slight, practically negligible inexactitude, but *significant deviations between the intention announced to market researchers and actual buying.* Some buyers decide for a long period to come what they want to buy and when, while others improvise. Some buyers formulate their intention in concrete terms, others only outline them for large product groups. Some buyers insist on their original intention, others do not. In this list only

* A zero stock is not necessarily a proof of shortage. It is only the reverse statement that holds: a positive stock is an objective proof that there is *no* shortage.

** This strict condition may be a bit "softened" in the organization of practical observation in the following way: the less valid the objective observation condition and the more frequent and intensive the shortage, the more biased it will be to indirectly conclude from actual selling and buying on demand. One aspect of the problem is related to the degree of aggregation. This will be later reverted to.

the two extremes were mentioned in each case, while there are, of course, innumerable intermediate cases, and the above-mentioned features of buyers' behaviour may be combine in various proportions. In literature – primarily in works discussing "marketing" – many examples illustrate the uncertainty of announced intentions.*

In this article I shall describe only one observation in *Table 4*. American households were asked whether they intended to buy a car during the next twelve months. After twelve months the same households were interviewed again to check whether they bought the car. The example is an extreme one from two aspects. As regards the *product*, a car is a big item even in the USA; it can be expected that such purchase is well considered. As regards the *country*, the market is amply supplied with cars; it is not shortage that makes the buyer uncertain. Yet the investigation revealed a high degree of uncertainty. The number of those who had not intended to buy a car yet bought one was more than double of those who bought "premeditatedly". Approximately two out of three households having announced their buying intention gave it up.

Announcement to market researchers is unreliable because there is no responsibility involved. It has no consequence whatever, if the person questioned gives an incorrect answer. The situation is different if *actual orders and queueings* are observed. (See row 7 of Table 3.) Here the mere announcement of the intention may involve effort and trouble, even expense; and the giving up of the intention might entail legal consequences, such us penalty, or the loss of advance payment. All this doubtlessly increases the reliability of observation based thereupon. Yet a number of difficulties arise now in the satisfaction of the various measurement postulates:

– The *absolute size* of demand of a product may be known from the total of orders only if the product in question is sold exclusively on order and queueing. If, however, some of it is sold by queueing, another part from stock (as is done in Hungary with cars), no unambiguous conclusion can be drawn from the backlog orders on the absolute size of demand.

– Observation could be *full-scope* only if everything were distributed on order and by queueing. Fortunately, however, it is not so, and has never become a general practice in any economic system. Therefore, full-scope measurement in this way is *theoretically* impossible.

– Despite some legal and financial consequences the announcement of buying intention through order and queueing is not fully *reliable*. It is exactly at times of growing shortages that people are inclined to join several queueues simultaneously. E. g. in Hungary they put down their names for a car, a co-operative flat, and foreign exchange for tourist purposes, although they know that if all three of their requirements were fulfilled at the same time, they could not pay for them. In this way a multiplied *fictitious demand* presents itself, which is not co-ordinated with the actual budget of the buyer.

The *ex-ante* buying intention (including the answer given to the market researcher, and the order) and the *ex post* actual buying are each a random variable, whose size is influenced by many kinds of contingencies. If the elementary event – a single

* See (7) and (10).

Table 4

Planned and unplanned car purchase in the USA

Households of the sample were interviewed; twice twelve months passed between the two events. The Table shows the average of the sixteen (two occasions) interviews between 1961 and 1964

Category	Comparative basis of the percentage	Percentage
1. Announced buying intention at first interview between first and second interview	in percentage of all households interviewed	8.2%
2. Bought car during the 12 months passed between first and second interview	in percentage of all households interviewed	9.8%
3. Announced buying intention first interview and realized it: a purchase took place	in percentage of all households interviewed	3.1%
4. Announced buying intention at first interview and realized it: a purchase took place	in percentage of households announcing buying intention at first interview	38.3%
5. Did not announce buying intention at first interview, yet effected purchase	in percentage of all households interviewed	6.7%
6. Did not announce buying intention at first interview, yet effected purchase	in percentage of households announcing buying intention at first interview and realizing it	214 %

Source: (11)

concrete purchase and its preliminaries – is examined, the relation between intention and realization is unpredictable. It is only in respect of large groups of buyers that *stochastic regularities* might be observed: the statistical distribution of the various relations between buying intention and realization according to products, buyers' categories, districts and periods.

We can see now that neither the buying intention announced to the market researcher, nor the order produce a *reliable* description of the absolute size of demand. And thus we have come to the verification of the second supplementary statement

made earlier in this article. Finally, I feel that the general theorem has proved true: it is impossible to reliably determine the absolute size of shortage.

Although the train of thought is very simple, the conclusion is highly important. The most important theoretical conclusion is the following: in the case of chronic shortage of goods the excess demand vector is not an operational magnitude. This statement must induce us to a thorough reconsideration of the theories of market, demand, supply and prices, but their elaboration cannot be done within the limits of this article. I shall not draw theoretical conclusions, but discuss only the aspects relating measurement.*

So far, however, only the *fully disaggregated* case – demand specified by concrete products – has been considered. What is the situation in case of aggregation?

Let us first take a low degree of aggregation: the total of a *closed product group.* If there is no direct shortage in the totality of the closed product group, i. e. the objective observation condition is fulfilled, the identity of selling and buying demand is valid on this level of aggregation. This facilitates determination of demand (and also e. g. of demand functions) at the level of a closed product group. This is fortunate, since direct shortage at the level of a closed product group is eliminated often sooner than forced substitution within the closed product group. If, however, there is direct shortage, all the restrictions presented in connection with the more detailed specification, i. e. concrete products, are valid at the closed product group level.

It is an even more difficult problem – and can be only cursorily mentioned here – to measure *macro-level aggregate demand and shortage.* If the objective observation condition is valid for the totality of every closed product group (fully or at least approximately), i. e. there is no direct shortage in anything in the national economy, the statement can be made that the actual spending of the ensemble of all buyers is identical with aggregate demand. If, however, the condition is not fulfilled in respect of important closed product groups (e. g. some fundamental needs), the identity is not valid. E. g. in Hungary there is a housing shortage. For housing shortage no excess food or clothing may compensate. We cannot know, what the structure of potential demand would be in the case of an essential rearrangement of supply and of relative prices and, simultaneously, how the proportion between aggregate consumer spending and aggregate consumer saving would change. It is obvious that under such conditions actual total spending and potential total aggregate demand are not identical. The impossibility theorem becomes valid. *If there are important direct shortages in a national economy, the total aggregate demand is a category whose absolute size cannot be determined reliably.* This statement can lead – as the previous one about the disaggregate excess demand vector – to important theoretical conclusions again. *In a shortage economy aggregate demand and aggregate excess demand are not operational magnitudes.*

* The state of the market under excess demand is receiving increasing interest in the literature on disequilibrium. (See e.g. studies by *Clower*, *Barro* and *Grossman*, *Benassy*, *Portes* and others.) The relation of measurement problems elaborated in the present article and the more general theoretical issues of the literature just mentioned will not be discussed here.

It is another question that – as has been indicated in connection with forced savings – *indirect* conclusions may be drawn concerning the dynamics of aggregate demand if the changes over time of the total saving of the population and aggregate supply are observed simultaneously. If e. g. (as mentioned already in an earlier footnote) the decrease of supply in durable consumer goods (primarily flats and cars) and the increase of savings coincide, it is likely that shortage-forced savings appeared. In that case we are justified in thinking that potential aggregate demand is in fact bigger than the total of actual selling and buying.

This is, however, only a *relative* statement: demand is *bigger* than actual selling and buying: but we cannot say *how much* bigger it is. Let us now consider this kind of relative statements, but returning to the analysis of disaggregated demand for concrete products.

9. Indirect and relative description of shortage

While it is impossible to determine reliably the absolute size of shortage, many valuable observations can be made about the statistical distribution and dynamics of shortage phenomena. In surveying possibilities I am obliged to revert to earlier discussed observation and measurement methods. While, however, I underlined previously the defaults of these methods, now I shall point out their useful features.

1. *Observation of actual selling and buying in saturated periods and/or districts.* (See row 5 of Table 3.) Shortage is not always distributed evenly in time and space. It fluctuates frequently in time: periods of ample and scarce supply alternate with each other. Or the allocation of goods is uneven: there are amply and scarcely supplied districts. In such cases more saturated periods and/or districts can be observed, for which (at least approximately) the objective registration condition is valid. It is on basis of this actual selling and buying that the potential demand of the whole period or of the whole area is estimated.

This estimation is, of course, reliable only to a limited extent. Besides, its full-scope applicability cannot be guaranteed, even theoretically, since it can be used only where the objective observation condition is valid at least partially (for a period and/or for a district).

2. *Stock signals.* (See row 8 of Table 3.) If the stock of the producing enterprise or that of trade is permanently and increasingly below the normal level, it usually foretells the danger of shortage. Not necessarily, however, since it may be that demand is declining, and there would be no shortage even in case of total exhaustion of stock. And, of course, the absolute size of shortage is not to be read out of this signal. Strictly speaking, there is no shortage as long as there is a positive stock. Here only relative megnitudes (diminishing of stock below normal level, or an accelerated exhaustion of stock) may indicate indirectly other relative sizes: supply will sooner or later lag behind demand.

3. *Interviewing the buyer.* (See row 6 of Table 3.) All above-mentioned reservations notwithstanding, it is worth questioning the buyer about his buying intention, then returning to him to check, how his intentions have been realized. In the second

phase of the interview not only the point must be cleared whether purchase has been effected according to plan. If there was no purchase, it must be found out, *why*. What role was played in it by shortage in supply? If possible, questioning must cover not only the closed product group, but be specified by concrete products, at least in an alternative form. (Does the buyer envisage to buy a car? If so, has he decided exactly in advance which type of car he wants?) Questioning must be concerned also with the accompanying phenomena of purchase: how much effort and search it involved.

It is true that we have seen: interviews will not produce a reliable picture of the absolute size of demand or shortage. But a number of important relative information is obtained. E. g. if the number of those who could not realize their buying intention because they have not found the goods wanted or who made forced substitution increased and, if the acquiring of goods has become more prolonged and involved more effort – all this proves the *relative growing* of shortage.

4. *Observation of queueing.* (See row 7 of Table 3.) The constraints of reliability of measurement have been pointed out. Nevertheless a lot may be known about shortage situation if it is observed whether the queue has grown or shortened, or whether more are waiting for product "A", than for "B", etc.

10. A few final conclusions

To finish the article, we shall sum up the three main results of the analysis.

1. No deterministic statements can be made about the state of the market. On the market stochastic processes take place. Accordingly, as has been repeatedly pointed out in this article, we have to describe the *statistical distributions of state indicators and the dynamics of distributions.*

2. The absolute size of shortage cannot be determined. This causes a number of problems, not in the last place from an *economic policy* viewpoint. No unambiguous answer can be given to the politically highly important and sensitive question whether shortage is "big" or "small". Someone who wants to cover up troubles might say that it is "small"; another one who would like to exaggerate difficulties may say that it is "big". That is exactly why the final conclusion is so important:

3. It is possible to indicate comprehensively the relative characteristics of shortage in which products, or districts or buyers' groups the shortage is bigger or smaller; whether it grows or decreases in time, etc. To do this, however, *a large variety of state indicators must be parallelly observed, and the interrelations of their movements in time studied.*

Unfortunately, no such observations are made methodically in Hungary or, we may add, anywhere in the world. In economics the expression *excess demand* was written a million times, but no sufficient effort has been taken anywhere to measure at least indirectly the relative changes of shortage. A joint effort of economists and statisticians would be needed to change the situation. Measurement of shortage is indispensable for a correct information of economic policy makers and moreover for the scientific analysis and comparison of economic systems.

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ОБ ИЗМЕРЕНИИ ТОВАРНОГО ДЕФИЦИТА

Я. КОРНАИ

Приступая к исследованию измерения товарного дефицита, автор прежде всего различает понятия закрытых и открытых групп материальных благ. Для закрытой группы благ характерно, что ее в целом нельзя заменить, но внутри нее могут производиться замены. Если спрос на закрытую группу благ в целом превышает предложение, возникает прямой дефицит, а в случае, когда внутри группы закрытых благ структура предложения отклоняется от структуры спроса, покупатель часто производит вынужденную замену.

В дальнейшем автор рассматривает связь между вынужденной заменой, поисковыми усилиями и ожиданием. Он устанавливает, что между этими явлениями — хотя для индивида они означают три возможных выбора, три альтернативные реакции на дефицит — с точки зрения совокупности покупателей существует положительная корреляция.

В случае прямого дефицита или отказа покупателя от вынужденной замены, последний тратит свои деньги на что-нибудь другое (вынужденная трата) или не тратит их совсем (вынужденные сбереженья, вызванные недостаточным предложением.

Если нет дефицита, спрос совпадает с фактическими покупками. О наличии спроса мы можем судить на основе наблюдения фактического оборота, но в случае дефицита эта идентичность теряет силу. Поэтому абсолютную величину спроса — в случае дефицита — нельзя установить объективным наблюдением, а опрос покупателей об их намерениях тоже не дает достоверных результатов. Поэтому можно утверждать, что абсолютная величина дефицита неизмерима.

Однако возможно наблюдение и измерение относительной динамики товарного дефицита. (Под этим следует понимать отклонения между продуктами, географическими районами, а также анализ динамики). В дальнейшем автор рассматривает практические методы, которые можно использовать для измерения относительного движения дефицита.

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S. BABANASIS

SPECIFIC FEATURES OF RECENT ECONOMIC GROWTH IN GREECE

Industrialization of Greece started only in the last third of the 19th century. Economic growth was slow or moderate and foreign economic relations were characterized by dependence on external powers. On the whole, Greece was on the periphery of the capitalist world economy.

After the Second World War Greece made up for a part of historical backwardness by its faster economic growth, but could not break out of its peripheral situation. All this becomes obvious when examining recent economic growth in Greece in an international comparison. The following study wants to contribute to this analysis.

Fast, but uneven economic growth

After the Second World War the growth rate of the Greek economy accelerated. Between the two world wars the yearly average increase of gross national income had amounted to 3–4 per cent while between 1950–1974 it exceeded 6 per cent.

Economic growth was *not even over time.* The average growth rate of the gross national income amounted to 5.5 per cent yearly in the decade between 1950–1960, to 7.1 per cent between 1961–1970 and fell back to 6 per cent between 1971 and 1974. Naturally, the yearly fluctuations were even more significant.

Thus, beside the years with outstanding growth the gross national income increased in 1950 only by 0.7 per cent, in 1952 by 0.1 per cent, in 1958 by 1.9 per cent and in 1959 by 4.3 per cent as compared to the previous year. It is thus obvious that in the Greek economy there was a recession in 1950–1952 and 1958–1959.

The insecurity resulting from the take-over by the Greek military junta in 1967 caused a break in the growth rate in the first two years, i. e. in 1967–1968. However, regarding the entire eight-year period of military dictatorship, it can be stated that the growth of the Greek economy followed the trend of the previous period between 1967–1973, it did not slow down, but did not accelerate, either. The negative effect of the unplanned economic policy of the junta manifested itself first of all in the structural development of the Greek economy as well as in the growth rate of the living standards of the working population. Although by irrational spending the junta succeeded in achieving a temporary prosperity, at the same time, however, the *internal and external equilibrium of the national economy became upset.* A considerable deficit emerged in the budget and the international balance of payments. The excessive domestic and foreign loans resulted in a considerable indebted-

Table 1

Index numbers of the gross national income and yearly average growth rates in Greece between 1950—1974[a]

Branches of economic activity	1950—1960		1961—1970		1971—1974	
	1950 = 100	Yearly average increase, per cent	1960 = 100	Yearly average increase, per cent	1970 = 100	Yearly average increase, per cent
Agriculture[b]	146.1	3.9	148.9	4.1	118.0	4.2
Industry[c]	221.1	8.3	254.3	9.8	141.1	9.0
Building industry	235.1	8.9	242.1	9.3	94.5	1.4
Services	164.3	5.1	193.6	6.9	128.5	6.6
Gross national income, total	171.1	5.5	197.7	7.1	126.4	6.0

a) For the period of 1950—1970 at constant prices of 1958; for the years 1970—1974 at 1970 prices.

b) Agriculture = farming, animal husbandry, forestry, fishing.

c) Industry = mining, manufacturing, production of electric energy and gas as well as water-management.

Source:

National Statistical Service of Greece: National Accounts of Greece, 1948—1970. No. 21, Athens, 1972. pp. 120—121 — Statistical Yearbook of Greece 1975, Athens 1975, p. 440 — Shulas Kostas participated in the processing of data.

ness of the state and distrust in the Greek economy increased abroad. Finally, the economic policy of the junta ended in the crisis of 1973—1975.

Beginning with the first months of 1973 the Greek economy got into a *crisis* which deepened during 1974 and continued also in 1975 —although with decreasing intensity. The gross domestic product decreased by 2 per cent in 1974 as compared to 1973 (at unchanged prices). In 1975 a moderate increase of about 2—3 per cent could be experienced.[1] Further on, the economic crisis manifested itself in a decline of employment and an increase of unemployment as well as in accelerating inflation and in a decrease of real wages, deterioration in the terms of trade and a growing deficit of foreign trade.

The economic crisis might be attributed to both external and internal reasons. The external reasons were the crisis phenomena of the capitalist world economy. The internal reasons are connected with the organic weaknesses of the Greek economy and the economic policy blunders of the junta. All this resulted in that the world economic crisis had a graver negative effect on Greece than on other countries.

On the basis of an international comparison of growth rates it can be stated that in the post-war period *Greece belonged to the category of rapidly developing capitalist countries.* The yearly average growth rate of the gross national product between 1960 and 1973 amounted to 7.1 per cent in Greece, while in the 17 OECD-countries only to 5.2 per cent on the average. Regarding the growth rate Greece was placed third after Japan and Spain from among the 17 OECD-countries. Thus, in the decades following the World War the growth rate of the Greek economy was higher than in the majority of capitalist countries, but lower than in most socialist countries.

Specific features of economic growth

Intensive character of growth

The relatively fast growth of Greece can be attributed to several factors which tended temporarily or steadily towards the increase of production and/or the extension of the market.

In the period immediately following the World War *the effect and aftermath, respectively, of the war and the post-war recovery* had an important part. It is a special characteristic of Greece that the Second World War continued with the civil war of 1946–1949 and thus the period of post-war recovery became longer. The restoration of damages caused by the war, the sudden appearance of demand accumulated and postponed during a whole decade and a lot of other factors led to a quick expansion of production and the market. The effect of these factors was of great importance until the mid-1950's. Later on the effect of other factors asserted itself.

One of the most important peculiarities of Greek economic growth after the war was its *intensive character*. The increase of production resulted mainly from a rise in the productivity and intensity of labour. Increasing employment had a considerably smaller part. The contribution of productivity to the increase of industrial production amounted to 85.5 per cent between 1951–1961 and to 89.8 per cent between 1961–1971. On the other hand, the contribution of the increase in employment amounted only to 14.5 per cent and to 10.2 per cent, respectively. There is a similar situation with services, where productivity contributed to the increase with 80–90 per cent and employment with 10–20 per cent in the same period. In the inrease of agricultural production growing employment had a fundamental part in the decade of 1951–1960 and rising productivity in the decade of 1961–1970. The building industry is an exception where growth resulted decisively from the increase in employment over the whole period after the war.

The rise in productivity resulted first of all from the *technologies imported from abroad.* An important part of imports, e.g. in 1960–1971 40 per cent of it, consisted of machinery and equipment. A great part of means of production imported was used for reconstruction. Parallel with this also production units equipped with new modern technology were established. Energy consumption increased at a rapid rate, for example, to 4.9-fold between 1950 and 1970.

The *significant labour reserves* had an important part in Greek economic growth. In the 1950's about one fourth of the entire potential labour force was unemployed. This furthered the fast economic growth from two points of view.

Firstly, a possibility for increasing employment was ensured. Employment in the industry increased by 143 thousand between 1951–1960 and by 56 thousand between 1961–1971. This latter means a 10.6 per cent increase during 10 years. The rise in industrial employment continued even after 1971, but at a moderate rate, especially in the period of 1973–1975. However, the post-war increase in industrial employment was not sufficient to keep the general rate of employment on an unchanged level since the population of working age was increasing more rapidly than the former. It was

even less sufficient to absorb unemployment. Under such circumstances only mass emigration could provide an outlet for easing unemployment.

Secondly, the excess supply of labour fixed the wages on a low level and thus ensured better possibilities for increasing profits, accumulation and production. The level of real wages was lower in Greece till the end of the 1950's than before the war, in 1938. This produced additional sources for accumulation and the increase of production. In the 1960's the wages and incomes showed, in general, a more dynamic increase. This permitted an increase in consumption and a faster expansion of the market.

From international comparisons it is evident that in respect of the increase in employment Greece occupies a medium position among capitalist countries but is far behind socialist countries. On the other hand, the growth rate of productivity is higher in Greece than in the majority of other countries. But regarding the level of productivity Greece continues to lag far behind.

The intensive character of economic growth is a peculiar Greek phenomenon because it was realized on a relatively low and medium development level, respectively. Of this development level extensive economic growth is generally characteristic, while intensive growth is a characteristic feature of highly developed countries. The above characteristic of Greece is a *positive* phenomenon from the point of view of the rise in efficiency but it is also *negative* because it did not promote the realization of full employment.

High rate of accumulation and consumption

In Greece the relatively fast economic growth is being realized mainly in the form of increasing profits and large-scale capital accumulation. In the whole post-war period profits have been increasing more rapidly than the national income and wages. Capital accumulation is the highest in the history of Greek capitalism regarding both its rate and the volume of new capital formed.

Increasing accumulation had an important part in the fast economic growth. The *rate of accumulation* amounted in 1950 to 18, in 1955 to 14.4, in 1960 to 22.9, in 1965 to 24.1 and in 1970 to 25.8 per cent. The gross fixed capital investments ran to 25 per cent of the gross national product in 1974.*

As far ast he *sectoral distribution of investments* is concerned, the residential construction stands in the first place, followed by transportation and communication, agriculture and mining. Between 1950 and 1970 70 per cent of gross investments went to net investment, 23 per cent to replacement and 7 per cent to stock building. Machinery and equipment represented a significant share of investment.

Personal consumption increased at a lower rate than the national income. Between 1950 and 1970 0.92 per cent increase of consumption fell to 1 per cent increase of the national income. This proportion was lower – 0.85 per cent – between 1951–1960 and higher – 9.99 per cent – between 1961–1970. On the other hand, the increase in accumulation per one per cent increase of national income amounted to 1.30, 1.44 and 1.23 per cent, in the same periods, i.e. it was faster than the growth rates of

* for sources see [2].

either personal consumption or of national income. The increase in consumption was uneven. The yearly average growth rate of personal consumption amounted to 7.2 per cent in 1960's and to 3.1 per cent between 1970–1974.

Public consumption is a smaller but increasing share of the entire consumption. Its share rose from 13 per cent of 1960 to 16.6 per cent in 1974.

Remarkable conclusions can be drawn from an international comparison of rates of investment and consumption. In Greece the rate of fixed capital investment compared to the gross domestic product was 19 per cent in 1960, 24 per cent in 1970 and 28 per cent in 1972, i. e. it showed a rising trend. She was in the 9–11th place in 1960 and in the 16–19th place in 1972 from among 22 capitalist and socialist countries. [3] Greece belongs thus to the category of countries with relatively high rates of investment.

The rate of consumption compared to the gross domestic product was 89 per cent in 1960 and 80 per cent in 1972. With these rates Greece stood in the 1st–2nd place in 1960 and in the 14–15th in 1972 from among 22 countries. Consequently, Greece belongs to the category of countries with relatively high rate of consumption.

It seems paradoxical that Greece should have a relatively high rate of investment and, at the same time, also a high rate of consumption. This paradox can be explained with the fact that investment and consumption together are greater than the gross domestic product because Greece has considerable foreign resources.

Additional foreign resources

The considerable and increasing additional foreign resources of development arise from the large "invisible" incomes, from foreign private capital investments and from foreign government loans. The *sources of invisible incomes* of Greece increased between 1956 and 1974 from 182.6 million dollars to 2363 million dollars, i.e. roughly to 13-fold. The greatest source of invisible incomes is transportation and within this shipping (freights, remittances of ship-owners and sailors etc.); their sum amounted to 874.4 million dollars in 1974. The second greatest item are the remittances of emigrant Greeks reaching 645.3 million dollars in 1974. The incomes from tourism stand third and amounted be 436 million dollars in 1974. The remaining 407.3 million dollars of the 1974 income resulted from other sources. The *invisible payments* are much smaller: they amounted to 136.8 million dollars in 1965 and to 720.4 million dollars in 1974.

The *flow of capital* from abroad rose from 224.7 million dollars in 1965 to 1500.3 million dollars in 1974, i. e. it grew to 6.7-fold. The outflow of capital increased in the same period from 32.9 million dollars to 558.8 million dollars, i. e. roughly to 17-fold. However, the absolute sum of capital imports continues to exceed the sum of capital exports. Between 1960 and 1974 the total capital flowing in from abroad amounted to 6.6 thousand million dollars and the total capital flowing out to 2.2 thousand million dollars. This means that *between 1960–1974 the sum of net capital imports was 4.4 thousand million dollars.* [4, 5]

The magnitude of external sources is excellently represented by the fact that the invisible sources of income amounted to about one fifth of the Greek gross national

product in 1974. Instability is a negative feature of the invisible sources of income but it is a positive feature that the foreign exchange receipts thus ensured have a higher profitability than the export of industrial and agricultural products. On the other hand, the influx of foreign capital results also in the fact that the economic and political dependence on foreign countries is increased.

Growing economic role of the state

In the post-war period the Greek state's role in the mobilization of economic resources, in economic growth increased. The budget and the public sector acquired increasing importance. Several joint enterprises with the participation of private capital and the state as well as new ministries of economic character and public organizations were established. The intervention of the state in agriculture, industry, finances and credit operations, in the regulation of relationship between labour and capital as well as in foreign relations was growing. The Greek state played a fundamental role in creating favourable legal, political and economic conditions for foreign capital as well as in joining the European Economic Community and other international organizations. Economic programming appeared as a comprehensive new form of state intervention. State intervention was widening, it included the whole national economy and became consolidated on a high level. Under such circumstances the Greek capitalism was transformed into state monopoly capitalism.

The *public sector* includes a considerable part of the economy. The fixed capital of the public sector represents about one fourth of the total. The proportion of public investments in total investment amounted to 27.3 per cent on the average of the period 1950–1970 and to 31.3 per cent on the average of the period 1972–1974. The public sector is absolutely predominant in electric energy and rail transportation and has a decisive part in banking, oil refining, the sugar industry and in many other fields. The jointly owned enterprises (private + state), and the so-called public enterprises play an important role.

With its lower selling prices and other means the public sector improves the general conditions of reproduction and profits. The case of the Greek Railways ensuring favourable delivery terms with its low freights is characteristic from this point of view. The resulting deficit of about five hundred million drachmas is covered by the budget. The Greek Public Electricity Works sell energy at a lower than average price to the multinational monopoly company Pechiney.

The ratio of the national income concentrated in the *budget* fluctuated between 21.4–31.5 per cent in the period 1960–1975, with an increasing tendency. Taxes represent the most important source of incomes. Within this the greatest part of revenues – 65 per cent in 1965 and 70.7 per cent in 1974 – results from indirect taxes. As far as expenditure is concerned, more than one third of the budget is spent on military outlays, less than one third on state investments and the remaining sum on salaries and various other state purchases.

Through the tax revenues and expenses of the budget the state exerts a considerable influence on the economy, on the volume and pattern of production and consumption.

Characteristic structural features of the Greek economy

In the post-war period the main development tendency of the macro-structure of the Greek economy was *a growing proportion of industry and a decrease in the share of agriculture*. Between 1938 and 1974 the share of industry in the gross national product increased from 18.6 per cent to 35.5 per cent, i. e. it almost doubled and the share of agriculture decreased from 34.3 per cent to 16.9 per cent, i. e. by about half. The share of service fluctuated between 48 and 51 per cent, i. e. it became consolidated on a high level (see Table 2).

Table 2

Contribution of different branches to the gross national product
at unchanged prices of 1958, in percentages

Economic branch	1938	1951	1960	1970	1974[a]
Agriculture	34.3	30.0	24.4	18.4	16.9
Industry	18.6	19.0	26.0	33.2	35.5
Services	47.1	51.0	49.6	48.4	47.6
Total	100.0	100.0	100.0	100.0	100.0

[a] The 1974 data are preliminary and refer to the gross domestic product. The industrial data cover the whole secondary sector.

Source: Chr. Evelpidis: Economic and Social History of Greece, Athens 1950, p. 110 — National Accounts of Greece 1948—1970, Athens 1972, p. 120—121 — Union of Greek Manufacturers: The Greek Industry in 1974, Athens 1975, p. 65

Greece cannot be regarded as an agrarian country any more since agriculture represents less than one fifth of the national product. At the same time, Greece cannot be considered as an industrial country, either, since industry contributes somewhat more than one third of production and a much smaller part of the economically active population is employed in industry than in agriculture. Considering that services represent the greatest branch of the Greek economy with a share of about 50 per cent, Greece can be defined as a country having a *peculiar servicing character*.

The proportion of services is higher in Greece than might be expected on the basis of her economic development level. A disproportionately swollen and extensive servicing sector relies on a relatively narrow production basis. This especially refers to the trade which consists of too many intermediary links and is of intensive comprador character.

In Greece the *employment structure* is developing more slowly than the production pattern. According to the population census data, between 1951 and 1971 employment in industry as compared to the economically active population, increased from 16 per cent to 25 per cent, from 27 per cent to 34 per cent in the services and decreased from 57 per cent to 41 per cent in agriculture. In 1973 this latter proportion amounted to 37.7 per cent in Greece and to 9.6 per cent on the average in the 9 member countries of the European Economic Community [6].

Consequently, the slow decrease in the proportion of agricultural employment does not follow the fast decrease in the proportion of agricultural production. The contradiction can be explained with the agrarian surplus population as well as with seasonality and/or ineffective employment. At the same time, the proportion of industrial employment increased slowly while that of the production at a fast rate. The deviation indicates that industrial employment is more effective. Finally, the proportion of employment in the services is lower than that of output.

Accordingly, there are particular contradictions between economic structure and development level in Greece. Considering the production pattern, Greece is nearer to the moderately developed countries while in respect of the employment structure she is nearer to the developing countries. While in 1970 the production pattern corresponded to a per capita national income of 800–1000 dollars, that of employment to a per capita national income of 600 dollars.

In the post-war period some structural changes took place in the *Greek agriculture*, especially in plant cultivation. Between 1938 and 1974 the proportion of the area sown with corn decreased within the cultivated area from 61 per cent to 44.3 per cent, but that of fodder crops increased from 5 per cent to 13.3 per cent, the share of orchard areas grew from 11.6 per cent to 20.9 per cent, that of industrial crops from 7.3 per cent to 8 per cent and that of vegetables from 1.6 per cent to 3.2 per cent. [7]. In the pre-war period Greece imported wheat but after the war became self-supplying and she also exports in case of a rich crop.

The development of agriculture had been of extensive character till the mid-1960's and after this it became intensive. In the first period the rise in production resulted mainly from an expansion of the cultivated area and in the second period decisively from an increase in per hectare yields. This was promoted by a considerable advance in the mechanization of agriculture, a growing proportion of irrigated areas, an increasing use of fertilizers and by the development of agricultural infrastructure. The irrigated areas increased from 6.7 per cent of 1950 to 20 per cent at present. The quantity of fertilizers per hectare increased from 15 kg to 93 kg between 1950 and 1970. Considering the number of tractors per 100 hectares Greece has reached the standards of the highly developed capitalist countries [7].

Despite this progress agriculture in Greece is still behind that of the advanced countries. This manifest itself first of all in the small weight of animal husbandry. The proportion of the output values of plant cultivation and animal husbandry has barely changed: it was 68.3 : 31.5 in 1938, 76.8 : 23.2 in 1953 and 67.2 : 32.8 in 1970. For comparison: at the end of the 1960's and at the beginning of the 1970's the share of animal husbandry amounted to 76 per cent in the Netherlands, to 67 per cent in Denmark, to 62 per cent in the GDR, to 60 per cent in Austria, to 57 per cent in France and to 45 per cent in Hungary [8].

One of the characteristics of the *structural changes in industry* is that the *share of manufacturing decreased while that of mining and of electric energy and gas increased.* For example, between 1950 and 1970 the share of the manufacturing decreased from 68.7 per cent to 63.7 per cent while that of mining increased from 2.5 per cent to 3.9 per cent and of the production of electric energy and gas from 4.2 per cent to 7.6 per cent. The share of the construction remained practically unchanged: it was 24.6 per cent in 1950 and 24.8 per cent in 1970. In the period between 1971–1974

the share of electric energy and gas continued to increase while that of mining decreased. It is a characteristic feature of the structural development of the Greek industry that the *weight of heavy industry increases and that of light industry decreases.* Between 1950 and 1970 the share of the branches producing consumer goods decreased within total industrial production from 77.5 per cent to 55.1 per cent while the output of means of production and miscellaneous industrial goods increased from 22.5 per cent to 44.9 per cent [9]. These tendencies have continued after 1970, too.

There were interesting changes in the *sectoral structure of manufacturing.* In the period 1950–1970 a considerable decline could be observed in the shares of the food-, beverages and tobacco industry (from 23.7 per cent to 18.4 per cent), the textile industry (from 20.8 per cent to 15.5 per cent) and the shoe and clothing industry (from 21 per cent to 6.4 per cent). These tendencies continue after 1970, too. At the same time, a significant increase could be experienced in the share of the basic materials industry (from 0.6 per cent to 8.8 per cent) as well as in that of the chemical industry (from 4.5 per cent to 13.6 per cent), the metal-working industries (from 9.4 per cent to 13.7 per cent) and the industry manufacturing vehicles (from 1.4 per cent to 3 per cent). The majority of these branches shows a faster development after 1970, too [10].

Despite this progress, the Greek industry shows a considerable backwardness as compared to the developed countries in respect of development level, structure, size of enterprises, quality and costs of products and competitiveness, in general. Several tendencies in the development of the sectoral structure within manufacturing industry coincide with the world tendencies. Such are the *increasing* shares of the chemical and the metal-working industries and the *decreasing* ones of the shoe and clothing, food-, beverages and tobacco as well as the textile industries. There are deviating trends in the case of other industrial branches. In the manufacturing industry of the world, as opposed to Greece the shares of the basic materials industries (particularly metallurgy) and that of the woodworking and furniture as well as the paper and printing industries represent a decreasing tendency. The greatest weakness of the Greek industry is that the share of machine-building is much lower in Greece than in the average of the developed countries and is near to the average of the developing ones (in 1970 16.7, 33.9 and 11.1 per cent) [11].

The branches and products connected with the scientific-technological revolution are especially missing. Generally, the internal sectoral structure of industry is moderately developed and is nearer to the structure of the developing countries than to that of the advanced countries.

The most dynamically developing branches of the *tertiary sector* are transportation and trade. First of all the commercial fleet developed considerably and in respect of tonnage it is among the first five countries in the world at present. The development of road-network and motor traffic was significant. Especially salient progress took place in telecommunications, in supplying the population with telephones and radios.

The structure of services has changed in accordance with the different growth rates of the various servicing branches. In the period 1950–1970 the share of transport increased from 20.2 per cent to 25.5 per cent while that of housing decreased from 22 per cent to 19.3 per cent and that of public administration from 19.1 per cent to

9.7 per cent. The ratio of bank services, health service, education and other services remained fundamentally unchanged. In the period 1970–1974 the proportion of public administration increased considerably while that of the health service and education only slightly and the share of housing as well as of transportation decreased and that of the commercial and bank network remained unchanged [2].

The researches of the Hungarian economists Attila *Csernok*, Éva *Ehrlich* and György *Szilágyi* permit an international comparison of the Greek infrastructure. Accordingly, in respect of the development level of infrastructure Greece took the 27th in 1968 among 29 developed or moderately developed countries. Consequently, the international position of Greece tends to improve although it is still lagging far behind the developed countries. However, taking into consideration also the developing countries and considering the whole world, *the infrastructure in Greece is moderately developed.* The development level of the various fields within infrastructure, indicates great differences. Among 29 countries Greece stood 17th in 1968 in respect of the supply with dwellings, 20th in transport, 22nd in telecommunications, 25th in health service and 28th in education and culture [12].

Foreign relations

Growing but adverse foreign trade

Greece is an open economy considering that she has intensive foreign relations, pursues a relatively liberal foreign economic policy and the volume of foreign trade represents an important part of output. The total of goods and services exported and imported amount to 45 per cent of the national income.

Beside the expansion of internal markets also that of the external markets contributed considerably to the economic growth in Greece. After the Second World War the *volume of the foreign trade* increased essentially. Between 1962 and 1974 exports – calculated at current prices – grew to 7.2-fold and imports to 7.3-fold. This dynamic growth is connected with the development of the Greek economy and the strengthening of its relations with the world economy.

A fundamental deficiency of the foreign trade in Greece is, however, the lasting deficit in the balance of trade. It is characteristic of its volume that in the period 1948–1974 the value of exports covered only 23–47.6 per cent of the value of imports. This proportion is worse than in the pre-war period. In 1974 the absolute sum of the deficit in foreign trade reached 2861.1 million dollars which is equal to one fifth of the national income [13].

The large deficit of foreign trade can be attributed to reasons connected with the moderate development level, structural backwardness and weak competitiveness of the Greek economy, the foreign trade policy as well as in some years with the deterioration in the terms of trade. For example, in 1972 the deterioration in the terms of trade caused a loss of 135.5 million dollars in the balance of trade of Greece [14]. This loss was even greater in the period 1973–1974.

The considerable deficit of foreign trade alone could upset the balance of the Greek economy. But owing to the *peculiar balance of payments* this does not happen.

Important items of the Greek balance of payments are the invisible incomes reaching 2363 million dollars in 1974 – as mentioned above – while the invisible expenses amounted only to 720.4 million dollars; accordingly, the net income was equal to 1642.6 million dollars. The overwhelming part of the foreign trade deficit was covered from this net income. Thus the deficit on current accounts decreased to 1218.5 million dollars. The net capital inflow in 1974, amounting to 1036.7 million dollars, enabled the balancing of further considerable parts of the deficit. In such a way, in 1974 the total deficit of the Greek balance of payments amounted to no more than 181.8 million dollars and the official monetary reserves of Greece represented 903.7 million dollars.

Development of the commodity pattern of foreign trade

The structural changes in the Greek production are reflected in foreign trade, in the commodity pattern of exports. Between 1938 and 1971 the proportion of *tobacco and beverages* decreased from 53.7 per cent to 16 per cent. The export of *raw materials* shows a contradictory picture: their proportion increased from 9.3 per cent in 1938 to 29.9 per cent in 1962 and fell to 18.8 per cent by 1971. The explanation of this fact lies in the domestic industrial processing of an increasing part of raw materials. The share of the export of *foodstuffs and livestock* settled on a high level: it amounted to 23.9 per cent in 1938, to 24.9 per cent in 1954 and to 25.4 per cent in 1971.

The most important change in the structure of exports took place in the faster growth rate and greater proportion of industrial exports. As a result of industrial progress *industry became the most important export branch in Greece.* In 1938 the total of industrial products amounted to only 6.7 per cent of exports. Between 1963 and 1974 the yearly average growth rates of the total export and import were equal to 17.8 per cent and 18 per cent, respectively, but that of industrial exports reached 40 per cent. Consequently, the share of industrial exports in the total increased from 5.15 per cent in 1963 to 41.14 per cent in 1974. These data do not include oil products (derivatives) nor agricultural products processed in industry. The share would be higher if the data covered these latter, too. In 1974 63.8 per cent of the total export resulted from the manufacturing industry, 27.5 per cent from agriculture, 5.8 per cent from mining, 8.7 per cent from animal husbandry and 0.3 per cent from fishing [15].

As far as the *structure of Greek import* is concerned, machinery and means of transport represent the greatest and fast increasing item: they amounted to 15.8 per cent in 1938 and to 45.3 per cent in 1971. This is in close connection with the structural changes in production and with the fact that there was no notable machine-building industry in Greece. *Other industrial products* represent a considerable, but decreasing ratio in imports: 23.7 per cent in 1938 and 18.4 per cent in 1971. The decrease can be explained with import substitution. The import ratio of *fuels* and related products increased immediately after the war (10.6 per cent in 1938 and 13.8 per cent in 1954) then it decreased (7.3 per cent in 1971). This resulted from the fact that meanwhile a considerable energy basis developed also in Greece. The situation is similar with the import of other *raw materials.* Finally, in the whole post-war period the import ratio

of *foodstuffs and live-stock* showed a decreasing tendency: 28.8 per cent in 1938, 11.2 per cent in 1971. This can be attributed to the fact that in the post-war period Greece became self-supplying in most plant products. However, meat is still imported to a considerable extent.

The positive structural changes have not solved the fundamental problem, i.e. the lasting deficit in foreign trade. Competitiveness of the Greek economy on the world market is still weak, the export capacity is much lower than the demand for imports. The proportion of machinery, equipment and vehicles is insignificant in exports while of decisive importance in imports. This causes a large deficit. Obviously, a radical solution of the problem requires further structural changes both in domestic economy and in foreign trade.

One-sided orientation of foreign trade

From among the continents *Europe* has been and will remain the most important partner of Greece in foreign trade. Europe's share in Greek imports amounted to 77.3 per cent in 1938, to 66.3 per cent in 1973 and in exports to 76.8 per cent and 70.1 per cent, respectively. America is in the second place with a growing share, with 12.9 per cent in imports in 1938, 20.1 in 1973 and with 20.2 per cent and 19.7 per cent in exports, respectively. Asia, Africa and Australia are the following continents [16].

From among groups of countries the greatest external economic partner of Greece is the EEC. The share of the nine EEC-countries in Greek exports amounted to 50 per cent and in imports to 43 per cent, in 1974 [17]. The USA stands in the 2nd place.

In the economic growth of Greece also the foreign economic relations with *East-European socialist countries* played a certain role. In 1974 the value of commodity turnover in this relation reached 484.9 million dollars, of which 275.3 million dollars represented the value of imports and 209.6 million dollars that of exports. The tendency is increasing, in general. However, in the last years a certain break can be experienced.

The share of East-European countries is generally of little importance: e.g. in 1974 5.9 per cent in imports and 11.8 per cent in exports. [18] However, there are some Greek products whose chief market is in the socialist countries. Such are citrus fruits, hides and skins, cotton and raisin. In Greek imports from these countries, the raw materials are in the first, energy materials in the second, industrial consumer goods in the third and investment goods in the fourth place.

The economic relations of Greece with socialist countries have several advantages: the trade is generally balanced; because of the geographical neighbourhood considerable freight can be saved; socialist countries ensure a stable market for some Greek products; and the investment goods imported contribute to the industrialization in Greece. Despite the advantages the economic relations of Greece with socialist countries have not been of decisive importance so far. It is a mutual interest to raise these relations to a higher level. This could be promoted by a mutual expansion of the exchange of industrial products, realization of more advanced forms of co-operation, the replacement of clearing accounts with up-to-date forms of settling accounts (e.g. accounting in freely convertible currency etc.).

From the above mentioned it is obvious that the *external orientation of the Greek economy is one-sided.* This one-sidedness increased after Greece had joined the EEC in 1962. Over the last 14 years the establishment of a *customs union* between Greece and the EEC has made considerable progress. The EEC abolished customs duties by July, 1968 and Greece did the same with November 1, 1975 in the case of industrial products not manufactured in Greece altogether and on products manufactured in the country to the extent of 46 per cent. The duties on certain agricultural products (tobacco, raisin, vegetable, fruit etc.) were abolished or decreased, too. In short, Greece has liquidated two thirds of customs duties on products imported from the EEC. Beside abolishing customs duties, steps are taken to liberalize the movement of labour and capital.

The progress made in the establishment of a customs union contributed to a faster increase of Greek exports to the EEC-countries than the average. The share of the six in Greek exports increased from 35.3 per cent to 48.2 per cent between 1948 and 1971, but fell to 39.9 per cent in 1973 and to 33.9 in 1974. It is an important phenomenon that within the export to the EEC the share of industrial products increased from 19.7 per cent of 1961 to 65 per cent in 1973. At the same time, the share of imports from the EEC shows a decreasing tendency: 43.4 per cent in 1962, 37.8 per cent in 1974. [19] There were no spectacular changes in the import pattern. Industrial and investment goods continue to be predominant. The decrease of 1973–1974 is connected with the crisis phenomena of the world economy and indicates that Greece's possibilities of extending markets in the EEC are restricted.

The association with the EEC did not promote the realization of full employment in Greece, but *contributed to ease the problem of unemployment by increasing emigration.* Between 1962 and 1972 the number of Greek workers employed in the EEC-countries grew from 66 thousand to 300 thousand, i.e. to 4.5-fold. Accordingly, one fifth of the Greek wage-earners are working in EEC-countries.

In 1974 54.2 per cent of the foreign exchange remittances of Greek persons living and working abroad, 40.5 per cent of incomes from tourism and 39.1 per cent of the remittances from transport and shipping came from the EEC. The share of the USA represents 30 per cent in the remittances of Greek emigrants and 51.7 per cent in the remittances connected with transportation and shipping [20].

Growing dependence on foreign capital

In the post-war period the Greek governments ensured favourable legal and economic conditions for the penetration and protection of foreign capital, as a result of which the inflow of foreign capital increased. E.g. in the period 1960–1974 the sum of net *capital imports* reached 4.4 thousand million dollars. To this 3.1 thousand million dollars are to be added, received in the form of American "aids" between 1946–1960. [21]

As far as the distribution of foreign capital by countries of origin is concerned, the USA stands first, France second, Switzerland third, England fourth and the Federal Republic of Germany fifth.

The effect of foreign capital on economic growth is contradictory. Firstly, it means additional sources for development, secondly, it *draws away certain development*

resources and thirdly, it increases the dependence of Greece on foreign capital and foreign powers.

On the basis of 1972 data the Greek economy can be divided into three categories according to the degree of foreign control: a) Branches where foreign capital is predominant. This includes branches where foreign capital controls more than 50 per cent of the total capital. Such are the production and sale of oil products and derivatives, gas bottling, production of vehicles, basic materials industries (metallurgy), transport and shipping companies as well as insurance companies. b) In branches with moderate foreign control foreign capital represents 20–50 per cent of the total capital. Such are the chemical industry, the synthetics and rubber industry, woodworking and cork industry and the tobacco industry. The bank network may also be ranked here. c) To the branches with a low share of foreign capital, i.e. 0–20 per cent, belong fishing, tobacco-growing, the furniture industry, the paper and printing industry, the building industry, the textile industry, the catering trade, the leather-processing industry, a great part of the metal-working industry, tourism, mining of non-metallic minerals, breweries, the commercial network, the food industry as well as the shoe and clothing industry. [22]

Foreign capital controls about 29.8 per cent of the total capital in industry and 21.5 per cent of that in the tertiary sector. The controlling role of foreign capital is greater in the case of big and smaller in the case of small enterprises. For example, in 1972 the degree of foreign control indicated 7 per cent in the case of industrial enterprises with capital less than 9.9 million drachmas and 66.7 per cent in the case of enterprises with capital over 900 million drachmas.

Since the beginning of the 1960's the *penetration of multinational monopolies has been increasing*. One of its methods is investment in and establishment of subsidiary companies in Greece. It is characteristic that the majority of foreign investments amounting to more than one million dollars completed by 1970 is foreign investment. Almost all big banks have branches in Greece (Bank of America, Chase Manhattan, First National Bank of Chicago, First National City Bank etc.). Multinational enterprises represent a considerable economic power in comparison to Greece. In 1971 the gross national product of Greece amounted to 9 thousand million dollars. At the same time, the turnover of General Motors, which is present in Greece, amounted to 28.2 thousand million dollars, that of Standard Oil to 18.7, of Ford Motors to 16.4 and of Royal Dutch Shell to 10.7 thousand million dollars. [23]

The dependence of Greece manifests itself in several factors. Such are the one-sided (not mutual) and decisive economic and technical dependence on foreign countries; weak competitiveness; the great deficit in the balance of trade; the excessive dependence of the Greek economy on the invisible sources of income and its sensitiveness to the fluctuations of world economy and the heavy indebtedness of the country; the "auxiliary workshop" and transiteur role of Greece.

Greece's role as "auxiliary workshop" and transiteur

The branches requiring technological and professional skills connected with the scientific-technological revolution are almost completely missing in Greece.

Greece depends decisively on foreign countries in respect of equipment, scientific knowledge and know-how. This is one of the most important forms of appearance in our days of the *peripheral position and "auxiliary workshop"-character* of Greece.

The majority of Greek industrial companies receive licences, technologies and manufacturing processes from foreign enterprises for ceding a part of the turnover to them. The foreign monopolies retain the branches requiring advanced technologies, highly specialized knowledge, the innovating and developing activities in their possession and yield only the secondary activities requiring only adaptation to the Greek enterprises. For example, the Greek synthetic materials production playing a decisive role in progress is in the hands of foreign companies, namely the ESSO Pappas Chemical Company and the Dow Chemical Hellas. Greek industry is restricted to processing synthetic materials which is a secondary activity in this branch. There is a reversed situation in the aluminium industry which is under the control of Pechiney, a firm representing French financial interests: bauxite, aluminium oxide and aluminium are produced in Greece, but the processing of a great part of aluminium ingots takes place abroad. In Greece bus and lorry bodies are manufactured but no motors. In several fields Greece gets only the assembling activity (TV etc.).

From certain point of view Greek companies play a *transiteur role* in the international world trade. This is well illustrated by the following data and examples.

More than half (about 3 thousand million dollars) of the Greek imports originates from factories controlled by multinational companies. A great part of Greek exports is controlled also by them. For example, in 1971 six of the twelve greatest export companies in Greece were subsidiary companies of multinational concerns (Greek Aluminium, Ethyl-Hellas Co. Ltd., Tessaloniki Oil-Refinery Co. Ltd., Transtecom Co. Lts., Triumph International Hellas Ltd., Siemens Telecommunication Co. Ltd.). [23] The foreign investments completed in Greece till now are aimed first of all at the exploitation of the internal market and the extension of export possibilities.

American multinational monopolies regard Greece as a base of operations in the sense that through Greece their products may be exported with lower customs duties or free of duty to the EEC-countries and they can more easily penetrate into the countries of Asia, Africa and especially of the Middle East. The same refers to the monopolies of EEC which use Greece as a bridgehead in the interest of their expansion in the Middle East and in other directions. Greek companies play an assisting part in this process.

The American ITT manufactures telecommunication articles in Greece and exports them to the FRG, Switzerland and France. The American International Electronic manufactures electronic fittings which are exported to the FRG, Belgium, England and Spain. The chemical monopoly Ethyl-Hellas, a subsidiary company of an American one with a similar name exports pesticides to European, African and Middle Eastern countries. The Greek Metallurgic Co., also a subsidiary company of an American monopoly, exports products in a considerable volume to England, to the FRG, Spain, Yugoslavia, Romania and the USA. The American Westinghouse bought the majority of the shares of Greek Metalotechnica Elektra Co. and began to manufacture electrical equipment in order to meet demand in Greece and the Middle East. Philips produces telephone exchanges, telecommunication facilities and television fittings for export to Lebanon. Bristol-Hellas Co., established by the

American monopoly of the same name, manufactures pharmaceutical and cosmetics products in Greece for the purposes of Middle Eastern exports. Ideal Standard Co., a subsidiary company of an American monopoly with the same name, manufactures sanitary and synthetic products in Greece and exports them to African and Middle Eastern countries. Viohalko Aluminium Corporation co-operating with the Greek Aluminium Co. 88 per cent of whose shares are in hands of the French Pechiney multinational company exports its semi-finished aluminium goods to European and Middle-Eastern countries. Dexion-Hellas Co. having business relations with an English company by the same name sells a part of its products in Middle Eastern countries.

The recent fast economic growth of Greece is a positive phenomenon but its importance need not be overestimated. This growth was sufficient to surmount the considerable backwardness of the country, but insufficient to raise Greece into the category of developed countries. Thus an ambiguous situation has developed. *Greece of today is a moderately developed country on the periphery of developed countries. Her moderately developed state, i.e. the co-existence of signs of backwardness and development are characteristic of Greece.* Greece has not yet succeeded in establishing an advanced, up-to-date economic structure. There are organic weaknesses and deficiencies in the Greek economy jeopardizing her progress in the future.

From the economico-technical viewpoint the principal weakness of the Greek economy lies in the fact that Greece has no independent modern and complex industrial and scientific-technological basis, she is not able to realize unaided a high-standard extended reproduction, innovating and development activities in production as well as in technologies. Left alone Greece is able to realize extended reproduction only in terms of volume and to copy prototypes as well as to adapt certain activities.

Although the fast post-war growth in Greek economy mitigated some contradictions, it has not led to the solution of fundamental economic, social and political problems of the country. On the contrary, it sharpened a part of old contradictions. Thus the inequalities in the distribution of national income between classes and strata as well as geographical regions continued to increase. Considerable geographical and social mobility could be observed and several transitional social forms developed. The urbanization process was exaggerated as compared with both the economic development level and the preconditions of urbanization. Under such circumstances new pressing problems appeared in the fields of housing supply, public utilities, mass transportation, employment and environmental pollution.

Economic, social and political polarization increased in Greece. The fast economic growth was not accompanied by progressive reforms and the democratization of political life. Thus also from political viewpoint Greece lies on the periphery of the developed countries. *There is a contradiction between the moderately developed economic basis and the relatively backward political superstructure.* This manifests itself in the lack of political stability, characteristic of Greece in the whole post-war period. Following the fall of the junta in 1974 only partial changes have taken place in this respect.

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ОСОБЕННОСТИ СОВРЕМЕННОГО ЭТАПА ЭКОНОМИЧЕСКОГО РОСТА В ГРЕЦИИ

С. БАБАНАСИС

Автор исследует особенности послевоенного экономического роста в Греции. В этот период темп экономического роста ускорился, но был неравномерным. С точки зрения темпа роста Греция принадлежит к группе быстроразвивающихся стран. Быстрый экономический рост связан с тем специфическим фактором, что в Греции — из-за гражданской войны — конъюнктурный эффект восстановительного периода длился до середины 1950-ых годов. Важную роль в экономическом росте играли значительные резервы рабочей силы, ограничение роста заработной платы, привлечение зарубежных ресурсов и не в последнюю очередь возрастающая экономическая роль государства. В Греции занятость роста медленно, но производительность труда — сравнительно быстро. Таким образом, экономический рост — несмотря на сравнительно низкий или средний уровень развития — носил интенсивный характер. Даль-

нейшей особенностью Греции является высокая корма капиталовложений и одновременно также и высокая норма потребления. Этот парадокс объясняется привлечением значительных внешних ресурсов. Сюда относятся так называемые невидимые поступления (судоходство, денежные переводы греческих эмигрантов, туризм), частные иностранные капиталовложения, иностранные займы, импорт современной техники.

Тенденции развития макро- и микроэкономической структуры в Греции в общих чертах совпадают с аналогичными тенденциями в мировой экономике. Быстрый экономический рост, увеличение доли промышленности и сикращение доли сельского хозяйства преобразовали Грецию из отсталой аграрной в среднеразвитую страну, с развивающейся промышленностью. Однако, поскольку сфера услуг является самой большой отраслью греческой экономики, Грецию можно определить как страну третичного сектора.

Для греческой внешней торговли характерен быстрый рост и высокий хронический дефицит. Однако крупные невидимые поступления и приток иностранного капитала обеспечивали покрытие наибольшей части торгового дефицита. Наиболее значительным структурным сдвигом во внешней торговле является превращение пормышленности в главную экспортную отрасль страны. Для Греции характерна односторонная внешнеэкономическая ориентация, усилившаяся после ассоциации в 1962 году с ЕЭС. Зарубежные монополии держат в своих руках прогрессивную технологию, наукоемкие отрасли, нововедения, допуская греческие предприятия только ко второстепенной, адаптационной деятельности. Многонациональные монополии используют Грецию в качестве плацдарма для своей экспансии в Африке, Азии и Европе.

Таким образом Греция в результате современного этапа быстрого экономического роста преодолела часть своей исторической отсталости, но не ликвидировала своего периферииального положения. Для нее характерна полуразвитость, то есть параллельное существование признаков отсталости и развитости.

REVIEWS

K. PÉCSI

MEETING OF SOVIET AND HUNGARIAN ECONOMISTS IN BUDAPEST

At the beginning of February 1976 a Hungarian-Soviet round-table conference was held in Budapest. The conference was organized by the Research Institute for World Economics of the Hungarian Academy of Sciences. The Hungarian delegation was headed by József *Bognár*, academician, Director of the Institute, while the Soviet delegation by O. T. *Bogomolov*, corresponding member of the Academy, Director of the Economic Institute for Socialist World System of the Soviet Academy of Sciences.

There were three items on the agenda of the round-table conference:

1. Situation of the Hungarian and Soviet national economies, their perspectives and the objectives of the current Five-Year Plans.
2. Present and perspectivic situation as well as problems of Hungarian-Soviet economic cooperation, furthermore
3. Exchange of views about the further development of socialist integration.

First of all the specific aim and concrete profile of the round-table conference were determined. It was stated that the conference means the first step of consultations on economic policy between the two countries. Its primary task was thus to provide mutual information about the long-term conceptions on economic development in both countries, to identify factors influencing these conceptions and to draw conclusions resulting from points where the former seem to interlink. The main objective of common work was to reveal such new thoughts, connections and alternative possibilities which might efficiently promote economic cooperation. It was agreed at the conference that a joint scientific report should be elaborated on the problems and expected development of the long-term economic relations between the two countries after 1980.

József Bognár academician reported on the situation of the Hungarian national economy and in this context on some questions of the long-term conception of Soviet-Hungarian economic cooperation. He expounded that the lasting tendencies of the new era in the world economy had basically changed the system of external economic conditions for the growth and development of the Hungarian economy. These changes created a new situation also for the other socialist economies. For the Hungarian national economy the most important element of the previous system of world economic conditions was that in the framework of the Soviet-Hungarian relations Hungary obtained cheap energy and raw materials which resulted in favourable price proportions between finished products and raw materials. Conse-

quently, a relatively undisturbed growth of the national economy could be ensured despite the structure of western exports lagging even behind the medium level of technological development of the economy.

Deterioration in the terms of trade occurred for the Hungarian national economy in a period when the crisis of the capitalist world economy – whose certain components are connected also with the lasting changes – slackened and crushed the powerful dynamics of Hungarian exports to the West. Imports becoming more expensive could be less and less compensated by exports. The balance of payments showed considerable deficits both in 1974 and in 1975.

There are two basic possibilities for the restoration of a relative balance. One is the so-called defensive method meaning the decrease of imports, while the other one, the so-called offensive-expansive method is aimed at increasing exports. Naturally, in reality some combination of the two methods is usually realized in the socialist economies with either the defensive or the offensive strategy becoming predominant. Realization of the defensive tactical variant is impossible in the present situation and with the given possibilities of the Hungarian national economy. First of all because in this way also the technical and technological imports would be endangered, which are of special importance in the period of intensive development, since the increment of the national income must be ensured by the raising of efficiency. It is obvious as well that with the presently given possibilities of the Hungarian national economy an import-restricting economic strategy would mean also a decrease in exports and this cannot be judged as expedient with the given credit stock of the national economy. (Namely, such a development may endanger also the credit worthiness of the economy. Import from western countries is increasingly connected with the export to socialist countries and even with the questions of the division of labour within the CMEA. Thus also the realizing and financing of lasting production cooperations within the framework of target-oriented programmes would be rendered more difficult.

Starting from the given possibilities of the Hungarian national economy exports must be developed in the new external economic strategy in such a way that the majority of products might be sold on any market as far as quality is concerned. The lack of balance can be eliminated only gradually. If we try to avoid sudden changes causing so much damage to the economy, then our credit stock can be temporarily increased yet, provided that the conditions for repayment are created by means of this increase.

The past and the present of Hungarian-Soviet economic relations unambiguously prove the correctness of Hungarian foreign economic policy. The close economic cooperation with the Soviet Union and the other socialist countries provides the basis for the development and application of forms of cooperation ensuring the most rational and efficient utilization of national resources by relying on modern productive forces and socialist production relations, thus multiplying Hungary's resources.

Coordination of the Fifth five-year plan determined the perspectives of cooperation for the years 1976–1980. This hardly needs analysis. However, it must be remembered that for objective reasons cooperation will become complex in the coming period, because

- in the period of intensive development both economies become more sensitive to imports of technology and to drawing in external resources;
- for the compensation of western imports of growing quantity and effects exports should be increased, which is possible only in an up-to-date structure and with the application of marketing methods;
- production of fuel and raw materials will become more difficult and shifts to remote places in the Soviet Union, thus influencing the export of these products with regard to both quantity and terms of delivery;
- competition on the markets of socialist countries will become more powerful, increasing the requirements raised towards commodities, services and commercial terms;
- for the Hungarian national economy the consequences of and the developments connected with the deterioration of the terms of trade still cause several problems;
- the establishment of multilateral settlement of accounts within the CMEA is evolving only slowly, while bilateralism, by its nature, impedes an organic increase of trade among the CMEA-countries.

As a consequence of all this, the points of view of profitability, structure, prices, etc. will obtain more importance in the trade between the two countries also on part of the Soviet Union. This does not mean any change in the contents of relations, only the assertion of regrouping tendencies resulting from economic considerations, for which conscious preparations should be made. Efforts should be made that economic relations with the Soviet Union obtain an even more active part than before in the realization of the goals of the economic policy and accelerate the development of the national economy.

The standpoint of Soviet economists was expounded by O. T. Bogomolov corresponding member of the Academy.

He pointed out that the structure of the Soviet national economy deviates from that of several other countries. Despite the rapid expansion of foreign trade (exports amount already to 8 per cent of the national income) it is less dependent on the world economy. The planned development of the national economy provides a guaranty that circumstances resulting from the crisis of the capitalist world economy, such as recession in production, unemployment, etc. shall not affect the Soviet national economy. All this does not mean, however, that the Soviet national economy is fully separated from the world economy. Through the existing system of connections the two blocks of the world system influence each other's development to a certain extent. This mutual influence involves a rather complex and contradictory process. E.g. resulting from the economic crisis of developed capitalist countries there are better possibilities for the Soviet Union to buy the required technological products, while at the same time, Soviet products, particularly machines, are more difficult to sell also as a consequence of the crisis. The changes in the relative prices of finished products and raw materials and fuel, respectively, made the export of the latter from the Soviet Union more efficient and compensated, to some extent, for the previous disadvantages suffered by the Soviet economy because of the too low prices of raw materials and fuel. However, the Soviet Union not only exports, but also imports raw materials and fuel, therefore all such changes in prices affect the Soviet Union in a contradictory way. At the same time, the Soviet Union as a part

of the world economy also influences it. This is expressed, for example, in that the Soviet Union furthers the normalization and democratization of international trade.

The new tendencies developing in the world economy affect also the relations of CMEA-countries among each other. However, the development strategies of the CMEA member-countries should not be subordinated to the tendencies developing in the capitalist world economy, but first of all to the long-term development conceptions of socialist countries. The system of cooperation among the members of the CMEA is based on the planned long-term development of these countries and this fact guarantees a certain immunity from the unfavourable changes taking place in in the capitalist world. On the other hand, the CMEA members do not regard socialist integration as a dividing line completely separating them from new tendencies developing in other parts of the world economy, but as a form of cooperation strengthening their position in the world economy. Since these countries maintain intensive economic relations not only in the framework of, but also outside the CMEA, they cannot isolate themselves from the effects of the world economy.

The new tendencies developing in the capitalist world economy render even more necessary that the socialist countries coordinate their policy and strategy towards other parts of the world economy better than before. The purpose is, namely, that a cooperation established by any socialist country should serve the interests of the entire socialist community and, if possible, also other CMEA-countries should join and participate in this cooperation and make use of its advantages. It is expedient for the CMEA-countries to conclude such long-term agreements with capitalist countries and enterprises, which promote, at the same time, the deepening of specialization and cooperation among the member-countries.

In the further development of bilateral Soviet-Hungarian economic relations a change-over to more efficient methods is necessary. The forms of cooperation developed until now will continue to serve as a basis for the development of economic relations between the two countries. Such are e.g. coordination of national economic plans, specialization in production, cooperation, etc. Beside these, however, also new forms of cooperation should be sought after. Time has come to put coordination of the long-term economic policies of both national economies and harmonization of economic strategies on the agenda. This form of cooperation has already been envisaged also by the Comprehensive Programme. However, a possibility of practical application has not been found yet, at least not regularly or widely enough. It is important, to change over from the system of medium-term contracts on production, specialization and cooperation to a system of long-term cooperation agreements. This would also enrich Soviet-Hungarian cooperation with new contents.

Perhaps an example could be quoted for this, namely, the system of maize-production in Bábolna. This state farm has attained on the basis of modern technology the world level in maize-production and also industrialized poultry raising. The success of this system lies in its complex character. Economic cooperation between the two countries should be approached also in such a complex way. It is not enough if relations are restricted to the solution of certain production problems on the agenda, they should be extended also to the solution of much more complex tasks of the economy and economic development. E.g. the development of high-yielding species of maize would require such a complex solution. Later on, new

technological systems could be developed on this basis and, relying on these systems, poultry and other industries could be built up. The establishment of nuclear power-stations also requires such an approach. In this field of international cooperation all connected development and production projects should be assessed for a long run. In this context it should be mentioned that the possibilities and advantages of international economic organizations and unions operating in the framework of the CMEA have hardly been utilized yet.

The exchange of views and the discussions among scientists are perhaps only the first step in the system of international consultations on economic policy, which, however, offers wide possibilities for direct exchange of information on economic policy, for the discussion of long-term development objectives, etc. Regular meetings of the representatives of science make the international coordination and solution of tasks of great portent easier for governmental and planning organs.

J. HÁMORI

MEETING OF AMERICAN AND HUNGARIAN ECONOMISTS IN BUDAPEST

After the first meeting – in Bellagio, Italy in 1973 – the second round-table conference of American and Hungarian economists was organized in Budapest from 26th to 29th January, 1976. The organizers of the meeting were: on the Hungarian side the Hungarian Scientific Council for World Economy and the Hungarian Economic Association, and on the American side the Council on Foreign Relations.

The Hungarian delegation was headed by Dr. József *Bognár*, academician, Director of the Institute for World Economics of the Hungarian Academy of Sciences, while the American delegation by Harold van *Cleveland*, Vice-President of the First National City Bank, New York.

In the framework of the four-day programme of the round-table conference the following main topics were discussed.

1. Topical problems of Hungarian – American economic relations.

2. European and world situation after the Helsinki Agreement.

3. Perspectives of world economic development in the 1980s.

4. Perspectives of the international monetary system.

5. Expected development of the world situation in nutrition and problems of agricultural development of the world.

6. The new world economic order and the question of East-West economic relations.

In the introductory speech held by the American side Harold van Cleveland, head of the delegation, dealt firstly with the general prospects of economic growth in the United States, the various forms of incentives for the public and private sectors, then with the perspectives of other developed western countries and of world trade and, finally, he gave a brief summary of the expected most important international structural changes.

Economic stability and a high rate of employment can be simultaneously achieved only by the introduction of some comprehensive form of control and some forms of planning. In the opinion of H. van Cleveland and several other American contributions no definite overall conception has been developed in connection with planning as yet, thus the danger of a stop-go-cyclical development – i.e. sudden recession after a rapid boom that has been characteristic of the United Kingdom already for several decades – exists also for the United States.

According to the view of leading American economic circles the boom may accelerate the expansion of world trade better than expected, owing to the vigorous stimulation of economic growth in most countries since the middle of 1975. According to their computations a 1 per cent increase of the gross national product of the United States brings about an 0.2 per cent increase of world trade.

József Bognár, head of the Hungarian delegation, stated in his introductory speech that in the middle of the 1970s a period characterized by relatively permanent

development, a low rate of inflation and monetary stability had come to an end in the world economy. Hereafter the countries of the world will be forced to much more compromises in order to dissolve the inconsistency between the sharpening world economic problems and the rigidity of the system of international institutions. He pointed out that cooperation between East and West is a field of the world economy perhaps most sensitive to politics.

He emphasized that new forms should be developed in production, trade and financial relations. He expressed his hope that in the future the relations between the two European economic integrations, the CMEA and the Common Market, would be expanded at a more rapid rate, too. In his opinion the most feasible way of improving economic relations between the United States and the East-European socialist countries in the nearest future will be the widening of bilateral agreements. Finally, József Bognár reviewed questions of the Hungarian economy.

The problems of economic relations between the United States and Hungary were discussed by the participants in a wider context: as a part of the East-West relations of the United States on the one hand, and with a many-sided consideration of the system of foreign economic conditions of Hungary, on the other hand. This comprehensive approach was necessary mainly because the economic relations with each other are of relatively small importance and restricted to a narrow field both in the foreign trade of Hungary and in that of the United States, while the arising problems do not differ, from technical points of view or as regards principles and politics, from the factors stimulating or restricting the relations of the United States with other socialist countries.

William *Diebold* Jr., senior member of the Council on Foreign Relations analyzed some political and legislative aspects of the East-West trade of the United States. In his opinion neither the present American, nor the international situation were favourable for the application of the 1974 Act on Trade according to its original purposes. There are two factors that could bring about relevant changes in the intensity of trade, namely, an important Soviet-American agreement on the limitation of armaments and a considerable improvement in the Middle-East situation. The extension of the most-favoured-nation-clause also to the Soviet Union and the other socialist countries is by no means probable before the presidential election in the United States in 1976, and even after that it does not seem very likely for a longer period yet. Accordingly, the objective to be attained can only be that the governments find adequate commercial and credit granting channels and ways of their utilization within the given legal framework.

The representatives of business circles in the American delegation did not completely agree with Diebold's opinion. In their view political obstacles to the development of economic relations would be overcome much sooner than it seems at present. In their standpoint the conflict between American political and economic interests was reflected, namely, that the economic sphere would consider a faster development of American East-West trade more favourable. They do not reckon with an immediate change in the prevailing political priorities either, and, for the time being, consider the expansion of credit limits and a more flexible application of the Act on Trade to the socialist countries most probable.

András *Köves*, senior member of the Economic Information Unit of the Hungar-

ian Academy of Sciences discussed some principles of East-West and within this Hungarian-American relations.*

György *Varga*, editor-in-chief of the economic trimonthly "Gazdaság" published in Budapest, reviewed the circumstances under which the first Hungarian-American joint undertaking had been established. The Hungarian party holds 51 per cent of the shares in the RADELCOR Instruments Sales Ltd. founded on December 30, 1975 with the participation of the Hungarian RADELKISZ Elektronikai Műszergyártó Szövetkezet (Cooperative for the Manufacturing of Electronic Instruments) and the METRIMPEX Foreign Trade Company as well as the American CORNING International Corp. The Hungarian industrial cooperative manufactures electro-chemical and therapeutical equipments and through the extensive international sales network of the American partner there are favourable possibilities for selling its products. Also deliveries of certain parts for complete equipments manufactured by the big American enterprise can be undertaken. The coming years will decide whether the activity of RADELCOR will be extended also to joint researches and development and whether the range of jointly manufactured and sold products should be widened.

Evaluating the situation in world politics and economy, developed after Helsinki, János *Szita*, Deputy Minister, Head of the Secretariat for International Economic Relations emphasized that countries should strive for the promotion of cooperation instead of confrontation. He analyzed the questions of interdependence of countries with different ideological and political systems as well as the world economic aspects of this interdependence in detail. He explained that in the CMEA-countries very thorough consultations were going on on this subject, aimed at formulating a uniform standpoint on the part of the socialist countries in connection with recent economic and political changes in the international life and first of all with the new order of world economy involving the claims of developing countries. As far as the most-favoured-nation-close is concerned he stated that the Helsinki document involved equal treatment in economic matters, too. Therefore, the socialist countries are right in expecting the United States not to discriminate their products on the American markets and not to restrict the conclusion of agreements between the socialist countries and American enterprises on credit granting and the import of commodities.

John C. *Campbell*, senior member of the Council on Foreign Relations formulated the questions of European security and cooperation from the standpoint of those American political circles which underestimate the results of the Helsinki Conference and consider it as having contributed nothing new to the development of relations nor to the recognition of detente. In their view economic approach does not create essentially greater political stability and the Helsinki document cannot be regarded as an international contract, but only as a summary of undeniable realities at the end of a period.

There were several participants both on the American and on the Hungarian side disagreeing with this contribution. In the course of the debate Campbell argued that he had only summarized the opinion of certain layers of the American public

* The main points of his contribution can be found in Acta Oeconomica Vol. 15, Nos 3—4.

opinion and leadership and also in his opinion no rigid confrontation in the question of security would be characteristic in the future.

Van Cleveland drew a more optimistic picture of the future effects of the détente in several respects and stated that the importance of the final document of Helsinki lay first of all in that after the years of the cold war it reflects a new rational approach on both sides and at the same time an understanding of common dangers that may arise outside Europe.

Concerning the expected development of world economy in the forthcoming decade an interesting comparison could be made, since many of the members of both delegations participated in the preparation of some economic forecast project. One of the main research activities of the American Council on Foreign Relations is the "1980s Project", while at the Institute for World Economics of the Hungarian Academy of Sciences the preparation of a medium-term forecast on world economy is going on.

The Hungarian standpoint concerning the activities of trans-national enterprises playing an ever increasing role in the world economy was submitted by Mihály *Simai*, Deputy Director of the Institute for World Economics of the Hungarian Academy of Sciences, who pointed out that the reservations of the socialist countries were not connected with the existence of transnational firms, but with some of their economic and economic-policy methods. If the transnational enterprises observe the economic rules uniformly determined by the socialist countries, there will be no obstacle to the widening of commercial and production relations.

The present and future problems of the international monetary system were summarized by János *Fekete*, Deputy President of the National Bank of Hungary He expounded that the international monetary system established in Bretton Woods had been based on the role of the US dollar as a key- and reserve-currency and served the commercial interests of the United States very well for several years. It was precisely the weakening of the dollar that led to the disintegration of this hierarchy. At present the West-German DM seems to be the greatest financial cohesive force on the European market, although the strength of dollar is increasing again. Hungary's position on the European credit market is solid, the creditors consider the Hungarian economy as a correct debtor paying interest punctually. This is favourable from the point of view of satisfying Hungarian credit demands. As to participation in international monetary organizations there are, for the time being, political obstacles and those of principle, not technical ones to it. If reality will be properly reflected in the international monetary organizations the socialist countries (and thus Hungary, too) are ready to actively participate in the work of any international monetary organization.

In connection with the sharpening of international monetary problems Edward L. *Morse*, senior member of the Council on Foreign Relations dealt first of all with what an optimal financial system should be. He mentioned that this system ought to meet several requirements, namely, to further the solution of problems of domestic economic changes, stimulate the development of world trade and neutralize balance-of-payments problems in such a way that no country should gain at the expense of others within the functioning system. In case of further changes modifications in

the real power relations, shifts in the economic and political points of emphasis of the world should be reckoned with.

Carlos F. *Diaz-Alejandro*, professor at Yale University analyzed the questions of the new economic order. In his opinion interdependence means, as a matter of fact, unilateral dependence from the point of view of the countries of the third world and he set as an aim of the new world economic order to eliminate this unilateral dependence. It cannot be definitely decided whether the transformation could be carried out more easily in the framework of an organized international institutional system or by means of reforming the classical market relations.

There was a divergence of opinion among the members of the American delegation concerning justification and reality of the claims of developing countries. Contrary to Diaz-Alejandro, some speakers considered the endeavours aimed at the transformation of the international economic order as an unfounded political and economic conception and believed that in reality there were only few states ready for economic and political sacrifices in international relations.

In connection with the problems of the new world economic order Béla *Kádár*, senior member of the Institute for World Economics of the Hungarian Academy of Sciences pointed out the importance of global factors and priorities of the world economy as against regional endeavours. The relations of interests, the variety of objectives often crossing each other as well as the endeavours trying to shift the responsibility for the backwardness of the developing countries and the reparations obligations also onto the socialist countries, which all lie behind claims for the new world economic order make a uniform and unambiguous support of the claims practically impossible. It is a well-known fact that the socialist countries have no responsibility either for colonization or for the consequences of neo-colonialism, or for the losses resulting from the recent sharpening of functional problems of the capitalist system. What is more, the per capita national income of several socialist countries – themselves in a state of backwardness not so long ago – is lower than that of some countries demanding unilateral financial and commercial advantages. He emphasized that from the point of view of both foreign economy and foreign policy it would not be expedient to support endeavours aimed at deepening cooperation between newly strengthened countries and the developed capitalist countries (to the detriment of the socialist countries or the poor developing countries) or which are just masked forms of rivalry between developed capitalist countries.

The second round-table conference of Hungarian and American economists was held in a highly constructive and favourable atmosphere. In the course of the lectures and subsequent debates as well as in personal talks which took place during the four-day conference the economic specialists of both countries had the possibility to thoroughly get acquainted with each other's standpoint, to reveal the differences in views concerning certain fields and the reasons for them. A common or similar standpoint has been developed with regard to several questions which might contribute to the development of cooperation in several fields. The conference also provided a possibility for the Council on Foreign Relations and the Hungarian scientific institutes to realize future cooperation in certain concrete fields of international economic forecasting for a longer run. The participants expressed their willingness to organize another round-table conference after due preparation in two-three years.

É. SZITA – J. HÁMORI

ROUND-TABLE CONFERENCE OF ITALIAN AND HUNGARIAN ECONOMISTS

After the first round-table conference in Trieste (1975) the second meeting of Hungarian and Italian economists was held in Budapest between April 20 – 22nd 1976.

There were two items on the agenda:

– evaluation of the general world economic situation and expectable changes;

– questions of East-West economic relations, with particular regard to Italian-Hungarian relations.

In his introductory speech the leader of the Hungarian delegation, József *Bognár*, academician, director of the Institute for World Economics, Hungarian Academy of Sciences, stressed that in the present age of fast world economic changes the responsibility of economists for economic and economic-policy decisions within their country as well as on international level was growing both in the East and the West. The number of decision centres (i.e. national economies mature for decision-making) was growing, and problems of home- and foreign economy have become increasingly complicated. József Bognár stated that both countries were forced (under the effect of different motivating factors) to change their foreign economy conceptions to a certain extent. He emphasized that Hungary was making efforts to establish as highly differentiated foreign economic relations as possible and to render the country's economic structure more open to the world economy.

The leader of the Italian delegation, Professor Claudio *Calzolari*, President of the ISDEE (Istituto di Studi E Documentazione Sul'est Europeo), commented from among the world economic changes of the last 5 to 10 years on the expectable effects of the accelerating exhaustion of available resources. In his opinion the most realistic danger was the exhaustion of the world's oil resources and, if no adequate substituting materials were found and saving techniques worked out, even the seemingly sufficient raw material and fuel resources would get exhausted.

On the Hungarian part Professor Mihály *Simai*, Deputy Director of the Institute for World Economics, Hungarian Academy of Sciences, reviewed the prognosticating activity of the Institute. He related that the first part of the medium-range world economic prognosis tried to outline the development of major international regions and groups of countries up to 1985 and to work out a few alternatives for the socialist countries, Hungary among them, on this basis. The second part of the prognosis to be prepared would examine the same processes extended to the early 1990s, on the one hand from the point of view of groups of countries (socialist, advanced capitalistic, developing), on the other hand as seen within the context of global problems of technical progress, transfer of technology, energy economy and monetary problems.

Mihály Simai judged the prospects of world economy and world trade favourable in the long perspective. In his opinion the recession of the early and mid-seventies would be followed by an upswing and, in the second half of this decade

as well as in the early eighties, a comparatively fast development was to be expected. He explained that no new price explosion was likely to come: raw material prices, among them the price of oil, would be rising at a slow rate which would, of course, entail a further rearrangement in the hierarchy of producers and consumers. The union of the OPEC countries was not likely to survive in its present form. Mihály Simai also stressed that the basic contradictions of capitalistic economy would not cease to exist and, therefore, it was possible that after the upswing the capitalistic countries would have to face again serious problems of equilibrium at home and in their international relations from the mid-eighties.

In his contribution Vittorio *Valli*, Professor at the University of Padova, analysed the causes of economic recession in the early seventies. He stated that inflation had speeded up even before the raw material crisis of 1973 and that the crisis dispersed further the group – not homogenous before – of advanced industrial countries. He pointed out that Italy, similarly to Great Britain, was in an "economic vicious circle" from which it was extremely difficult to get out: the inevitably restrictive economic policy reduced investments which was accompanied by lower productivity and rising costs. The lost export income affected the balance of payments, the value of the national currency fell, which again forced the government to take restrictive measures.

The majority of the Italian contributors judged pessimistically the medium-term prospects of the world economy together with the possibility of fighting energy problems. They stressed that with the exception of a few countries in a favourable position from the point of view of raw material supply or capable of extremely dynamic exports (USA, GFR, Japan, a few small advanced countries), international trade and economic advance would be quite a problem for a number of countries, Italy among them.

Regarding the future of the European Economic Community several members of the Italian delegation remarked that they did not think it a favourable phenomenon that nationalism was gaining strength perceptibly in the Common Market countries, while the readiness to hold together the integration was declining. In their opinion the danger of a breaking up of the Common Market into two parts might arise in the long perspective: into a Northern and a Southern region, which might have a very disadvantageous effect on West-European economic development.

Hungarian opinions formed on the future of world economy did not agree in all respects with the pessimistic Italian views. In his contribution Béla *Kádár*, senior fellow of the Institute for World Economics, Hungarian Academy of Sciences, stated that the oil crisis of 1973–74 closed a period of international economy and in the new one after the crisis the systems of conditions of the international division of labour and of foreign trade would be quite different. As a consequence of the transformation of capitalistic economy and of the consolidation of state monopoly capitalism the functions of periodical overproduction crises were replaced by other (monetary, raw material) crises. Béla Kádár did not share the pessimism of the Italian participants because, in his opinion, there would again be a considerable growth in the whole of world economy, even if under other economic power relations. Emphasis would shift more on the acceleration of qualitative structural changes. The share of heavy industrial branches demanding more human investments and

which are more capital, research and development-intensive would be growing, and production would become increasingly sensitive to power and politics. All these processes are not at all or hardly accessible to quantitative examinations. Growth was continuing, only in a different world economic environment.

Regarding the work of international organizations both the Italian and the Hungarian participants stressed the necessity for developing new institutional forms and new relations of industrial division of labour. Both parties agreed in that if the capitalist economy wanted to overcome the period of acute recession, that would be possible only by an efficient utilization of international forms of organization and by driving back nationalistic ambitions and strivings for one-sided advantages.

The participants pointed out that in the new world economic situation that had come about as a result of the 1973 oil- and raw material price explosion, a certain change took place in the driving forces of East-West relations. As it was stated by the Italian participants, in the critical Italian situation the adverse balance of payments could be compensated by holding back investments and imports on the one hand, and the transfer of resources from consumption to investments and exports on the other hand. In the long perspective the former method was obviously unsuitable and some of the Italian contributors expressed pessimistic views on the success of restrictive methods. Owing to a protectionist economic policy setting short-term objectives it was by far not a generally accepted view in Italian economy that in the interest of macro-structure, and modernisation of industrial sectors the economic strategy to be followed was increased participation in the world economic division of labour. An important factor of structural progress would be the connecting of East-West relations with the process. Medium- and long-range cooperation agreements to be concluded with socialist countries, and joint enterprises would not only generally augment Italian exporting prospects but would also help Italian industry to concentrate on a few activities, while in certain branches it could be reorganized to rely on continuous imports. In the final analysis this would be a good way to render complementary today's industrial commodity structure that was competitive to a certain extent.

It speaks for the strengthening of relations between Italy and the socialist countries – as was generally accepted by both parties – that, as a result of deteriorating terms of trade, the need for increasing exports has considerably grown on both sides. Tito *Favaretto*, director of the ISDEE, remarked in his contribution that in the case of CMEA-countries, except for the Soviet Union, a slowing down of exports to the West might be expected for 1976–77. Tamás *Bácskai*, manager of the National Bank of Hungary, underlined in his answer that e.g. Hungarian exports were strongly influenced by the suction effect of the Western market. In a period of business recession the Hungarian exports – which are a complementary capacity and of a production background character for Western economies were in fact fast reduced. Yet in Hungary an active adaptation to structural changes had lately improved, indicated e.g. by the large export-augmenting credits raised by Hungarian enterprises. In a period of intensive economic development, on the part of socialist countries it was the large imports of machinery, equipment- and of the related materials as well as the necessity of repaying credits that were the newly arising motive powers of relations. On the part of Italy the main effort was formulated as a lasting

improvement of the balance of trade and the elimination of deficit with the CMEA-countries.

Following the above-said, the participants of the conference surveyed questions of Hungarian-Italian relations, stressing the importance of the problem all the more as the characteristic features of Hungarian-Italian economic relations standing for several years have been showing unfavourable changes in the past one or two years. The bilateral exchange of goods had dynamically developed up to 1973, it stagnated practically in 1974, and went down by 14 per cent in 1975.

The period of relations with an increasingly active balance on the Hungarian part ended by 1974. In that period cooperation activity developed slowly in spite of the institutional framework set up in 1965.

In the latest period both parties seem to realize that the main way of further developing relations is to establish industrial division of labour. Authorities in both countries devote greater attention and more initiatives on promoting the relations. In this period much depends on the role to be taken by the competent authorities of both countries in the development of relations between sectoral organs and enterprises and in the organized expansion of mutual market research.

Several relevant concrete suggestions were submitted by the Italian party. It seems important that both Italian and Hungarian enterprises appear again and continually at industrial fairs organized in the two countries. It was suggested that foreign trade development programmes should be regularly and mutually presented. Continual exchange of information must be instituted about the technological development of each industrial branch, and this activity must be connected with yearly conferences of joint sectoral working groups that also prepare cooperation (and several of which have not met since their foundation). It is important that regular and operative relations should be established between ministries controlling industrial and agricultural production in Hungary and the Italian partners and sectoral unions. It is within this institutional system that the selection of fields suitable for cooperation and their carrying out in an up-to-date framework become possible.

The Italian technical potential is judged in most cases favourably by Hungarian organs, yet a cooperation comes about in most cases only under the terms of a co-operation agreement. The development direction of cooperations that the Italian party strongly suggested was extension of relations with the large number of Italian medium-sized and small enterprises. It was stressed that these relations were flexible and had a stabilising effect on foreign trade.

In several Italian contributions the question of the foundation and operating conditions of joint productive enterprises arose. It was emphasized that this was the form deemed the most expedient in the field of inter-enterprise relations to guarantee the required level of the transfer of technology, management and mutual interestedness. Objections were raised because the Hungarian terms of joint enterprises were stricter than the Italian ones.

The Italian contributors also mentioned that, with a view to promoting inter-enterprise relations, it would be useful to give detailed information on the regulations in force (perhaps a seminary to be organized in Italy).

Iván *Toldy-Ősz*, director of the Inter-cooperation Co. Ltd., Budapest, pointed out that in most cases it was not necessarily the joint enterprise form — involving

the closest cooperation – that had to be adopted. Of course, if it was economically justified, a joint enterprise could be founded.

As a final result, several standpoints reflected the view that in Hungarian-Italian relations progress could be made by way of revealing comparative advantages asserting themselves in the long run, which again necessitated considerable further economic-organizing activity.

The leaders of the Hungarian and of the Italian delegation agreed in that they would continue to hold regular consultations in the future and organize meetings of economists of the two countries also in the next years.

BOOK REVIEWS

TALLÓS, GY.: *A bankhitel szerepe gazdaságirányítási rendszerünkben* (The role of bank credit in the Hungarian economic management system.) Budapest, 1976. Kossuth Könyvkiadó. 444 p.

In this book the author analyses the relationship between banks and enterprises from many aspects, first of all from the viewpoint of credit on circulating assets. He presents — among others — the role of commodity credits in the Hungarian economic system, the question of enterprise liquidity, the problems of relationship between the bank and its clients.

His method of analysis is original. Setting out from the micro-sphere he arrives at generalization, the economic conclusions. He follows the Hungarian credit system beginning with 1968 — the analysis refers first of all to the industry as an aggregate. The earlier period is discussed only to an extent necessary to understand the subject more thoroughly.

In the first chapter the author examines the role and place of the bank credit (credit on circulating assets) in economic regulation and in enterprise management. The most essential idea of this part is that the credit on circulating assets as a resource is not effective enough in financing the companies' assets, it is not properly linked to the real processes of enterprise management. During the period examined credit, as a resource financing current assets, was declining. Searching for the reason the author studies minutely the circulating fund and the companies' other own monetary resources. About circulating funds he states that the companies supplement their sources of current assets permanently and on a large scale — in addition to the central allocations of circulating funds — with budget allocations that had not been reckoned with by the regulation system. The idea that the supplementation of the enterprises' circulating funds from central monetary funds can occur only exceptionally, failed in practice. The replenishment of circulating funds realized with significant state support has to some extent displaced the credit on current assets.

The author's discussion of the group of other own enterprise resources is interesting as well. At present the situation is such that "a change in the own resources influences the volume of bank credits more intensively, than the bank credit does that of the own resources". (p. 65) On application for bank credit the freedom of deliberation and decision of the bank is rather limited (p. 67) This is partly due to the fact that the bank is obliged to grant credit to make the resources of determined purpose liquid even without considering the credit purpose.

The second chapter presents the effect-mechanism of credits on current assets. György *Tallós* examines whether the time for which credits are granted is in harmony with the economic processes underlying the credit. Practice proves that the granting of the credit mostly parts with the actual circulation of assets. Analysing the repayment of credits advanced on resources he concludes that repayment does not correspond to the building up of resources at a rate and scale calculated when granting the credit.

In the third chapter of the book the author analyses the role of commodity credits. In connection with commodity credits he puts the question, how to implement the principle of the bank's credit monopoly in practice. In his opinion it cannot prevail in absolute sense, because this would lead to credit automatism. He deems it problematic that the

volume of commodity credits of the enterprises in its totality exceeded the volume of credits given by banking institutions. Thus, the widespread application of commodity credits involves the risk that the role of bank credit — and, as a result, its controlling, orientating functions — will decline in financing the assets.

The author raises the possibility of vertical financing. In his opinion "it would not mean a renunciation of the reform's principles, if a part of the credit relations of the enterprises were changed by differentiated judgement into institutional bank credit." (p. 158) He finds the advantage of vertical credit in that it would provide a wider possibility, for action to influence the volume of the enterprises' assets.

In chapter 4 the author deals with the subject of relationship between the bank and its clients. In the present system of regulation this relationship should have first of all a business, a commercial character. He acknowledges, however, that sometimes authority-like functions do occur, as well. At the same time he definitely refutes the views, which consider the activity of the bank as an obstacle to enterprise self-financing.

He then discusses three criteria of creditability and the question of credit coverage. About the latter he states "it is rather a legal possibility, than a sanction applicable to crediting in practice". (181 p) Summing up the analysing, controlling functions of the bank the author finds that practice does not exhaust the possibilities.

The fifth chapter examines the role of liquidity in the companies' economic activity. In the author's opinion the present regulators have not created the possibility for liquidity to become an important driving force of decisions of the companies.

On the surface the problem of liquidity appears as a question of financial discipline, and there are some who lean to equating these two categories. Analysing the existing payments relations between the companies he concludes that this system does not force the companies to build up liquidity reserves necessary to meet their payment obligations.

Despite the possibility of asking for bank guaranty the companies use it rather rarely, because by doing so they believe to jeopardise "good neighbourhood" relations. Security certification can be found more frequently, it is, however, only as frequent as "its presentation is a precondition to the realization of their economic decisions (e.g. in case of building investments)". (p. 199)

The sixth chapter of the book studies the loans intended to be used for accumulation purposes. From the subject of investment credits in the part dealing with credit preferences the author presents all the preference constructions applied from 1968 the end of 1974. Discussing the problems of financing the accumulation of current assets he analyses the methods of the so-called minimum measurement. He proves how much the determination of the volume of both the assets and the resources can be manipulated. In his opinion credit on circulating assets can be an effective supplement to the companies monetary resources of accumulation, only if the changes in credits raised showed the changes in lasting assets. This remains an unachievable objective as long as the growth of the circulating funds is frequently connected with allocations from central monetary funds. This resource must be replaced by credit on circulating assets.

Some macro-economic aspects of the bank credit represent the main subject of the seventh chapter. In the surveyed period the structure of both the credit resources of their use changed essentially. The budget came to the fore as a credit user while as a credit resource it fell back. The author emphasises that the volume and the structure of budget expenditure significantly influences the demand for credit of the economic organizations. The different kinds of subsidies and budget allocations may neutralize the demand for credit; or rather, as a result of the growth of resources, they increase creditability. It is characteristic of the credits raised by the budget that they mostly expand the monetary resources of the economic organizations. It would be more expedient, if the bank granted some part of the budget credit directly to the companies: it would thus become possible to cut down the anyway excessive volume of subsidies.

A separate chapter analyses the credit system of the European socialist and capitalist countries. Among others, the author describes the credit control methods of the central banks in the capitalist countries (compulsory credit limits, change of discount rates etc.), the different methods of selective crediting, the relationship between the budget and the credit system, which gives rise to many debates nowadays.

P. LŐRINC

KOZMA, F.: *Gazdasági integráció és gazdasági stratégia* (Economic integration and economic strategy.) Budapest, 1976. Közgazdasági és Jogi Könyvkiadó. 317 p.

The new book by Ferenc *Kozma* deals with the integrating co-operations necessitated by the development of the international division of labour, and with the closely related possibilities of economic strategy.

In part one outlining the present world economic medium of socialist economic integration, the author points out that the apparent 'renaissance' of the capitalist world economy disguises in reality the steadily intensifying inconsistencies of the capitalist social system. On the other hand, it is noted that socialism does not produce spontaneous processes which would have an automatic effect on the preferable trend of social development, it only provides the *conditions* for deliberate and organized social action to successfully combat tendencies threatening the future of mankind.

Analysing the prospects of East-West cooperation, Ferenc Kozma underscores that the socialist countries must always maintain a reasonable balance between the deals that promise to be lucrative in the short run, and their long-term economic development, and political interests.

Part two dwells on some problems of the theory of the international division of labour.

In his analysis of the benefits deriving from the division of labour the author distinguishes comparative, dynamic, adaptive, and co-operative benefits. All these appear cumulatively, and are not easy to distinguish. The countries participating in the international division of labour can build but on mutually advantageous relations. As science has not yet studied global integration, the diversity of national economic forces must be assumed as a fact.

In the contemporary world economy two major economies attract considerably their environment: the Soviet Union and the United States. A smaller economy strives in its relations with the major economy above all after compensating the disadvantages of the 'undersized' in respect of market conditions and technologies. If this is achieved (e. g. in the relations of the smaller CMEA countries with the Soviet Union) the attraction will be particularly powerful. But if the potential inferiority of the smaller economies is not reduced or is perhaps increased, a repelling power appears and, in case the necessary conditions for a division of labour exist, the smaller economies may turn towards each other.

In part three the author surveys the circumstances of the creation of socialist integration and the required trend of its development, always giving a comparison with the corresponding phenomena of the West-European integration. Before World War II the countries now belonging to the CMEA used to represent the peripheries of the advanced world. In Eastern Europe, the international division of labour in the precise sense of the term, and even the traditions of regular trade between these countries that involved any major volumes, began in fact with the post-war socialist transformation. On the other hand, West Europe was functionally a world economic region already before the Rome Pact. In West Europe division of labour is based on an internationalized micro-economic structure supported by the business quarters of each country with national economic policies on the macro-economic level as a background.

There is no internationalized system of ownership in Eastern Europe which would necessitate to break the national barriers of economic policies. As a result, the primary forces of economic integration emanating from the micro-sphere have not developed. The process of integration is gaining ground mainly through the consciousness of political. internationalism and on the relationships established on the macro-economic level.

The author analyses the typical characteristics of the EEC and of the CMEA. Unlike the development in Western Europe (where the basic factor of unequal development, always varying with the changing power relations of the three major economies, is the 'field of power' affecting the smaller economies) in the Eastern European region is the gradual approach of structures and development levels the factor that modifies to a certain extent the 'field of power' which is otherwise firmly determined by the attraction of the Soviet economy.

Kozma establishes two stages in the levelling process in the CMEA countries' development. The first stage is the evolution of industrialization characterized by the common interest in industrialization; the second one is the emergence of inconsistencies in industrialization.

In his study of this latter stage the author distinguishes economies having 'technologically overstrained', 'non-strained', and 'proportionally strained' structures. He discusses the process through which the advantages from the division of labour are rearranged with industrialization.

The two types of integration differ also in the basic features of their functions. One of the main problems of the model of the West European integration process is that it can complement the 'natural selection' with the means of planned economic development only to a limited extent. In the model adopted by the CMEA it is not an original criterion that trade policies should be open, yet it is implied that the development policies be opened towards each other. The CMEA integration too will gradually reach the stage when it will be impossible to effectively coordinate the development policies without an advanced system of commercial and foreign exchange policies. A mechanism by which the possibilities, i. e., necessities realized on a social scale, would be brought to the surface and formulated as positive partial interests must be derived from the practicable and, at the same time, strongly foresighted model of division of labour.

In order to give impetus to the economic integration of the CMEA countries, each country ought to have first a development strategy for 15 to 20 or more years ahead, with a basically common platform. This should be brought forth in an iterative manner, in the process of steady co-ordination and collation.

Part four deals with the Hungarian strategy of economic development. It is stated that diligence, organization, and know-how are the independent variables in the basic formula of the Hungarian economy's capability of functioning. If we fail to realize, notes the author, that the only factor of our productive forces that can be dynamized are the educated, skilled, disciplined and contented people, the working people themselves, then our efforts exerted in material and energy supplies and at securing markets might become a hasty and one-sided chase after short-term benefits.

Ferenc Kozma outlines the main points of Hungarian economic policy, as well as the probable nuclei of innovation of the Hungarian economy.

One of the main conclusions derived from the study is that we have to establish our own technological basis corresponding to our own way of living, and adapt to that autonomously the experience learned from the productive forces of the capitalist countries. Further: an even distribution of the innovation centres and reproducing apparatus among the countries and people of the community is a basic requirement for the CMEA division of labour. Co-ordination of planning by the CMEA countries must be turned into a comprehensive way of existence of the entire economic life.

J. VÁRKONYI

KOZMA, G.: *Bilaterális mérlegegyensúly és külkereskedelmi hatékonyság* (Bilateral equilibrium and efficiency of foreign trade.) Budapest, 1976. Közgazdasági és Jogi Könyvkiadó. 248 p.

Bilaterality means in a broader approach that each pair of countries strive for deliberate and intentional equilibrium in shaping their mutual balances of payments, that is, a debt to or a claim on one country is not supposed to turn into debt to, or claim on, a third country.

Chapter 1 of the book is engaged in a theoretical discussion of this notion and in the various manifestations of bilateralism. Bilateral claims on payment are best met by means of a physical exchange of goods, i. e. by barter transactions. From the theoretical point of view the (bilateral or multilateral) clearing differs from that inasmuch as here the purpose is not some separate transaction but the compensation of the claims and debts between two countries or more but by all means of a limited number.

Naturally, in international payments relations not only the set of bilateral agreements, only clearings, or only the system of freely convertible currencies exist, but the aforesaid systems work parallel to each other. The most liquid ones are generally the claims in convertible currency; the multilateral clearing claims are effective to a far more limited extent, while in the case of bi- or multilateral barters (being a one-time act of exchange) debt or claim practically does not come about.

After analysing the forms of payment, the author examines the historical evolution and development of bilaterality. He emphasizes that commercial relations of this nature became intensive between the two world wars and especially during the big international crisis

of the 30's. The changes and shifts in said period in the international, German, and Hungarian foreign exchange policies and foreign trading relations as well as the terms of trade are thoroughly investigated. Evaluating post-world war II bilateralism the author distinguishes the bilateral practices of the socialist and the developing countries, traces each stage of the advanced Western countries' transition to convertible payments after the Bretton Woods Convention. As a special example he analyses the changes in the status of the pound sterling and deals with the theoretical problems of introducing the transferable rouble in the socialist countries.

For a better analysis of pure bilaterality, the following set of conditions is applied in chapter 2: the economy is profit-oriented, price orientation is correct, i.e. the prices indicate the economic power relations, and the countries belonging to the system have not but bilateral relations. It is stressed that if the bilateral balance is upset there are fewer means available for correction than in the free system of foreign exchange, and it is essentially only regulation of exchange rates by countries that can work adequately in a bilateral framework. The possibilities and limits of complementing the rates of exchange (supplements or rebates), state intervention, complementing of export rates of exchange by commodity categories, are examined through their effects. The author deals also with the features of "commodity arbitrage" as a way of transaction aimed at avoiding the negative consequences of the bilateral equilibrium. He casts light on the negative economic effects of the quantitative restrictions imposed on trade, on a non-profit oriented basis.

If for any reason a country is forced to enter into bilateral relations with her partners, the foreign countries with which relations exist are classified into 3 categories: balanced, active and passive relations. Under such conditions she must revalue her currency in some way against the active countries and devalue it against the passive ones. If the economic conditions change the export and import deals that used to be profitable might be replaced by less profitable ones. The author illustrates the intensity and direction of the ensuing changes also in quantitative terms. Chapter 3 is dwelling on this subject.

In Chapter 4 an analysis of the mixed application of the convertible and the bilateral means is presented together with the combined use of the different bilateral techniques. The author shows the relationship between the convertible and the bilateral systems, the effects of the fixed and of the freely floating rates of exchange on the local price level and on the changes in the balance. He states that in this system, "commodity arbitrage" may be of importance as its purpose may be not only to circumvent bilateralism but also to turn the less valuable bilateral claims into convertible ones. He shows the ways in which incentives can be offered by the authorities of a country wanting to equilibrate their balance, as well as the unavoidable costs and hazards of the "commodity arbitrage". Parallel use of the different balance-equilibrating methods is necessary because a single means is either not enough to control the turnover or might result in extremities as regards the volume of turnover or the terms of trade. The author stresses that even combined bilateral control will ultimately lead to discrepancies between the local and foreign price proportions, to a distorted structure.

Relying on a quantitative comparison of trade based on bilaterality or done against convertible currency, respectively, the author establishes in chapter 5 that the first one allows unequivocally a smaller turnover for a country. No doubt, turnover is initially enhanced by bilateral agreements because they mean safety for the seller, but beyond a certain point they have no stimulating force and do not allow growth.

Chapter 6 exposes the CMEA countries' conflicts resulting from bilateralism. In this context the author says that in his opinion a clue would be to bring to the same level the often divergent efficiency criteria adopted by central planning and by the independent enterprises. For this adequately incentive prices and rates of exchange are required. Strict bilateralism has been the ground for the socialist countries' economic cooperation from the beginning, yet in a more advanced stage of integration it has hampered the extension of relations. For the creation of multilateralism sound finances are required first, and the author believes that the division into 'soft' and 'hard' articles developed (by necessity) in the international exchange of goods, is not exclusively nor basically a problem of technological level.

Thus, unlike earlier relevant opinions, in the author's interpretation the causality is reversed, that is, in his opinion, the desired

modernization of the production structure is not feasible for the socialist countries (including Hungary) which enter the stage of intensive development without transition to convertibility.

In addition to this subject, a special analysis is presented in this chapter on joint planning, co-operations on the level of the integration, and on joint enterprises which would be manageable within the CMEA.

Chapter 7 is an attempt at outlining the possible ways of transition to multilaterality (that is, virtually to convertibility). The author believes that for a country with a competitive production structure the shift to the convertible system of payments means a treble task: together with economic growth to provide for the stability of the domestic price level, to balance the import requirements of development with exports, and to accumulate a sufficient stock of foreign currency already in the bilateral period. In the rest of the book a summary of different opinions about the 'multilateralization' of the socialist countries is given, and the main points of the alternative the author deems realistic are outlined.

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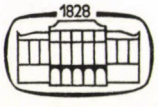

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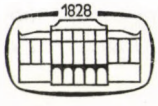

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