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I. HUSZÁR

REFLECTIONS ON THE 1979 NATIONAL ECONOMIC PLAN
SOME EXPERIENCES OF 1978

The article is based upon the author's address to Parliament on December 20th, 1978. He surveys and analyses the experiences of the last year and, based upon the analysis, sets the tasks for 1979. He repeatedly emphasizes that in 1979 the tasks related to quality and efficiency have to be pushed to the fore, in order to be able to attain an improvement in the equilibrium position of the Hungarian economy.

According to the specific calendar of Hungarian society the third year of the Fifth Five-Year Plan covering 1976–1980 has been completed, thus the major part of the plan-period is already over. It may be stated that the development of our national economy could be maintained even under more unfavourable international economic conditions than had been expected. Production and national income increased relatively rapidly. There was a rise in living standards; living conditions improved in several fields of supply with public, cultural, health and social utilities. The housing construction estimates of the Five-Year Plan were fulfilled, to some extent even over-fulfilled relative to the time schedule. The productive assets of the national economy increased, infrastructural establishments expanded.

Analyzing the situation of the national economy in greater detail, it should be recalled again that the Hungarian terms of trade considerably deteriorated as a result of the world economic changes in 1974 and 1975 and this caused considerable losses. As a consequence, the previously existing equilibrium of the national economy became upset. With the new price relations the value of imports considerably exceeded that of exports and – since national income became thus practically devaluated – domestic consumption exceeded the national income.

We wished to re-establish the equilibrium of the national economy gradually, as a matter of fact in the Fifth Five-Year Plan-period, in such a way that domestic consumption should rise more slowly than national income until the state of equilibrium would be achieved and – while adequately changing the structure of production – the increase of exports should exceed that of imports. Thus, the Five-Year Plan was aimed at a gradual restoration of equilibrium in such a way that in the meantime also the living standards of the population should rise – though to a more modest extent than previously – and the productive assets of the economy should expand as well.

In the development of the national economy between 1976–1980 we had to reckon with more unfavourable external and internal conditions of economic growth than previously. Therefore, a development, slower than that of the previous 5–10 years, but

still of dynamic character was aimed at relying on a considerable and continuous improvement of the efficiency of production. Improvement of efficiency has become an urgent necessity since the deterioration of world economic conditions could be compensated only in this way. When the Five-Year Plan was submitted to Parliament it was emphasized that the rate of economic growth aimed at, including the raising of living standards and restoration of the upset economic equilibrium, could be achieved only by a fast improvement of economic efficiency.

Latest investigations have indicated that it was precisely the development of economic efficiency and equilibrium we cannot rest satisfied with in the economic processes of the three years passed. It cannot be left out of account that development was rendered more difficult also by unfavourable natural and foreign economic factors, but – apart from them – our economic work and control activity were not satisfactory either and could not come up to the more and more complicated and urging requirements raised under less favourable conditions.

In 1976 national income increased more slowly than planned mainly because of the bad weather conditions inflicting agricultural production. The state of equilibrium still improved since domestic consumption increased to a smaller extent than national income and there was some improvement also in the terms of trade. In 1977 national income rapidly increased and attained the level reckoned with in the Five-Year Plan. However, because of the considerably growing volume of investment, domestic uses already increased to an exaggerated extent. The terms of trade changed to our disadvantage again. Therefore, the import surplus again increased to some extent.

At that time it could already be seen that the efficiency of production did not properly improve in the country, but, in spite of that, enterprises disposed of bigger funds for investment purposes than planned – often precisely from state subsidies – and the structure of production changed unjustifiably slowly despite several development projects.

Supported by these experiences, the national economic plan for 1978 set as a main task of economic activity the further improvement of economic efficiency and of the state of equilibrium of the economy. For the foundation of these objectives several measures were taken by the government. These measures were right, but not efficient enough to achieve the improvement of equilibrium aimed at and they did not change the unfavourable processes.

Which are after all the mosaics forming the entire picture of 1978 from the data available up to now?

Production as a whole and in major sectors increased at the planned rate. However, material inputs increased even more rapidly than production and, therefore, national income increased only by 4–5.5 percent, to a smaller extent than gross output or even as planned. The growth of the national income was in the average of three years, as a matter of fact, smaller than envisaged by the Five-Year Plan. Therefore, less domestic sources were available for domestic consumption and foreign trade than had been reckoned with in the plans.

In 1978 investments considerably exceeded the planned volume despite all efforts aimed at normalization, while stocks increased at a rapid rate. Thus – although personal consumption remained within the planned limits – the increase of domestic consumption exceeded not only the planned one, but even that of national income to a considerable extent. As a consequence, imports increased – mainly in the trade with non-rouble countries – considerably faster than exports which was contrary to the objectives of the plan and thus the balance of foreign trade deteriorated.

Sources of our troubles

When looking for the sources of our troubles and weaknesses the following three interrelated groups of phenomena have to be pointed out:

1. World economic circumstances are more unfavourable than expected; the terms of trade are worse than reckoned with; imports from the rouble area can be expanded more slowly than previously imagined; conditions of increasing exports to non-rouble countries are more difficult.

2. Though the more unfavourable foreign economic conditions more and more urge for the improvement of efficiency, progress in this field is still lagging behind what was planned.

3. Domestic uses of the national income – and within it accumulation – largely exceed what was planned.

International political, military and economic conditions are developing mostly independently of us no matter how much we try to improve them, but their effect on Hungary's inner situation and possibilities of action is significant. However, it is ourselves who are mostly responsible for the low level of efficiency and for the higher domestic consumption than planned. It is a consequence of deficiencies in inner economic work that the economic policy principles and requirements of the Five-Year Plan were not consistently enforced at all levels of economic control, management and work. There occurred mistakes in the practice of economic control and management, in planning, economic regulation, in certain economic decisions, and harmony among the elements mentioned was not satisfactory either. Central and local authorities of economic control and management often harmfully represent and support local, regional, i.e. partial interests instead of those of the national economy as a whole, even today. It has remained a strong endeavour that each branch or enterprise should live, what is more, live well independently of the efficiency of its activity.

Economic control and management did not enforce the requirements of efficiency and equilibrium consistently enough. Individual support for enterprises, the practice of unprincipled exemptions and lobbying became too widespread. Analysis of the situation is not rapid enough, sensitivity to problems is rigid and thus economic organization aimed at the solution of these problems is delayed. Initiative and dynamic behaviour are less acknowledged than they should be, while bad or obsolete work has no consequences or deserved punishment.

Errors or mistakes occur also in planning. International conditions of development became worse than had been prognosticated. Unfortunately, they cannot be exactly foreseen. But it is already our own fault that the expected improvement in efficiency and in the structure of production was somewhat overestimated and no adequate control and management measures aimed at the realization of the goals set in this field were taken in due time. Objectives of economic development and of raising living standards were also based on too optimistic assumptions.

The system of economic regulators still does not always transmit the economic policy requirements consistently though, following the 1976 and 1978 modifications, enterprises felt more of the increasingly difficult world economic conditions than they had felt previously. We have not succeeded in adequately dividing social net income between the state and the enterprises according to the requirements of equilibrium, and the distribution of incomes among enterprises does not reflect deviations in the national economic efficiency of their activities.

Leaders of some enterprises concentrated a considerable part of their efforts under the given circumstances not on the maximum utilization of reserves to be found in management, on acquiring and organizing elasticity or on increasing profitability, but they strove after various advantages and the loosening-up of requirements. It should be objectively stated that such actions were mostly successful and this can no more be regarded as the fault of the enterprises. All this has led to a situation where enterprise and personal incomes hardly indicate the result of the work done. Incomes of enterprises are unjustifiedly high relative to performances, domestic demand is rapidly growing, the economic pressure stimulating for more efficient management and the transformation of production structure cannot be enforced.

Major tasks

It is completely justified to accord priority to the establishment of economic equilibrium in control activities, in everyday practical work, i.e. a balanced development of our national economy should be achieved by an increased emphasis on factors of quality and efficiency. All other tasks should be subordinated to this effort. This is the way of achieving the objectives set in the Five-Year Plan and in the building of socialist society, in general.

The changes and measures decided upon serve a rapid improvement in the quality of work, thus they are necessary from the aspect of our long-term development. Our present situation urges for a definite break with our own weaknesses and for the strengthening and development of the positive sides of our activity.

For an approach to the economic policy objectives of the Five-Year Plan partly the main proportions of economic development, growth and distribution are to be modified, partly our economic policy and control are to be adjusted to the requirements of the changing situation, and all this has to be done quickly, without any delay.

For 1979 a 3–4 per cent growth of national income and production has been planned in a structure to serve the increase of exports. In foreign trade the structure and profitability of exports should be improved and market conditions have to be more elastically adapted to.

There is a need for changes in views in several fields, thus, for example, in connection with the evaluation of growth, the rate of increase of production, too. The growth rate of the social gross output and of national income cannot be judged as good or bad by abstracting from external and internal equilibrium, the proportionateness and qualitative marks of development. In Hungary the outdated view is still widespread that considers the rate of quantitative growth of production as the main characteristic of progress and holds the maximum utilization of capacities desirable independently of the relationship between inputs and results. However, our national economy is not interested in such production for which there is no solvent demand, or in such utilization of capacities which increases losses and not profits. We are not interested in any "productive" activity that employs, with little economic result, labour which could be employed with better productivity elsewhere.

In 1979 such expansion of production and what is more, within this such partial transformation and regrouping of already habitual production processes will be required, which may promote improvement of our equilibrium position, the increase of profitable exports in conformity with our plans, and a rational saving of imports. Of course, this postulates that production will satisfy domestic demand – which will not increase in its totality in 1979 – at an adequate level.

Steps will be taken within government control and in enterprises as well to suppress uneconomic production in order that unnecessary exports or those earning very little foreign exchange returns should be reduced or eliminated. On the other hand, the manufacturing of economically saleable products should be considerably expanded also in the future, even more rapidly than up to now.

The planned, relatively more moderate dynamics of economic growth can not at all mean, therefore, the reduction of economical activities. The measure of growth depends precisely on the progress achieved in the improvement of the structure of production.

With the overall tightening of economic regulators and the further reduction of individual subsidies and exemptions we wish to promote that enterprises meeting important domestic and foreign trade requirements obtain more profits and better wage-increasing possibilities depending on better performances. At the same time, in enterprises which cannot properly contribute to the realization of the main economic objectives, smaller profits corresponding to performances will stimulate for carrying out changes necessary for a more efficient management. Differentiation taking place in this way is, therefore, not an end in itself, since it is aimed at stimulating weaker enterprises to come abreast with better ones not by means of state subsidies, but through their own efforts.

In order to eliminate uneconomic activities and to change the production structure investigations and decisions, eventually the drawing up of enterprise programmes are

needed. For the implementation of the individual objectives of the plan it is desirable that sectoral ministries display more active and substantial economic organizational work than they have done so far. They should do so wisely and calmly, avoiding petty interference with enterprise activities, if only because a basic precondition of our progress is precisely an enterprise management adapting to harder conditions and undertaking also rational risks.

Raising the efficiency of production is a basic requirement in all sectors of the national economy. One of its most important methods is transformation of the structure of production. Of course, other possibilities for improving efficiency should not be neglected either, as e.g. savings in material means and labour.

Restriction of investments and a rather moderate increase of other building tasks generally diminish the pressure of demand on organizations of the building industry. Therefore, they will have the time and possibility to better organize their work, eliminate the deficiencies of management, improve quality and strengthen labour discipline.

In agriculture it is also a primary task that material assets should be more efficiently used. Especially the utilization of fertilizers, plant protectives (pesticides), machines, protein fodder and fodder, in general, should be improved. It must be achieved also in agriculture that the growth of contribution to national income should be of a rate approaching that of the growth of production. Besides, the structure of production has to be changed more radically also in agriculture in view of sales conditions and, within them, the expected development of sales prices abroad.

There will be no more labour available in the future either, but the development of production may bring about new phenomena. Restriction of uneconomic activities and a more moderate growth rate of production will presumably intensify labour migration within and between the enterprises. What is more, in certain industrial or perhaps other enterprises labour might even be released. It is important to promote this process in order to mitigate the labour problems of non-productive branches, trade and transportation also in this way.

Domestic final uses will not increase as a whole. Accumulation will be considerably reduced as compared with the extraordinarily high level of 1978 by a powerful reduction of inventory accumulation and only a minimum increase of investments. Thus, a rise can be planned in living standards and in personal consumption. In this, too, our endeavour is expressed that the population of our country should feel the more difficult conditions of economic activity first of all not as consumers, but working in production, as members of enterprise collectives. But in this latter quality they should feel these more strongly than up to now, since the changes indispensable for the improvement of the state of equilibrium and for the foundation of a further rise in living standards have to take place in production.

The 1979 plan envisages a 2.5–3 percent increase in personal consumption, a little slower than in the years 1977 and 1978, and a 2 percent growth in per capita real income.

With January 1st, 1979 pensions fixed long ago and usually low were raised according to previous announcements. Infrastructural development projects considerably influencing the improvement of living conditions will be continued. In 1979 somewhat more flats will be built than were reckoned with in the Five-Year Plan. There will be a development in kindergarten accomodations proportionate to the 5 percent increase in the number of children in this age-group, thus the previous level of supply will not deteriorate. Maintenance of the present level of commodity supply of the population is an important task.

It should be obvious that under circumstances when real incomes and wages increase only to a modest extent on the national average, in certain groups of families stagnation or even decrease cannot be avoided. But it will remain a primary concern also in the future – since this is a fundamental characteristic of our living standards policy – that the living conditions of all social layers should perceptibly improve in the period of the Five-Year Plan. In the interest of further progress and of attaining the most important economic policy objectives we should first of all strive to achieve that, even under the present circumstances, the earnings of those making significant contribution to the solution of our national economic problems through their good work should perceptibly rise, while the earnings of those doing little for the realization of the common goals should increase only to a smaller extent or not at all. The stricter measures introduced in wage control are aimed at realizing this principle. Also Hungarian public opinion agrees with this. Instead of excuses and exemptions, the levelling contrary to the basic principle of socialist society – i.e. distribution according to work – has to be eliminated.

In connection with investments it should be emphasized that in principle we are, of course, not against their expansion. But, the load-bearing capacity of the national economy should always be taken into consideration. We cannot spend lavishly without any limits, since if too much is spent on investments, less and less resources remain for the raising of living standards. We have to recognize at last that presumably we shall not have the possibility to meet all investment requirements – however justified in themselves – for a very long time yet. The task of control consists precisely in that a utilization of limited investment possibilities best corresponding to social interests should be realized after a thorough consideration of the aspects of economic efficiency.

Besides, there exists also a special form of waste. Many people believe that most efficient development is equal to the introduction of the most advanced technology, independently of price or the possibility of utilization and economical running. The concept knowing but a single recipe for improving economy, namely, development, is wrong. Talented, clever and capable management should think of better organization, a rational regrouping of available capacities or of a more rational cooperation before embarking on development.

In 1979 efforts will be concentrated on the completion of several unfinished investment projects. No major state investment project will be started. In the case of enterprise investments, too, the main stress should be laid upon completions, mainly on the putting into operation of capacities producing exportable goods. Enterprise

investments (at current prices) may be similar to those in 1978. The development of financial funds of enterprises will be regulated accordingly. The amount of money to be spent on so called target-oriented (lump-sum) investments will increase somewhat less than calculated originally, except for the development of hospitals and railway network as well as the purchase of vehicles.

The idea voiced in Hungary here and there according to which keeping the volume of investments at a certain level would impede technological progress and the modernization of productive equipments cannot be accepted. This latter does not result, namely, from some percentual increase of the volume of investments. The goal to be attained is to utilize all available investment resources in productive branches more efficiently, putting them at the service of economical and technological progress. True reserves of modernization can be found here. It will be particularly important that the economic control agencies follow developments in 1979 with close attention, ready to interfere. The government is resolute to channel processes in the determined direction with new immediate measures, should essential deviations occur from the planned path.

1979 is a very important, sensitive year also from the viewpoint of the preparation of the next Five-Year Plan. The concept of the plan for the years 1981–1985 should be drafted in 1979 together with the necessary changes in the system of prices and regulators.

Formulation of the concepts began already in 1978. Elaboration of various partial technical-economic and economic policy concepts has been started. Investigations carried out up to now unambiguously indicate that development in 1979 and that to be planned for the next Five-Year Plan-period should be regarded as identical from the aspect of economic policy. Much has to be done yet in order to establish a state of equilibrium and until it will have been achieved, economic growth, development of production and the raising of living standards can only be slower. Possibilities of progress depend on how rapidly our economy will be able to adapt itself to unfavourable circumstances of the world economy, how fast we can modernize the structure of production and to what extent integration possibilities provided by the CMEA will be utilized.

Our objectives are clear. The way through which they can be realized is also known. However, there are several obstacles to overcome in the meantime. But, if we eliminate bad habits, conservatism, leisureliness, narrow-mindedness or occasionally impatience, then, by combining our efforts with the fraternal socialist countries, considerable progress will be achieved in building up the socialist future also in 1979.

О ВОПРОСАХ НАРОДНОХОЗЯЙСТВЕННОГО ПЛАНА 1979-ГО ГОДА НЕКОТОРЫЕ ОПЫТЫ 1978-ГО ГОДА

И. ХУСАР

Статья написана автором (заместителем председателя Совета Министров, председателем Госплана ВНР) с использованием его выступления в парламенте 20-го декабря 1978 года Анализируя нынешние экономические проблемы, евтор выдуляет три взаимосвязанные между собой группы явлений: 1. ухудшение условий торговли, 2. отставание эффективности венгерского народного хозяйства от запланированного, 3. более быстрое, по сравнению с запланированным, повышение конечного внутреннего потребления – в том числе, в первую очередь, накопления.

Главными характерными чертами являются – более четкое, чем ранее – стремление к повышению эффективности и качества, а также умерение темпа роста внутреннего конечного потребления. (Особенно усиленным должно быть сокращение затрат по накоплению, в то время как потребление населения, если и медленнее, чем в предыдущие годы, будет и в дальнейшем повышаться.) Цель – подчеркивает автор – состоит в том, чтобы усложнение экономических условий ощущалось населением в первую очередь не в качестве потребителей, а производителей, чтобы посредством улучшения качества производственной деятельности представилась возможность для обоснования дальнейшего повышения жизненного уровня.

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R. NYERS–M. TARDOS

WHAT ECONOMIC DEVELOPMENT POLICY SHOULD WE ADOPT?

Relying on a review of the alternatives for creating equilibrium, for the concentration of resources and for the international division of labour the authors take a stand for an export-oriented evolutionary development of the economy and for a control of the economy based on the autonomy of enterprises in conformity with the requirements listed.

After a long and continuous development and in possession of a considerable economic potential the Hungarian economy has entered into a situation in which it is impossible to proceed with development in the way followed so far: new resources and possibilities of development must be found and exploited. It is, however, not unimportant, what defines the actual situation: is it the difficulties in themselves, or, equally, also the novel conditions? If only so-called implementation difficulties had to be faced, it would be enough to urge a more exact elaboration of plans and their more efficient implementation; if, however, we find ourselves in a new situation, *the necessity arises to reconsider the development strategy.* We think that difficulties of implementation and the new situation are to be considered with equal weight and a solution to our problems must be found in this manner.

What place can be given to the elaboration of alternative economic development conceptions in our socialist planned economy, and would it not lead to a dissipation and wasting of intellectual energies? Is such a thing at all possible in states in which there is only a single centre for formulating economic policy and of planning? Experiences have shown that annual and even five-year plans cannot be drawn up in alternative form, because these planning activities must be based on an economic development strategy previously accepted. But in long-term planning the situation is different. In some questions this necessitates precisely the careful examination and discussion of different versions. This is particularly justified in periods of change in the national economy.

From the political aspect the question can be formulated as follows: are identical political aims realizable through different economic development strategies? The answer is definitely yes, because, in our opinion, the development of a socialist economy may become better grounded as a result of conscious selection from among conceptions. This position can be supported, on the one hand, theoretically by the fact that, for a period longer than the medium-term – sometimes also for the medium-term –, economic aims and instruments can be judged only with a considerable uncertainty, and therefore, the most realistic solution must be found. On the other hand, it can be supported practically by the fact that different partial interests and views on facts of reality exist also among those standing for socialism.

Old and new difficulties, a new situation in the Hungarian economy

The economic difficulties of Hungary are of diverse origin: some have been with us for a long time already, others are new; some are encountered daily, others only in balances of the national economy. In view of the proliferation of our difficulties it is our impression that one has not simply begot the other, but that they have concurred in a special way.

With some of the difficulties we have been struggling in Hungary ever since the beginning of building socialism. These are, therefore, chronic ones, even though they could be surmounted by a more efficient economic control, since they are not inherent in socialism. The most important ones are the following: weak influence – originating in "overheated" investment – on the modernization of production, rigidity of the production structure; tardy adjustment to home and foreign market demands. Accompanying phenomena of these problems are that labour productivity and capital efficiency are improving at a slow rate, production with high profitability expands slowly, while uneconomical production is maintained for too long.

Labour shortages came about later in the course of the 25-year process of development as a characteristic "growth difficulty" and, along with it, a high wage tension. Furthermore there is the "bottleneck" in services, and, growing out of this, the so-called second economy functioning and reproducing in the shadow of central planning, having a disturbing effect because of inconsistencies of legal and economic regulations, which we are unable to eliminate, and for whose proper utilization we do little.

Recently it has been changes in the international economy from which a lot of difficulties and a great burden devolve on the Hungarian national economy: the world market price explosion considerably reduced – through foreign trade – the value of our national income, which caused a new trade gap – no longer marginal but structural. Together with it, foreign market restrictions have been growing, which hinder a faster increase of imports from socialist countries and of exports to western countries, i.e. the simultaneous achievement of balanced trade on both external markets. Yet world economic factors not only cause difficulties but also create a new situation for the Hungarian national economy: with today's production structure and the degree of efficiency so far achieved we cannot manage in the future; without fundamental change the economy cannot develop further.

The above-mentioned phenomena are no longer concealed from the Hungarian public, in general and not even an embellished presentation of facts is characteristic. However, to understand the actual situation not even this democratic openness is sufficient: in the eyes of many people the special role of the state, of enterprises and of smaller workers' collectives in the origin and in the solution of the difficulties is not quite clear. The political atmosphere is suitable for revealing reality in such a way, yet information and an umbiased discussion of economic problems must be further improved.

To what extent can difficulties of various origin and character be handled as independent and self-sufficient problems, and to what extent as interdependent

symptoms, connected also with the whole of economic policy? Obviously, it is not one or the other approach that must be chosen, but the right thing is to assert both viewpoints. Yet if we take into consideration what present day public opinion is like, we find that *a separate handling of various difficulties is characteristic* (labour management, measures against labour shortage, investment restriction against overheated investment, etc.), *so that partial measures prevail in the planning and economic control practice of recent years.* We do not wish to question their justification at all: they are needed to improve the situation in the short run, and complex measures are not always possible.

Yet in the long run the purpose is not simply to improve the situation, but to eliminate tensions caused by difficulties, and that is possible only through the application of a complex economic strategy, which would help to improve the situation in every field, while care is taken that improvement in some field should not cause tension in others. The five-year plan for 1976–80 could not yet be drawn up upon the basis of such a comprehensive economic development strategy adjusted to the new situation: the consideration of new effects and conditions was then but partial. Since then important decisions have been made on foreign economic policy, and on the transformation of the production structure, measures are envisaged with a view to improving the price system. All these are essential elements of a realistic economic development strategy, but, on the whole, they do not yet include every important direction of activity. It seems that we have to develop our conceptions further.

The meaning of economic development strategy is that in the long run we have various possibilities of action before us, each of which has its advantages and disadvantages, and involves uncertainty (risk). We start from the point that in important matters we make a choice even if we know and recognize only one possibility; only in such instances we reject the other possibility without deliberate consideration. Selection does not mean the rejection of the laws governing social development, but that there are alternatives of action within this development, and their knowledge helps us in making the right decisions.

Internal contradictions of the Hungarian economic conditions

Continuing our train of thought we shall try to outline the contradictions objectively existing in our present economic situation (i.e. not those coming from different approaches or efforts), which we cannot eliminate, nor avoid, but with which we cannot make peace finally, either. We see important – reproducing and continuously effective – contradictions in the following four fields:

1. Contradictory social interests exist *in regard to the rate of economic growth.* Important social interests are attached to the economic policy of intensifying economic growth which may be expressed, in the given conditions in Hungary, in an appr. 6 percent annual growth of national income. With such a rate technological development can be better promoted through investments, infrastructure can be better developed, productivity and the wage level may be higher, but, under today's conditions, the dollar

import content of production will also increase at a fast rate, while increasing exports to the dollar area meets with difficulties: the moment of inertia in the production structure is great. Therefore, also an important interest – no smaller than the preceding one – is also attached to making efforts at strongly reducing the rate of home consumption and production growth in the coming period. This is almost indispensable in the short-term for the reduction of foreign trade tensions. Which interest should be given preference? Whichever we choose, the other one stays and we must take it into account as a restrictive factor.

2. We may speak of contrary tendencies in the case of social efforts directed on the one hand at dramatically increasing economic efficiency and, on the other hand, at the levelling of working and wage-earning conditions. The principle of national economic efficiency can be asserted consistently if the enterprise achieving a better result can develop faster than the one with a medium result; and the latter can develop faster than the one with a poor result; and also, if the man doing more and better work can earn more than the other one whose performance is lower. As a result of more efficient work under socialist conditions, finally, everybody can get more even with a differentiated income distribution and that is exactly why the latter is in the interest of society. There are, however, instinctive yet strong efforts at a levelling of enterprise incomes as well as of working – and wage-earning conditions. The two efforts – if one of them is not given priority – mutually weaken and neutralize each other. Neither tendency can be eliminated, but it must be decided in every period, which should be considered as the primary, and which as the complementary, principle.

3. In the Hungarian national economy – as in other socialist countries – a contradictory situation arises from the fact that the *international division of labour is developed parallel with two different types of economic spheres.* While with socialist countries it is planned relations between governments that are characteristic, with capitalist and developing countries it is market relations between enterprises that represent the main form; in the former sphere our trade is bilateral, in the latter it is multilateral; in the two spheres technological requirements, standards, and commercial rules are different; on the two markets the relative price proportions of export products are different. Thus, their relative profitabilities are also different, so that our production comes under the crossfire of different effects. Home production must react simultaneously to the effects coming from the two spheres, which is promoted by the gradual development of the foreign exchange function of the forint, and facilitated by various financial policy instruments, though flexible adjustment often makes it necessary to make compromises in development and in state control. In the course of elaborating the development strategy we shall surely be faced by the following questions: can we get rid of contradictions arising from our double linkage in the future? Are we to expect a diminishing of differences, or their continuous renewal?

4. Experiences have shown that the *contradiction between old and new,* which has characterized history so far, is applicable also to a socialist society, and within it also to the economy. Earlier views, institutions and activities come to us as achievements

attained with difficulty: many are attached to them with their interests (or emotions) for a long time, and take a stand for their preservation at a time when others already fight for their renewal. Also, in socialist society a kind of "social inertia" exists: a bureaucratic rigidity which is sometimes not easy to overcome. In today's Hungarian economy this contradiction is manifested primarily in the slow changing of the production structure and, even more generally, in the slow emergence of new enterpreneurship, in the tardy regrouping of social capital and labour, as well as in the contradictory evaluation of the organization of state economic control – on the one hand, in its severe criticism, on the other, in its emphatic defence. This is clearly perceptible in the different and changing public reactions to the reform of the economic mechanism, and in the periodic "stop and go" changes in the realization of the reform. The contradiction between old and new seems to be an important factor in economic development. It is the source of higher social tensions than have been expected.

In our days contradictions have become more distinct than in the past: they cannot be reduced merely to the dilemma of "present or future", and not even to the contrasting of "partial with public interest". They go beyond these, since social interest in reality often carries contradictions within itself. At the same time, it is obvious that correctly recognized contradictions of socialist society and economy can be reconciled and solved by means of planning and state control.

Lessons from the implementation of the current five-year plan

According to statistical evidence, in the years 1976–1978 the Hungarian national economy was developing in accordance with the objectives of the current five-year plan. Production and productivity were growing at the planned rate, consumption stayed slightly behind the plan, accumulation exceeded the plan but not by very much, so that in its quantitative aspect, the growth of the economy may be said to have proceeded according to plan. But the situation is different in respect to qualitative factors: the balance of trade has not improved, the overheatedness of investments has reproduced itself, production would not yet emerge from a position of average low profitability and the changes in structure have been slow. From among quality factors it is only the balanced supply to the population that can be positively evaluated on the national economic scale. This is, in fact, an important achievement which we have not only to preserve, but – eliminating occasional fluctuations – also to further improve, since the human factor is determinant in the economy.

All that means that so far one of the important objectives of the five-year plan could not be realized: the national economy was unable to increase its exports – particularly those to non-socialist markets – considerably faster than its home consumption.

The difficult situation has not been brought about by a lack of planned production in the traditional sense, since the situation with quantity indicators is favourable and national economic planning is able to take into account and regulate it concretely. Yet, it is bad regarding quality factors that are necessarily strongly dependent on enterprise action. The underlying cause is that the Hungarian national economy still follows – and, in comparison with 1968–72, now even more – the old standards of efficiency and along this path the efficiency requirements can hardly be fulfilled, at the presently prevailing international standards. This means that *it would be unrealistic to expect a solution of difficulties and tensions merely from a better implementation of plans: more comprehensive action is needed,* which has begun with the elaboration and approval of the 1979 national economic plan, but has not been finished yet.

Today it is not at all possible to judge exactly the expected fulfillment of the current five-year plan. Yet, a few lessons can be drawn already from the development of the past three years, which we may use for an improvement of economic policy.

In today's situation no lasting result can be achieved if we isolate producing and trading enterprises from the effect of external markets as it has been done extensively from 1974. Development cannot be rendered continuous in this way, because *national economy shielded from the world market efficiency-competition becomes incapable of such an export offensive as would be absolutely necessary in the new world economic situation.* Although it was right to prevent the immediate intrusion of the effect of the world market price explosion into the Hungarian economy, the new world market relative price proportions are accepted in producer prices with reluctance and delay, and this certainly distorts the economic calculations and planning of a whole five-year plan period. In the future *a more flexible price adjustment will be necessary,* since prices cannot be replaced by centrally elaborated technical-economic criteria.

It is conspicuously evident that the "readjustment" of the economic mechanism taking place in recent years, bringing a limited curtailment of enterprise independence and interestedness, and the allocation of incomes independently of output which has involved a growth in the extent (not in the efficiency) of central sectoral control, does not lead to an improvement of national economic efficiency but, on the contrary, to its reduction. If that interdependence did not hold, the efficiency of the national economy ought to have improved as a consequence of the sectoral organs' increasing interference with enterprise planning, so that independent enterprise planning has almost dissolved by now into a "common planning" (and responsibility). The strengthening of methods of direct economic management have proved to be, however, a factor impairing efficiency and preventing the taking of responsibility (and risk) precisely in the most important cases. Thus, this way is not leading to an improvement of efficiency.

The Hungarian national economy is as yet not adequately prepared to adjust itself well and simultaneously to the different circumstances of the two external markets. In a period when it became necessary to increase our efforts on both markets, we could achieve results only on the CMEA markets (even there not adequately in everything), while on the world market we are able to advance only a little. It is true that also in

foreign economic orientation there has been uncertainty for a long time, whether the relations with capitalist and developing countries could be replaced to a major extent by a more dynamic development of CMEA relations. Today it is obvious that this is impossible in the present period, and the western export offensive can hardly be effected only through foreign trade measures. *Preparation for parallel operations on the two markets remains a current task.*

A further lesson to be drawn is that a forced centralization of enterprises in agricultural production and in trade, i.e. their exaggerated sizes, are useful only in exceptional cases, and not as a rule, since efficiency diminishes in enterprises exceeding reasonable dimensions.

Alternatives in economic development

The national economic plan for 1979 introduced new measures, with a view to easing economic tensions which modify considerably the course of economic development in 1976–1978.

– the future achievement of a foreign trade equilibrium is considered a primary task, to which tne growth of production, investment and consumption is subordinated;

– the rate of economic growth is deliberately slowed down, so that it should be in harmony with a reasonable increase of imports from socialist countries as well as with the expected expansion of our exports to the world market;

– considerably increased efficiency requirements are made of enterprises, a gradual elimination of unprofitable production has started, earnings are more closely linked to performance, the export interest of enterprises has been somewhat increased.

In the given situation *these measures are necessary and justified* for a better assertion of both the equilibrium and the efficiency requirements. We must see, however, that strong reduction of the growth of home consumption (and within it of imports) alone will not lead the national economy onto the course of efficiency that must be followed in the future. An annual plan cannot change certain important weak points: prices frequently deviating from value proportions, profit not adequately expressive of national economic efficiency, the low efficiency of investments, and the highly complicated system of financial government subsidies and taxes.

The creation of a lasting foreign economic equilibrium requires us to give unequivocal and clear answers to the questions arising in regard to the character of economic development and the attitude to economic strategy. They are as follows:

In what way can a balance be created between the production and domestic utilization of the national income: after a radical braking of domestic consumption exceeding our economic possibilities, should we immediately lead the economy back to the course of fast growth, or only gradually, allowing a moderate yet definite growth of investment and consumption, while laying stress upon structural changes and leading the economy step by step toward an efficient growth path?

Upon which principle should we carry out the concentration of investment resources: should we concentrate financial means of the state to an increased extent on the priority development of projects promising individually great success, or concentrating means upon the general capacity of the economy, should we choose the evolution program of production specialization in a wide field?

How should we break out of our foreign trading situation, less favourable than previously, that developed after the world market price explosion: should we concentrate our activity on the substitution of world market imports, or should we adopt for guiding principle of fighting for better market positions in capitalist and developing countries through more competitive exports? In this context the question arises, in which way we could better serve the permanent development and economic foundation of CMEA relations by giving greater preference than before to relations within the community, or, by preferring quality and supporting the growing requirements of the CMEA market and the "hardening" of products to be exchanged, and, with this in view, by availing ourselves of the possibilities inherent in East-West economic relations.

We are aware that in the questions to be decided *the manoeuvring possibilities of practical economic policy do not offer such a wide scope for various strategies as it would appear from the formulation of the alternatives.* Already the listing of the three groups of questions makes it clear that none of the questions can be decided without answering the other ones. E.g., no intensive development strategy can be realized with a strong restriction of the growth of investment, and such strategy can rely upon a specialization of a higher degree than before only if we do not seclude ourselves from the international division of labour, etc. Yet we think that it is only a sharp formulation of the questions that makes possible understanding and clarification of the problems.

Strong increase of efficiency, versus a temporary radical withholding of consumption and investment

In recent years it has been a characteristic feature of Hungarian economic development that the volumes of the production and utilization of national income have been growing equally by 5–6 per cent annually, but because of deteriorating terms of trade, a part of domestic utilization has been covered from foreign credit resources. The value of foreign resources used amounted to 8.3 percent of total domestic utilization in 1975 and, after a temporary reduction, it approached this ratio again in 1978.

This deficit suggested to some the simple therapy that the slowing down of the growth rate of production, and a strong braking of home consumption during 3–4 years would help to surmount the difficulties. Those who want to solve problems alone by such a restriction of the growth of consumption alone forget that what is necessary is the transformation of the commodity pattern of production according to market demands, and that a restriction of consumption in itself will not help to create a lasting equilibrium. There is, namely, no guarantee that a successful reduction of consumption will lead simultaneously to an actual easing of tensions.

The preceding is proved by the failure of our efforts at establishing equilibrium after 1975. We have not succeeded in holding back accumulation. Contrary to our intentions, it was not the volume of investments, but the quantity of investments put into operation that fell by 4 percent below the 1975 level. The annual growth of personal consumption was slowed down to 3 percent, while the volume of value added was growing by 5,6 percent. This, however, was not sufficient to stop the process of growing indebtedness. This unfavourable phenomenon has two causes: on the one hand, those elements of domestic consumption that may be called – from the aspect of direct social consumption – rather costs than benefits: incomplete investments and stocks were growing faster than the volume of value added in spite of our planned equilibrium policy. On the other hand, the growth of exports accounted in dollars and the slowing down in the growth of imports were not enough to bring about a noticeable improvement in the balance of payments in convertible currencies along with the shift of the increment of raw material imports to western markets.

All that calls attention to the fact that the aims and results of central intervention into social production are often out of harmony. Thus we cannot expect that sacrifices involved in a more intensive witholding of consumption would be able to stop unfavourable tendencies – beyond transitory successes.

By means of a *lasting* curbing of domestic consumption it would be difficult to implement an economic policy in which the internal system of management, the moral and financial incentives of managers and subordinates serve not only the quantitative growth of production, but makes efforts at coordinating the products manufactured with demand as much as possible and makes them profitable as well. *Because of the tensions, the economy must be steered toward a new course of efficiency in such a way that meanwhile the growth of investment and consumption should be restricted also relative to the requirements of efficient development.*

Our situation is further aggravated by the fact that not even additional foreign credits allow a considerable increase of accumulation. Foreign resources could not be used so far for technological development purposes to an adequate extent; the import of new technologies was growing slower than the stock of foreign credit. The reason is that we were forced to spend part of the additional resources available as a result of the expansion of the international credit market on recovering our losses incurred because of deteriorating terms of trade, the cutting of cattle imports by Common Market countries, and our diminishing possibilities for raw material exports.

Because of the scarcity of our economic resources it is not possible to increase consumption at a fast rate, either, yet we know that economic efficiency can improve but with a continuously growing consumption.

It follows from the preceding that *a choice must be made between expansive growth squeezed into narrow bounds and a transitorily strong restriction.* The main point of restrictive policy is that it aims solely at a reduction of tensions in the balance of payments. Such policy may have the advantageous consequence that our position on the credit market will improve in the near future. This solution may, however, entail a

disadvantageous consequence as well: a lasting stagnation of the living standards of the population may exert an unfavourable influence on the continuation of the twenty-year period of a calm social atmosphere promoting economic building. Also, the holding back of investment and of growth in stocks may stop the favourable – though slowly progressing – transformation processes of the production structure, thus increasing the difficulties facing the long-term structural development of the economy. Finally: it must be recognized that, although this economic policy may result in a relatively fast reduction of difficulties with the balance of payments, in a few years it will raise again the necessity of accelerating economic growth, without leading at the same time to any considerable improvement in efficiency and competitiveness. And this means that *after a few difficult years we would be faced again with the same unsolved problems that are at the roots of the present tensions.*

It is a further danger of restrictive economic policy that, for political reasons, the braking cannot be fully asserted, so that, finally, without a strong mobilization of the creative forces of society, further credits would be used only in order to avoid restriction of consumption. Such practice – which may be called the policy of least resistance – would further increase the gap between our consumption and our performance capacity, as well as entail the risk of indebtedness.

We believe it is possible to adopt such an economic policy which, with a slight braking of the growth rate of investment, is also of an *expansive export-oriented character,* and would surmount difficulties through the development of products and services saleable on the world market, using also the instrument of a reasonable import substitution. Avoiding a strong restriction of the growth of domestic consumption, this policy considers the elimination of tension in the balance of payments primarily as a future task. In this respect it first sets only the objective *that the development of the export potential should exceed the growth of debt burdens.* This economic policy, facing up to the unfavourable phenomenon of indebtedness and aiming at a more intensive export offensive, has the disadvantage that it postpones the date of restoring the balance of foreign trade and is obliged to take the risk involved. At the same time, it has the advantage that it may lead the economy on to the course of economic growth, using the possibilities inherent in the international division of labour and observing the consumers' requirements, while possibly avoiding the dangers involved in a strong restriction of home consumption. This strategy requires more patience, a well considered and persistent economic policy, and a foreign trade diplomacy much more active than today.

Extensive gradual specialization and development of production versus concentration of resources on a small number of closed systems

Concentration of development must be considered even if we are forced by all means to renounce the implementation of spectacular and large investments in the near future.

We must recognize that it is now inevitable to achieve a concentration of investment resources and a reduction of the ratio of incomplete investments. In our practice of several decades it has been proved, however, that this simple principle is not easy to observe in the control of investments. It was characteristic of the control authorities and enterprises of the Hungarian economy before, as well as after, 1968 that demands for development were not in harmony with economic realities. From the fact that it would be desirable to reach the production, technological and consumption level held reasonable by the population and justified by planners, the conclusion was often drawn that it was expedient to start new investments, that resources could be found for them, and that they would be returned in time.

That economic management authorities did not discern clearly the gap between investment targets and realistic demand led to such growth of investments as was cyclically held back by a lack of building capacity or by import restrictions.

In the concentration of investments we cannot rest satisfied merely with braking the cyclicality.

An expedient allocation of resources necessitates also that we should invest where the largest returns are to be expected from the resources spent. It follows that where the returns of development can be increased through a larger scale of production, efforts must be made to improve the efficiency of investments by means of a thorough utilization of exporting possibilities. However, to reach this aim it is not enough merely to increase mass production. In making investment decisions a number of other – often neglected – aspects must be asserted. E.g., such fields must be sought in which the characteristic features of Hungarian cost structure, or the structure of existing capacities allow a fast refunding of further development costs.

Besides, it has also become clear – as is shown by the experiences of the hitherto largest and most successful machine industrial development: the IKARUS bus program that even with the development of a final product of priority importance it is impossible to centrally establish and simultaneously develop the full vertical system of relations of production. Therefore, in the course of preparing such large investments it is important to consider thoroughly whether – taking into account also available credit resources – there is a possibility for the development of the supporting industry. In case of an underdeveloped domestic supporting industry it must be found out whether the consumer and the world market price can cover the cost if the lack of supply of up-to-date semi-finished products on the part of home producers and socialist partners is made up for through cooperation with western enterprises, thus increasing home costs.

In introducing new technologies the most difficult thing is to estimate expected returns. Experience shows that, however favourable the expectable returns of a planned investment may be, the fact must not be disregarded that technological progress is often safer if it takes place gradually. That is, economic risk grows suddenly if, starting from a low development level and relying upon little technological experience, we try to reach the leading technological standards with one or only a few steps. It often happens that technical and economic specialists' conceptions about the expected returns of developments go much beyond what is realistic in those cases where they have little technological and economic knowledge and experience with development. There are many convincing examples to prove that the more important technological leap they have in view, the greater is the planners' unfounded optimism in regard of expectable returns.

In the concentrated utilization of development resources caution is suggested also by the fact that, according to experience, a growth of the volume of production does not entail in each case a reduction of unit costs. The number and sphere of even those products are limited whose mass production is an important aspect in the preparation of decisions. With a great part of industrial semifinished products and of consumer durables, in fact investments can be efficient only above a certain volume. It is, however, not so in most branches of the machine-building and the clothing industries which are of special importance for our development plans. From exchangeable standard parts and machine units the machine-building industry can produce the articles meeting consumers' demands most successfully in small- and medium-scale workshops in many cases. And in the clothing industry: (in ready-made clothes and in shoe manufacturing) it is similarly the fulfilment of the customers' specific demands that is important. For such production, i.e. development, therefore, mainly small- and medium-scale plants are needed.

The important economic aspects that must be observed in drafting development programmes were carefully formulated at the October 1977 meeting of the Central Committee of the Hungarian Socialist Workers' Party when it laid down the guiding principles of structural policy and foreign trading strategy expedient from the aspect of international division of labour.

We must not think, however, that the only important condition needed for the realization of a successful investment policy is a well-grounded investment decision. We must not forget that even the best decisions can be followed by a successful implementation only if, in the course of decision-making as well as of the implementation and operation of investments, such enterprise activities evolve as reduce the risk involved by the utilization of resources through adjustment to unexpected conditions. And that can be expected only if the enterprise carrying out an investment is not responsible for the implementation of a technical programme laid down by others, but its task is to use the means assigned to it to its best ability and to adjust to the changing domestic and world economic situation. Accordingly, *in the determination of the investment objective, in its implementation, and in the process of operation such enterpreneurs are wanted who may make decisions by relying upon relatively full information, on the spot, and with a high degree of independence.*

It follows from the above that central planning has not only to take care not to increase investments to an exaggerated extent under pressure of the tasks to be solved, but it has to be careful also in forming *the mechanism of selection and realization of development objectives.* It is shown by experience that the most spectacular technological results can be produced by concentration on the development of closed systems of priority importance. Such a technological leap, however, is not followed by good economic results *if a far-reaching economic development of attached fields is lagging behind.* Up-to-date development of all supplying factories necessary for a development project of priority importance, and of the entire supporting industry, is often impossible in a small country as ours: the gap must be filled by international cooperation. Its lack may wipe out the results of even a development based upon the best considerations.

Exaggerated concentration of resources on a small number of objects involves the realistic danger that development of other activities will lag behind demands, and this will become the root of new disproportions. The forced achievement of technical targets by means of developing closed systems may suppress the development of other fields to such extent as may, finally, endanger even commodity supply.

Evolutionary development is unable to produce such spectacular results as the former strategy. It has the great advantage, however, that specialization of production takes place gradually, relying upon results achieved, and thus it is accompanied by improved performance of the whole economy, and higher standards and efficiency of commodity supply.

Two-market strategy versus CMEA self-sufficiency

The third dilemma of our development strategy is whether, after the deterioration in the terms of trade suffered, it was not useful to reduce our participation in the world-wide international division of labour. The deterioration in the terms of trade following the price explosion is interpreted by many in the following way: Hungarian work has become so much depreciated on the world market that it would be useful – and possible in the long term – to reduce the role of foreign trade.

Those who hold this view think first of all of reducing the role of foreign trade with capitalist countries. They support their opinion by saying, among other things, that there the marketing of high-standard Hungarian products, work, first of all of manufactured goods – and especially machinery – meet with great difficulties.

It is not justified to interpret the changes in world market price proportions as a depreciation of the Hungarian work. No doubt that the new world market prices and price proportions have transformed the possibilities offered by the international division of labour, and changed the product-mix we can produce with relative advantage, as well as that which we had better import. We can renounce imports of raw materials grown more expensive, among them of crude oil, only to such extent as we are able to substitute for them cheaper home products, or, if we can economize on their use. Unfortunately,

with the greater part of our imports the alternative of import or substitution does not even arise. We are either unable to produce these imported products at all, or not in the quantity and quality needed. In regard of imported products not competing with home production the unfavourable change in the terms of trade can justify only that we should reduce their consumption.

Thus, along with economic development, the home consumption of imported products will grow further. That leads to the conclusion that our dependence on international economic relations is not reduced even after the price explosion on the world market. Therefore, we would hinder development if, in making our economic decisions, we did not act upon efficiency considerations of exports and import substitution, and weighing of comparative advantages and disadvantages, but returned to the long obsolete recipe of isolation policy. It is only by weighing prices against costs that we can decide, what proportions to establish between import substitution and export development. In the new situation, however, when our sacrifices for imports have grown, the additional imports used for raising national income, i.e. the income elasticity of imports, will certainly be lower than before. Such change already took place after the price explosion. While in the five years preceding 1973 a 1,69 percent growth in the volume of imports from socialist countries and a 1,86 percent growth in that from non-socialist countries were needed for 1 percent growth of national income, between 1973 and 1977 this ratio went down to 1,24 and 1,21 percent, respectively, while the proportion did not change in terms of current prices. This process – cut off in 1978 – on the one hand rendered difficult the development of production and the satisfaction of needs while, on the other hand, it proved to be insufficient for improving the balance of foreign trade. Therefore, we must recognize that in the future we can achieve economic success only if we adjust ourselves much more effectively to the changing conditions of international trade.

Even after the deterioration in the terms of trade suffered on both main markets, different features characterize our trade with the CMEA, settled in transferable roubles, and of that settled in convertible currencies. The considerable deterioration in the therms of trade with the CMEA is now accompanied by reduced supply on the part of our partners. Raw material supply is hardly growing, and the supply of manufactured products is not growing to the desirable extent. In a few products (e.g. tractors, cars) supply is below demand, and with other products the Hungarian market has been saturated in the range of goods supplied by CMEA partners. As a consequence, the growth rate of import trade is diminishing contrary to our intentions, and thus our export supply can keep up without particular difficulties – in spite of deteriorated terms of trade – with the possibilities for the development of trade.

It is more complicated to assess whether – in a somewhat longer perspective – the CMEA Comprehensive Program and within it the special-purpose programs, do not offer a possibility for a renewed acceleration of an efficient foreign trade turnover. Experiences so far of plan-collations and of the coordination of development activities on the CMEA level show that such actions would boost the specialized production of only a

few important end products even in the best cases, but they do not adequately stimulate the growth of commodity supply in the Hungarian economy.

In considering the development of exports to the CMEA it has to be carefully considered within the general requirement of efficiency, how much import from the markets where trade is settled in convertible currencies is going to be used for the development of exports settled in roubles. It has to be kept in mind that our exports settled in roubles already contain a considerable amount of imports from the dollar area, particularly in industrial partial units. This tendency can continue only if conversion of the opposite direction also grows.

Possibilities latent in economic relations with non-socialist countries have to be further exploited in spite of the deteriorated terms of trade. At present we are obliged to purchase on the world market a not negligible part of raw materials and semi-finished products needed for economic growth, and modern equipments indispensable for technical progress. The growth of foreign trade with non-socialist countries is important also so that we can fulfill our debt service obligations from the export revenues.

In the trade settled in convertible currencies development of the international division of labour desirable from the social point of view has been limited so far by our unsatisfactory exporting ability. In the 1960s the lag in the exporting ability of the Hungarian manufacturing industry behind demands could be still temporarily made up for. At that time the volume and price of cattle exports were growing in spite of the Common Market regulations, and the relatively easy imports of raw materials from the CMEA market made possible exports to the west of semi-finished products made from these materials.

The situation has, however, changed since then. It is now the case that the total exports of livestock, meat and semi-finished products amounting to almost half (46,5 percent) of exports to non-socialist countries in 1972, grew by only 5,7 percent between 1972 and 197, as opposed to the 31,3 percent growth of the total export to the west. Under such conditions the deterioration in the balance of trade with capitalist countries could have been avoided and we could have covered the growth in the volume of socialist imports which was much more moderate than earlier (with the import costs resulting from unfavourable changes in the terms of trade) from our own resources only if the volume of exports had surpassed the level of 1972 by 69 percent in 1977.

The other half of exports to non-socialist markets, consisting mainly of manufactured products has been growing about one-fifth faster since 1972 than in the preceding five years. This growth is also important, since we could increase our share in this sphere of products on a world market which was expanding at a slower rate than before, and where protectionism revived. This development lagged, however, far behind the demands of the Hungarian economy. As a consequence of the disproportion between the growth of imports and exports the production potential realizable on the western markets turned from a bottleneck of economic development into an obstacle to growth.

In one alternative we try to avert the consequences of world economic difficulties by making efforts at reducing our trade with capitalist and developing countries, and slow down production cooperation and imports of technology, i.e. we diminish the role of the Hungarian national economy in the international division of labour. But this alternative will not lead to the rise of unsatisfied demands and will promote economic growth only if imports of materials and technology from CMEA countries, as well as specialization and cooperation, receive a new impulse at the same time. Such a possibility exists, however, only in the long run. Acceleration of the process is made more difficult by the fact that in most CMEA countries domestic producer prices are isolated from foreign trade prices, and bilateralism is extremely strong in foreign trade. It is unlikely that in this way the necessary increase of world market imports could be replaced without difficulty in the Hungarian national economy.

The main point of the other alternative is that imports from the CMEA should be augmented to the largest possible extent allowed by supply in all products necessary for the intensive and efficient development of production. We should also strive to establish a permanent division of labour with capitalist and developing countries to the extent nevessary for our development, beyond the available supply from the CMEA market. According to this conception, we must render our foreign trade permanent and efficient on two external markets simultaneously: CMEA cooperation possibilities must be used for improving competitiveness on the capitalist market, and the possibility of cooperation on the capitalist market must be used for the qualitative development of our activities in the CMEA.

The first alternative presents an easier task for the producers, yet it is hardly able to improve market equilibrium, and the supply of the population with commodities. The second alternative sets a more difficult task for production. It makes it easier for the government to balance commodity markets, and makes consumption conditions more favourable for the population.

Economic strategy and economic mechanism

Experience of the last ten or twelve years and analysis of today's situation have both proven that economic development objectives make great demands on the economic mechanism: on planning, the functioning of the regulated market, and the organizational system of the economy. For specific economic objectives we cannot arbitrarily choose an economic mechanism, e.g. one formed in some earlier period, or one existing in the conditions of another country. At the same time, it is also obvious that a lack of harmony between the mechanism and development objectives may cause troubles.

It is not possible to make fundamental changes in the economic mechanism in the short run while important changes take place in actual regulators, since enterprises have to be stimulated to adjust to changing conditions.

In the medium- and long-term, however, the question inevitably arises what principle we ought to follow in the further development of the control system of

Hungarian economy. We think that this question can be answered in the context of choosing the development strategy.

The development strategies outlined above present the picture of two economic development conceptions: one is a strategy based upon dynamic qualitative changes and counting on a slower but continuous growth of domestic consumption; the other is a strategy based upon a strongly restricted growth, while developing groups of priority products in closed systems at a fast rate. The former necessitates extensive changes in production, institutions and the living and working conditions of various groups of workers, and also requires a greater capacity for adjustment and tolerance from different social groups. Therefore, its implementation in the short run may involve greater difficulties. The latter divides burdens and tasks between the state and the enterprises to a lesser extent. It intends to suppress non-profitable production by means of government measures, to accelerate centrally the innovation process in fields of priority importance. It does not much count upon enterprising behaviour, and would not greatly disturb the existing order of the economy. Therefore, *in the short run it would be politically the smoother way.* The substantial difference between the two conceptions is not a faster or slower solution of the equilibrium problem, but that the strategy based upon dynamic qualitative changes guides enterprises onto a practically new course of efficiency, and the strategy holding back growth extends the path followed so far to the future, and, in the last analysis, it does not solve radically the problem of equilibrium.

The dynamic strategy is concomitant with development of the entire economic mechanism; for the strategy aimed at fast growth through the development of narrow fields it is sufficient to render today's mechanism more operational by improving the price and control system. Successful economic development necessitates that a conscious choice should be made between these alternatives. *In partial questions one or another element of the two different strategies may be combined, but an eclectic procedure in the main question would be wrong to adopt.*

On our part, we take a stand positively for the dynamic strategy. Not that we are attracted to far-reaching changes, but because this strategy guides the economy, not only toward foreign trade equilibrium, but toward a much higher international competitiveness as well. Precisely for this reason we deem it is indispensable to improve the economic mechanism to a considerable extent, and in a way that it should better stimulate and even force the raising of productivity, efficiency, and competitiveness.

Can we tell today, what exactly the future economic mechanism should be like? No, we cannot, because the external and internal economic conditions are still very changeable. Yet the most important guidelines to be followed in the course of development can be elaborated – and we hope that they will in fact be elaborated after a comprehensive analysis. For this work an adequate basis is provided by the long-term decision of the 9th Congress of the Hungarian Socialist Workers' Party on the reform of the economic mechanism, which could not be consistently implemented on account of various difficulties, but which holds even more for the actual situation. The special new requirements raised by today's world economic conditions must be also be taken into consideration.

First of all, we should avoid the schematic and abstract posing of the question, not justified by practice, namely: should central control or enterprise independence be strengthened? In fact, both are necessary, this formulation is, therefore, a pseudo-question. In reality, we must seek answer to the question, in what aspects of the economic process it is necessary to render central control more effective, and in what way enterprise independence can be more genuine. Central control must be strengthened, i.e. *given more of an economic policy character than today,* in the unequivocal definition of the main objectives of the national economy, in the creation and regulation of the conditions of management, and in the general control of the reproduction process. For this purpose it is not enough to render financial policy more rigorous, but it must be accompanied by adequate enterprising and by the freedom necessary for the evolution of the latter. *It must be guaranteed that decisions concerned with actual enterprise activity can be made at the enterprise management level,* while obtaining of agreement of state organs, or application for and granting of state subsidy, should be reserved for exceptional cases. A consistent assertion of this principle would validate the conception of the reform resolution of 1966.

In the course of improving the mechanism the following principles should be asserted:

1. *The producer and consumer price systems should be developed in accordance with the principle of value proportions.*

In the period of the world market price explosion our home prices deviated even more from value relations, and the earlier deficiencies of the price system also weigh more heavily on the economy today. All this can be overcome by a general price adjustment, if possible before the start of the new five-year plan, in order that enterprise profit should become a better measure of efficiency, and that the profit incentive should become a bigger stimulus in the improvement of enterprise management. In the course of this the taxing away of net income from enterprises should be much reduced and, at the same time, the state financial subsidies should be reduced, too.

In the course of the next price adjustment, as well as in the following long-term period it will be even more expedient to follow the principle that world market prices and home prices should be organically linked by means of the current real rate of exchange. In the fields closely related to foreign trade relative prices should be similar to foreign market relative prices, and in fields not related to foreign trade the average domestic input should be made the price centre.

For a great part of products the fluctuation of foreign prices, domestic inputs and demand is to be reckoned with in the future, too. Thus the flexibility of the price system is a primary requirement. It is not enough to make price adjustments at long intervals, but official prices must be regularly adjusted to value proportions, and with a large proportion of prices freedom of movement is desirable.

2. *The national economic planning of value processes must be made more efficient, and the issue of money has also to be weighed against the plan.* In the economic control of enterprises normative control should be adopted, eliminating the often meticulous and

individual regulation – adapted practically to the actual and not the expected performance of enterprises –, partiality (toward weakly functioning enterprises) and prejudice (toward well functioning ones). The task of sectoral control should be defined as the government representation of major objectives of the national economy and not as that of sectoral objectives having become independent, nor as the service of so-called sectoral interests. Both national economic planning and sectoral control have to promote the expansion of the possibilities for manoeuver of enterprise management and not their restriction, since the increase of profitability is possible practically only in this way.

3. *It is the improvement of investment activities* that requires most the critical analysis of today's practice and the elaboration of import changes. First of all, the right principle of concentration of investments should be asserted. This must not be identified with a restriction of enterprise investments and an increase in the scope of "major government projects", since the deficiencies of our investment system are rooted partly in an overcentralization of means. In our opinion the right interpretation is to assert the concentration principle both in the state and in the enterprise investment sphere. It will be expedient to increase the ratio of bank credits, and the method of distributing credit according to returns must be intensified. The ratio of state decision-making on investments should be somewhat lowered in comparison with the current one, while it would be better to separate the allocation of government funds from the general crediting practice, and the funds to be repaid to the state should be covered fully from incomes at the enterprises' disposal.

4. It is in the interest of national economy to have a higher labour mobility, which can be successfully achieved only if the principle of the voluntary changing of the workplace is observed. This is related to the correct material incentive. Also the regulation of earnings can be improved only after thorough critical analysis. Certainly, earnings must be better adjusted to performance than today and it is correct that state wage policy tolerates a higher degree of differences (yet not unlimited) between different enterprises, if they are related to different degrees of economic efficiency. What is more, an especially rapid growth of earnings of individuals doing good work should be allowed, since that may be a considerable incentive for better work. Our existing economic regulations as well as socio-political practice are basically different from such stimulation of high achievements: they support the tacit practice that wages are sometimes only paid "for being present", even though this mentality is verbally condemned by everyone. The development of wages must be made dependent basically upon two factors: on the one hand, on the wage costs that the sales price of the product can bear, and on the other hand, on the wage demand of the working class represented by the trade unions.

5. It should be made into a deliberate and open programme that, in the interest of society it is necessary *in the future that all sectors actively participate in the exploration of new sources of growth,* and this can be attained only through diversified types and forms of enterprise organization. Regarding the aspect of enterprise form, it is necessary to develop the Hungarian national economy as a multi-sector socialist economy, which is the only form in which it is duly able to satisfy social need, and with good quality. Therefore,

various forms of cooperatives must receive their due place, and the development of small-scale private enterprises and of privately owned small farms must be promoted in such economic fields which the state sector cannot adequately attend to. Also, it would be important to deliberately prepare greater economic competition among enterprises, and it would be desirable to avoid a monopolistic position of the enterprise in every field where it is not in contradiction with the development stage of the forces of production. Within a framework controlled by the state a genuine economic competition forces enterprises to improve efficiency and quality, so that it does not contradict but is very much in harmony with the interests of the working class and of the whole society. It has been proved by the experience of recent years, too, that in products (and even in certain services) in which the enterprises are faced with genuine competition, they serve the population as well (as collective customers) better than monopolistic enterprises, not to mention the fact that competition may also have a positive role in the reduction of costs.

6. New circumstances and new tasks require the modification of both government economic control and enterprise organization, as well as the indication of the way of further organizational development. A number of signals indicate that if we neglect organizational development, today's organization increasingly stand in the way of improving efficiency. It would be by no means right to handle organizational development as an end in itself, or to seek a solution independently of the whole of the economic mechanism, as has been done in a few cases.

The existing organization of central sectoral control is much too fragmented. It is not in harmony with the fact that an important and increasing part of products are produced through the cooperation of enterprises belonging to different sectors (a bus is e.g. a product not only of the vehicle-building industry but of enterprises belonging to five different sectors). Government industrial development policy gets fragmented in the all too ramifying system of sectoral control, and loses its efficiency. Therefore, a better solution from the aspect of economic processes ought to be searched for.

Later on a general solution must be found for more efficient methods than are at our disposal today of regrouping assets among enterprises.

In the existing over-centralized system of industrial enterprises initiative diminishes and fades away, and there is no satisfactory adjustment to market demands, which shows characteristically in the shortage of a lot of small (yet much needed) consumer articles. The ministerial organization tries in vain to force the production of these upon large-scale plants, forced undertakings are not followed by any lasting upswing of production, so that shortage does not diminish in the end but is intensified. It would be certainly possible to form reasonably small-scale enterprises from several, today overcentralized, large-scale enterprises. In justified cases new small- and medium-scale enterprises should be founded and the bolden steps of developing subsidiary plants should be taken since the latter offer a capital-saving solution.

The enterprises' internal organization should be transformed at a faster rate, since that is inevitable for the improvement of efficiency as well as for the development of economic democracy. It seems necessary to critically analyse the advantages and

disadvantages of one-man management, and its formal and actual assertion in practice, the more so as in the future a stronger and more resolute enterprise management will be needed, and this will not be easy to bring about. Expertise, creativity, the recognition of social interdependencies, and assessment of economic risk are more easily obtainable from a responsible collective body than from one individual. In operative production management individual responsibility should be better asserted than today. All that is related to the fact that the formation of collective bodies of management could ensure the workers' participation in the determination of enterprise strategy and development directions, which may then promote a closer identification of workers with their work.

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In our article we did not wish to suggest indisputable precepts or self-evident truths, but rather wished to help with our ideas to explore what economic development strategy may offer the greatest advantages for Hungarian society.

КАКУЮ СТРАТЕГИЮ ЭКОНОМИЧЕСКОГО РАЗВИТИЯ СЛЕДУЕТ НАМ ИЗБРАТЬ?
Р. НЬЕРШ – М. ТАРДОШ

Исходя из анализа сложившегося хозяйственного положения страны, авторы анализируют возможные альтернативы экономической политики в Венгрии по трем вопросам – восстановления экономического равновесия, концентрации капитальных ресурсов и путей эффективного включения в международное разделение труда. Они высказываются против сокращения потребления; считают неоправданным риском концентрацию капиталовложений на небольшое количество объектов развития; указывают на опасности уклонения от всестороннего развития международного разделения труда. Авторы выступают за экономическую политику, ориентирующуюся на экспорт, стремящуюся к консолидации связей с несоциалистическими рынками, за политику основанную на лучшем использовании внутренних ресурсов и на постепенности экономического развития. В заключительной части статьи они останавливаются на том, каких изменений в системе институтов и регуляторов потребует проведение такой экономической политики. Они считают, что хозяйственных успехов можно ожидать лишь от усиления правильно направляемой, самостоятельной, ориентирующейся на прибыль инициативы предприятий.

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THE ROLE OF PROFIT IN THE HUNGARIAN ECONOMY

It is examined how the objectives of the 1968 reform of the Hungarian system of economic control and management – aimed at bringing about a profit-motivated management in enterprises – have come true.

The conclusions is that the otherwise correct objectives have not been realized without fail. The reason is that a price system correctly reflecting inputs and returns has not been brought about.

The market mechanisms have been asserted with restrictions, the administrative and over-centralized forms of control have subsisted. All that resulted in restrictions also on enterprise autonomy. The interests of the enterprises gradually shifted to obtaining various state subsidies, preferences and exemptions.

Profit has to become the centre of enterprise interests. To this end the above restrictions have to be removed, since the present situation of the Hungarian economy urges more and more a solution to the as yet unsolved problems of management, income control and profit motivation.

Before the 1968 reform of economic control management profit used to be one of the centrally prescribed plan indicators in Hungary. The volume and composition of production, the resources to be used were determined or allocated in the form of detailed directives and, consequently, in a system of virtually fixed prices, also the amount of profit became determined.

With the 1968 reform the central breaking down of the plans was abolished, the interest of enterprises in the global growth of production was terminated and profit was made the *synthetic* indicator of the performance of the enterprise.

It was a basically correct objective of the guidelines of the reform to strive after enhancing the role of profit, more precisely, after creating the conditions of autonomous enterprise management based on interestedness in profits. It was right all the more as the new system of economic control and management reckoned with the activation of the market which could assert itself if the enterprises were in an adequately strong position as holders of money and income, and were guaranteed the possibility of choice (decision) in their capacity as users (purchasers); and furthermore had enough independence in using the financial resources and material assets required for development.

Based on profit-oriented enterprise management the reform guidelines also formulated the central postulate that profit as a complex indicator of efficient enterprise activity should simultaneously express national economic efficiency as well. In other words: it was an expectation towards the functioning of profit that, as a difference between proceeds and costs

– it should measure approximatively equally the result of social activity as a whole and of the separate units and, *consequently:*

– on both levels it should become the basis of decisions aimed at increasing profitability (efficiency).

We feel that the realization of the objectives of the 1968 reform related to profit can be already analysed in the light of ten years' experiences. A study of the trends evolved in this period makes it possible to evaluate the role profit has played in the enterprise and the national economic levels and, along with it, to identify the objective and subjective factors that have not allowed the role of profit to assert itself to the fullest.

A brief review of the development of profit

In connexion with the objectives of the reform of economic control and management the volume of profit and its share in the total income formed in the national economy was in 1968 high above the level attained in the years before. The surge of enterprise profits in 1968 was a direct consequence and result of those price and income control measures laying the foundations of the reform which had established the conditions from the financial (income) side of exercising enterprise autonomy. Income regulation, an integral part of the new system of economic control, while increasing profits, also gave the enterprises the opportunity to considerably increase their (development and sharing) funds relative to years before, after making the payments to the budget (taxes) debiting the profit.

So the earlier distribution of the total income formed in the national economy among the different income holders was actually rearranged in 1968. The enterprises had much bigger incomes at their disposal than before 1968, which in part made it easier for them to switch-over and in part it was the basis for the start.

Table 1

Pre-tax and taxed profit as percentage of the net national product

	In the average of the years 1965–1967	in 1968
	at current prices, billion Fts	
Total income formed in the national economy (net national product)	213.2	249.2
Pre-tax profit	47.1	72.1
After-tax profit (to be placed into the funds)	12.2	31.0
Pre-tax profit in percentage of the net national product	22.1	29.0
After-tax profit in percentage of the net national product	5.7	12.4

After 1968 – up to 1975 – the total profits (at current prices) of the material production branches were expanding at a rate higher than any other indicator representing economic development. The average yearly increase of profit was 11.7 per cent, by 3.4 per cent more than the value of net product and the value added (8.3 per cent), and by 2.4 per cent more than the average yearly growth rate of gross output (9.3 per cent).

Profit as the income of enterprises is at the same time part of the *net income* formed in the national economy. The volume (level) of profit formed in a given period also determines the share of the state (the budget) in the net income.

In the years from 1968 to 1977 the division of the net income into profit and primary budgetary revenue was determined partly by the rate of growth of the profit exceeding that of the net income, and partly by the modifications made at times in the economic regulators.

In this ten-year period the average annual growth of the net income of the national economy was 9.2 percent (at current prices), and that of profit was round 10 percent. Owing to a partial modification of the economic regulators in 1971 and 1976, the profit content of net income fell back by 3 and 6 percentage points, as against the level of the period prior to the modifications.

Table 2
The profit content of net income

In the average of the years	Percent
1968–1970	61
1971–1972	58
1973–1975	68
1976–1977	62

The most significant factor affecting the growth of profit between 1968 and 1977 was the expansion of production. From this it also follows that costs savings did not have any determining role in the increase of profit. The input-intensity of production diminished only slightly in the years 1968–1977. In this period the cost level of the material branches diminished for example by an average of 0.2 percent per annum and in the industry by 0.3 percent p.a. relative to the value of gross output. This small decrease of the cost level occurred with the ratio of material costs increasing and that of wage costs decreasing.

The very modest cost savings were also attributable to the high rate of profit (profit relative to assets and price receipts). A high rate of profit namely encourages the

enterprises to increase profits rather through the expansion of production and not through economizing on costs (Table 3).

Table 3
Profit rates in 1977

	Profit proportional to assets*	Profit in percentage of the value of of production**
Material branches, total	10.0	11.9
From this:		
industry	11.1	10.8
construction	22.4	13.6
transport and communications	3.7	11.4
agriculture	7.0	10.5
commerce	15.2	21.0

*Profit relative to the gross value of fixed assets plus the yearly average of stocks
**At producer prices

Enterprise interests were attached fundamentally to the taxed (distributable) profit, or rather to its increment, because – as a function of the given profit regulation – they could form their (development and sharing) funds from that. The volume of the part of profit "left over" from pre-tax profit and available for the funds depends 1. on the volume of the profit and the amount of taxes levied on the profit, 2. on the facilities directly increasing the funds (tax facilities, fund supplements, etc.).

Under the combined effect of these two groups of factors the yearly increase of the total (development and sharing) funds of the enterprises between 1968 and 1975 actually corresponded – in the branches of material production – to the growth of profit, and then exceeded it in the years 1976–77. (Table 4).

The spread of financial discriminations

As early as in 1968 and afterwards more and more strongly, the profit figuring in the enterprise balance-sheets did not show the difference between receipts and costs formed on basis of actual prices but also reflected the balance of the individual taxes and subventions above the normative taxes.

Such a "starting" situation was created by the 1968 price and income regulation where 81 percent of the profit was made up of various financial subventions. The idea was that the latter would be reduced later on. However, this expectation failed to come

Table 4
Total of (development and sharing) funds in percentage of profit

	In the average of the years		
	1968–1971	1972–1975	1976–1977
Industry	41.6	40.9	51.5
Construction	36.2	34.2	36.4
Transport and communication	41.0	51.2	52.9
Agriculture, forestry, water management	62.4	70.2	70.0
Material branches, total	40.6	40.9	50.0

Table 5
*Financial subventions**

	1968	1972	1977
Amount of subsidies (billion Forints)	58	76	154
Subsidies in percentage of gross profit	81	75	93

*Subventions + producer price subsidies + import price subsidies + other subsidies + exemptions + government refunds + consumer price subsidies.

true in practice and in the past ten years the financial discriminations did not decrease but rather increased. In 1977, for example, the amount of subsidies was already near the amount of the profit (Table 5).

If the facilities directly increasing the funds (income tax allowance, depreciation allowance, various facilities in connection with development and the complementing of working capital) are considered then the role of the subsidy-type discriminations is even more marked. Under these titles the enterprises were given a total of about 22 billion Forints in 1971 and nearly 37 billion in 1977.

Beside the subsidies also the special taxes were climbing, especially since 1974. The function of the production-type taxes drawing off incomes mostly of the rent type changed, while the volume of production taxes increased by 1977 to six times the 1968 amount. Counting the special levies too, the income redistributed with the aid of the differentiated financial instruments (that is, the sphere where an orientation irrespective

of the income distributing effect of prices and regulators, and in most cases neutralizing them, prevailed) attained determining power. Along with this the orienting role of profit gradually diminished.

Financial discriminations became more and more individual and their main function became to level out enterprise income positions, while the discriminations themselves were becoming more and more intricate. The enterprises received subsidies under a growing number of titles and also paid various taxes under ever more titles. The system (namely, of subventions and taxes) was "self-generating" because, while continuously advancing the income positions of the enterprises – or at least keeping them on an acceptable level – it was also supposed to secure the income requirements of the state (the budget). The different taxes and subventions strongly moderated the differentiation which would have existed without them between the different branches and sectors of the national economy with respect to profit proportional to assets on the one hand, and impeded the process of differentiation on the other hand.

The enterprise profit and with it final enterprise revenues remaining from the profit (development and sharing funds) were formed between 1968 and 1977 under the strong and ever increasing influence of central interventions. Owing partly to distorted prices and partly to more and more special taxes and supports, the profit became extremely manipulated. The profit shown by the enterprises did not express the real economic result (returns) but simply the share from the income formed in the national economy. Since the magnitude and growth of this share did not show the actual economic result, it could not become the factor determining enterprise development.

How far was enterprise development determined by profit?

The creation of a self-financing enterprise economy and increasing the role of own funds – essentially of profit – among the resources of capital expansion were ranked among the main objectives of the system of economic control and management which came into force in 1968.

In reality the development opportunities of the different branches (the increase in fixed and working capital) was only slightly determined by the profit and its change. This was a result in part of the fact that resources dependent on profit (the part of the development fund formed from profit and other own resources) represented a smaller proportion in the financing of projects decided by the enterprises. It is not unequivocal – and in our opinion not expedient – to classify the bank credits and state loans among the "profit-dependent" sources because the differentiation of terms of approval and repayment of these resources (rate of interest, deadline, extent of own contribution etc.) is not always based on the profit (on profitability), hence these resources occasionally become "independent". An own source – and one affecting the extent of self-financing – is the depreciation allowance left with the enterprises, but in this context this, too, is "independent" of the volume and changes profit (Table 6).

Table 6
Sources of enterprise development funds 1971–1977

	billion Forints and percent			
	1971–1975 billion Fts	total percent	1976–1977 billion Fts	total percent
Depreciation allowance	137	28	79	27
Profit	147	30	84	29
Other	62	13	36	13
Investment credit	70	14	49	17
State subvention	55	11	33	12
Council subvention	10	2	7	2
Development loan	7	2	–	–
Total	488	100	288	100

Source: Data of the State Development Bank

Also according to spheres of decision, on the basis of classification by resources financed within the enterprise decision sphere, it can be established that even the expanded resources of self-financing (development fund formed from profit plus depreciation allowance) could not become decisive beside the sources transmitting the assertion of government intentions.

Again, the development of enterprises was not determined by the profit because the development credits and the investment subsidies free from liabilities were not always allotted in accordance with efficiency requirements. In general, these external resources were used more by such sectors where the development fund formed was below the average.

The self-financing power of the enterprises undisputably increased in the period since 1968, in agreement with the objectives of the reform. E.g. in 1976 the share of own resources in financing the enterprises' circulating funds was over 85 percent. However, along with the advance of self-financing, the dynamically growing decentralized funds have not become a source of the transformation of the *production pattern,* not even together with the centrally controlled complementary resources. (They couldn't, since the damping of the effect of changes in foreign market prices through the budget eliminated those basic informations and impulses that could have forced them towards adjustment.)

The self-financing which was "fed" from a heavily subsidized profit made it possible to raise more and more credits and to draw on other complementary resources, and this way the enterprises had the chance to develop activities which were losing (or were less efficient than the average) on the level of the national economy.

Relationship between profit and earnings

The need to establish a relationship between profit and earnings was formulated in the reform guidelines as follows: "profit can perform its role in the new system of economic control and management if the financial interests of state enterprises are attached to the development of profit. Therefore, such a situation must be created in which the development opportunity of the enterprise depends on the development of profit and the latter should have strong influence also upon the personal incomes of the enterprise personnel."

In 1968 – actually till 1971 – the relationship between profit and earnings was a relatively close one. The enterprises could debit the tax on wage increases granted relative to the starting wage level to the sharing fund formed from the profit and could make payments from it above the salaries (profit share, bonus, etc.). The direct relationship was already in those years loosened by certain factors, thus e.g. by the so-called wage factor, the ratio of assets to wages, the tax levied on the sharing fund. In 1971 the regulation of earnings was amended. This was called for precisely by the "close relationship" between profit and earnings, i.e. that the enterprises capable of forming bigger sharing funds could afford higher wage raises which resulted in drastic differences in earnings. In the period 1968–1970 the regulation of earnings in force was more and more hardly criticized also because the part depending on the sharing fund represented an ever increasing share in personal incomes.

With the modification of 1971 the relationship between profit and earnings became looser inasmuch as the wage raising opportunities no longer depended primarily upon the volume of profit but on the dynamics of profit (and of other indicators: wage + profit, value added). Therefore, in order to raise the wage level, each enterprise had to attain a development relative to the level determined by its own performance.

Although the inequalities resulting from the strongly different size of starting profits could be eliminated this way, the inconsistencies of the amended regulation of earnings soon became evident. Thus:

– the high starting profit which used to be unequivocally an advantage became somewhat disadvantageous because now the output including also profit had to be increased proportionally for a certain raising of the wages;

– the extra output required for "deserving" the wage advance was often unattainable; and, last but not least,

– owing to differences in external conditions the enterprises had different opportunities to improve the per capita output indicator.

Mostly in order to reduce the unpleasantly differentiating effects of the external circumstances – and of the different given circumstances – four kinds of income control have been applied since 1976 to enable different enterprise categories to attain, even under different external conditions, the wage raises which were regarded as desirable.

For example an enterprise that could not show any improvement in its performance could be put in some of the central wage control forms. In order to loosen the connection

between earnings and profit also in the case of control forms linked to output the enterprises were authorized to make a yearly minimum (1.5 percent) wage raise without any improvement in output.

The distribution of the various forms of wage control applied changed much between 1968 and 1977. A rapidly spreading use of wage-bill control (i.e., based on performance measured by the value added) could be observed, and by the end of this period the share of central wage control grew to one-third (Table 7).

Table 7
Percentual distribution of employees in the state and cooperative sectors according to forms of wage control

	1968	1971	1973	1976	1977
Relative wage level control	93	82	75	34	29
Central wage level control	–	3	7	21	21
Relative wage-bill control	7	9	12	35	40
Central wage-bill control	–	6	6	10	10
Total	100	100	100	100	100

Source: J. Lőkkös: Some problems of earnings regulation and the possibilities of its improvement. Acta Oeconomica Vol. 20, No. 3, pp. 269–282

The inconsistencies of the actual practice of income regulation related to stimulation and to the feasibility of conditions were enhanced by the individual discriminations (different coefficients, wage preferences, complementing of funds, etc.) which functioned "tailored" to a given enterprise, or a group of enterprises or a brach, moderating the very high incomes and supplementing the low ones. One of the results was that part of the (starting) wage and income differences continued to exist between sectors or, more accurately, the income control was not able to provide proper orientation, set requirements, or encourage through allocation of incomes.

The loose relationship between the development of profit and earnings is shown by the fact that between 1970 and 1975, for instance, the average earnings rose at the average rate or even faster also in those sectors (electric power industry, food industry, construction, transport and communications) where the change in per capita profit remained below the average (Table 8).

Table 8
Changes in per capita profits and earnings between 1970 and 1975

	Average	Per cent
	increase of per capita	
	profits	earnings
Mining	28.7	6.3
Electric power industry	–5.6	6.3
Metallurgy	14.0	7.9
Engineering industry	15.3	6.8
Building materials industry	15.4	6.2
Chemical industry	16.5	7.6
Light industry	11.6	6.5
Food industry	1.4	7.0
Industry, total	13.3	6.6
Construction	4.7	5.6
Transport and communication	5.2	6.3
Commerce	5.9	4.7
Agriculture, forestry, water management	11.0	4.9
Material sectors, total	11.0	6.0

Some conclusions

The objectives of the 1968 reform of economic control aimed at the establishment of profit-motivated enterprise management have not been fully accomplished. The primary cause was the merely partial creation of conditions essential for profit to become a dependable measure of efficiency and an instrument of control and orientation.

The Hungarian price system did not and does not adequately reflect the national economic value of production (sales), nor the national-level inputs of the used resources. A price system showing both values and inputs incorrectly does not only assess the current activity of the enterprises unrealistically, but also disorients development decisions. The enterprises are interested in applying the extensive ways of development as long as the prices and the subsidies supplementing them "aknowledge" the increase of inputs. The unjustified price raising aspirations of the enterprises could not be kept within proper limits and hence the enterprise inputs were not limited to the necessary measure by the producer prices.

Assertion of the *market mechanism* lagged much behind the expectations of the reform concept. Adaptation to the market had less influence upon enterprise decisions than had been expected, virtually because the profit assumed to be necessary could be

achieved without it by relying on central protection, on the lack of competition and on subsidies. The administrative and semi-administrative instruments of commodity turnover control (central allocation, prescription of quotas, compulsion of contracting, or the "expectations" of the supervisory organizations) often confined the freedom of enterprise action to undesirable extents. True, in the given circumstances, administrative control is necessary in many cases but the harmful orientation following from the errors of the price system is usually among the circumstances that necessitate it.

There are also such restrictions on the circulation of products which derive not directly from legal provisions but originate from price conditions, monetary bridges, clearing technical conditions (pools, price-mixing), and from organization (monopoly position). Export stimulation is a typical example for this area where the indirect control of the directions of sales is carried out through various direct and indirect subsidies. Because of these the manufacturing and the marketing enterprises do not feel the real profitability of the export, not even if the export is actually unprofitable for the national economy. In such cases the way of market impulses is blocked precisely by the monetary bridges from the enterprises.

The direct forms of interference have again spread in recent years in the control system; under their effect enterprise autonomy and enterprise responsibility for decisions have diminished. The proper functioning of the profit incentive is also impeded by the basically unchanged organizational and institutional setup of economic control: the division and sphere of authority of the sectoral ministries and functional bodies are actually the same now as before the reform; the *organizational structure of the economy* has remained virtually unchanged. The sectoral ministries usually transmit expectations to the enterprises, the results of the plan coordinations called "jury" actually become plan targets.

The role of central and sectoral administration is decisive in *decisions on development,* not only in the case of projects decided by the government but – in indirect ways, through channeling the availability of resources (quotas, preferential credit targets, etc.) also in investments which are decided in principle by the enterprises. There is in fact only one exception: the 45-billion so-called export development credit quota.

The regulation of *earnings* is such that up to the given level it is possible to raise average earnings even with a small rise of output, but above that the growth of incomes runs into prohibitive taxes. Therefore, the enterprises' opportunities for reasonable stimulation are very limited.

The reference base, that is, the efficiency level attained in the preceding period, plays an unreasonably important role in the enterprises' economic situation.

How to continue?

We are convinced that profit would be the most suitable category to serve also in the future as a centre of enterprise interest and, at the same time, as the expression of efficiency on the levels of both the national economy and the enterprises. But for profit to express the real efficiency of enterprise activities the producer price system needs to be improved first. To really affect economic decisions, prices must be based on the socially necessary and not on the individual inputs. Producer prices cannot provide a well orienting standard of measurement unless they show the enterprises an objective magnitude of value (which is essentially independent of their own inputs). The use of the price system as an objective measure requires enhanced assertion of foreign market value judgements: prices on competitive products should be set by reckoning with the prices effective in Hungary's foreing trade even if the probable domestic inputs are strongly different.

The objective of the expectable reform of the producer price system is a drastic limitation of the present system of subsidies and taxes, more precisely, elimination of the individual financial discriminations. It is therefore predictable that there will be stronger dispersion of enterprise profits than at present, and the number of unprofitable enterprises will increase. In this context at least two basic problems must be decided:

– the volume of the starting average profit level

– the future of unprofitable enterprises.

It seems to be purposeful to regulate the level of the starting profit so as to cover the costs of only the simple renewal of production in case of enterprises producing with *average efficiency* (profit) in a new price system without individual subsidies and taxes. To these costs belong in part the replacement of the actually outworn fixed assets (provided that the valid depreciation rates approximately express the real depreciation of the value of the fixed assets), and in part, the wage raises and social, cultural and other allocations in connection with the minimum requirements of the standard of living and not dependent on performance. In this case the enterprises are differentiated already at the start and this differentiation could be the ground for decisions on the efficient investment of additional resources.

The recommended magnitude of the starting profit level implies at the same time that *enterprises with worse than average efficiency* could not afford even the simple renewal of production, that is, many of them would become unprofitable. Solution of the situation of the unprofitable enterprises needs intervention according to the following: – enterprises whose activities are needed by society could be provided with the necessary financial resources for the simple renewal of production, e.g. by granting long-range consolidation credit. It is by no means adviceable to redeem the loss of these enterprises with subsidies since some of them can be expected to eliminate the loss in the period after the initial stage and to step up the efficiency of their activities. In the case of these enterprises the instruments stimulating for changes favourable also for the national economy serve this purpose only if they are no "windfall money"; – the activities not

necessary for society (the products can be substituted or perhaps imported cheaper) or when the rationalization of activities from enterprise resources is not likely in a foreseeable time, must be gradually reduced and then terminated. More precisely: suppression of the activities of the unprofitable enterprises, or that the enterprise is quasi liquidating itself, results from the above conditions.

For example, it could be a way of "regulating" the enterprise incomes (profit) to correct the starting profit formed at new prices with normative taxes so as to leave only as much income with the enterprises as is sufficient for the simple renewal of production. It is obvious, however, that enterprises with better than average profitability could form higher than average profit.

Interference with the management of the different groups of enterprises would be weighed by the thus "regulated" profit level automatically but in correspondence with national economic efficiency:

1. Enterprises which are worse than the average, but may be expected to become viable in a short while, could be encouraged to rationalize their activities through appropriate deadlines, rates of interest, etc. of credits. That is, central control would have maximum role and tasks in this field since here current production or the enterprise's existence would be at the stake.

2. Central intervention would be asserted more moderately in the case of average enterprises as they could decide about the simple renewal of their current production independently and would be only required to meet the conditions of the actual set of efficiency requirements for procuring the additional resources necessary for development.

3. The role of central interference would be the least enforced – but whenever reasonable and necessary – in the case of enterprises operating with higher than average efficiency, because they could finance from their profits also a part of the resources necessary for development and would be compelled to fulfill higher norms of the set of requirements subordinated to national economic objectives only when asking for additional resources.

Expansion of the scope of monetary sources subject to liabilities is reasonable in financing the developments of enterprises with both average and better than average starting profit. It appears to be expedient, also according to increase the role of the credit sphere and consequently to gradually cancel the direct and/or indirect investment subsidies. As a corollary of the above, *a considerable part of the profit returns of effective developments should be left with the enterprises* thereby creating the possibility for the financial basing of autonomous economic management.

The present situation of the Hungarian national economy and the future tasks partly determined by it make it more and more pressing to resolve the pending problems of enterprise management and income control. A system of enterprise interests transmitting real economic requirements and corresponding with those could be cast an important role among the most expedient means of increasing efficiency and selectivity. This system cannot be but the profit incentive, but with a content and in a form more rational than it now is, and bringing enterprise and national economic interests into nearer proximity.

РОЛЬ ПРИБЫЛИ В ХОЗЯЙСТВЕННОЙ ДЕЯТЕЛЬНОСТИ ПРЕДПРИЯТИЙ В ВЕНГРИИ

И. ФЕНЕВАРИ

Хозяйственная реформа 1968 г. в Венгрии покончила с централизованной разбивкой плановых заданий по предприятиям, упразднила заинтересованность предприятий в увеличении валовой продукции, сделала прибыль основным показателем экономической эффективности деятельности предприятий. В директивах реформы, направленных на постановку в центр хозяйственной деятельности предприятий рентабельности, выразилось также и стремление к тому, чтобы прибыль как комплексный показатель эффективности одновременно отражала бы и народнохозяйственную эффективность. Обобщая опыт почти целого десятилетия, автор приходит к выводу о том, что эти установки реформы полностью осуществить не удалось.

Эффективному развертыванию роли прибыли и рентабельности, в частности, мешало то, что и после 1968 г. не сложилась система цен, правильно отражающая эффекты и затраты, вследствие чего внутренние цены не только искажали действительную прибыль от текущей производственной деятельности предприятий, но и неправильно ориентировали при принятии решений о развитии тех или иных предприятий или отраслей. И после 1968 г. рыночные механизмы функционировали весьма ограниченно, влияние спроса и предложения на развитие товарооборота тормозилось различными административными мерами чрезмерно централизованного управления – прежде всего со стороны отраслевых министерств. Предприятиям осталось очень мало возможностей для принятия самостоятельных решений, для риска; отсутствие самостоятельности во многих случаях мешало осуществлению на практике хороших и полезных начинаний.

Поскольку роль прибыли и в период после 1968 г. не стала определяющей для хозяйственной деятельности, у предприяеий сложились другие центры заинтересованности. При разветвленной и до необозримости сложной системе финансовых субсидий и изъятий интересы предприятий в большой степени сосредотачивались на получении различных государственных дотаций, льгот освобождений от налогов. В конце анализируемого периода дотирование прибыли уже достигло 100%.

Несмотря на отрицательный опыт и сложившиеся тенденции, автор убежден, что и в будущем прибыль будет наиболее подходящей категорией для выражения заинтересованности предприятий, хозяйственная деятельность которых протекает в условиях социалистических производственных отношений. Естественно, для этого управление экономикой должно на деле обеспечить также условия (базирующаяся на ценах мирового рынка система внутренних оптовых цен, сокращение и ликвидация индивидуальных дотаций и изъятий, активная финансовая политика и т. д.) , без которых невозможна эффективная роль прибыли.

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G. RÉVÉSZ

ENTERPRISE AND PLANT SIZE STRUCTURE OF THE HUNGARIAN INDUSTRY

A very strong centralization is characteristic of the state sector of the Hungarian industry (however the average plant size is only slightly higher in advanced capitalist countries). Beyond heritage from the past, it was first of all an adjustment to the character of industrial development and to the requirements of an economic control system based on plan directives that a highly intensive enterprise centralization has developed in Hungary (similarly to other European socialist countries). The 1968 reform of the economic mechanism would have required to increase the ratio of small- and medium-sized enterprises, which, however, has not happened. What is more, under the effect of shortage economy and other factors, extensive industrial development has continued in a particular way, and the centralization process has also intensified: large enterprises procure the labour necessary for their growth by amalgamating small enterprises. The author proves that this tendency is not in harmony with the valid basic principles of economic management; he urges the elaboration of well-considered and co-ordinated measures that would expand the sphere of small- and medium-sized enterprises and strengthen their position.

Changes in the judgement of small and medium-sized industrial enterprises

The structure of industry by enterprise (factory) size* has been viewed from a new aspect from the early 1960s on.

In the previous years the absolute superiority of large-scale enterprises and big factories had been claimed rather unambiguously in the socialist countries and in economic views based on Marxist political economy, in general. (Besides also in the West, in quite a few schools of economics and business management, too). In this concept the large-scale factory is the form corresponding to modern technology which is not only a driving force of technological progress, but also an organizational precondition of the application of

*Throughout the study the term *plant* corresponds to the *establishment* as defined in "International Recommendations for Industrial Statistics", Statistical Papers Series M, No. 48, UN. N.Y. 1968.

*The notion of enterprise (plant) size can be applied in various ways. In this article this notion is unambiguously interpreted according to the criteria of grouping by employment. The reason why we do so is, on the one hand, that data are available or can be compiled for international comparisons practically only in such manner. On the other hand, relations within enterprises, in general, and within this relationship between managers and staff are considered as determinant – in agreement with György *Varga*. "An enterprise can be regarded as "small" until its leader may maintain direct and regular contacts with workers and other employees of the enterprise (or at least with a great part of them)." [18] In this sense, from the viewpoint of statistics, small and medium-sized enterprises can be considered those where less than 500, perhaps 1000, persons are employed.

technological innovations and manufacturing processes ensuring ever higher productivity. On the other hand, however, small- and medium-sized factories (or enterprises) can remain independent only temporarily, since they work with relatively low productivity resulting from their necessary technological backwardness. The "big fish", symbolizing development, will sooner or later swallow the "small fish" in the process of concentration of productive forces. As another aspect of the problem it has been raised that under capitalist conditions this trend of development may create, on the basis of technology, such monopolistic situations, in whose framework the striving after higher profits will lead to irrational management from the macroeconomic viewpoint. But, according to this view, the organization of big and even gigantic enterprises (factories) as carriers of technology under the conditions of planned economy relying on plan directives can be basically judged positive as regards their overall effects on the national economy, although some unfavourable phenomena accompanying monopolistic situations can be experienced also in the socialist economy.

A turn in views concerning enterprise (factory) size was caused in the early 1960s mainly by the fact that the concept above outlined was not or only partly proved by practice. The development of Japan, having the most "fragmented" enterprise structure, was by far the fastest among the capitalist countries. High growth rates were achieved by such countries, too, where small and medium-sized enterprises represented a relatively greater share in the industry (e.g. Sweden, the Netherlands). Organizational concentration of the industry could not practically be shown after the Second World War even in those countries – or only to a very small extent – which were well-known for their relatively big enterprise (factory) sizes (Germany (Fed. Rep.), Great Britain, the United States). When looking for the reasons of this phenomenon there were many experts trying to give such an explanation for the competitiveness of small and medium-sized enterprises that though production was realized in them with outdated technology, wages were lower than those paid by big enterprises, and the related cheap possibilities of overtime and the increased self-exploitation of owners and their family members might compensate for some time for the disadvantage resulting from outdated technology. After all, these explanations – though they were real – could only be accepted as peripheric ones. The viability and permanent renewal of small- and medium-sized enterprises (factories) as well as their active participation in innovation processes can be interpreted only by going into greater details and by approaching from the side of technological possibilities and needs, their changes and development.

Superiority of big enterprises over small ones is quite unambiguous in the case of mass production where only a few products, of a bit slowly changing assortment, have to be manufactured. Some branches of the industry are of such character, resulting from production technology (e.g. the heavy chemical industry, ferrous metallurgy, motor-car manufacturing). Furthermore, such mass production is postulated from the side of demand by the relatively less changing character of mass demand. This fact asserted itself for both consumer goods and means of production in the period preceding World War II and also in the postwar decade. The USSR and also other socialist countries coming about

after the war were characterized by a demand for mass products of a relatively simple technological standard and stable assortment.

Following World War II and mainly the 1950s, the strengthening and new trends of technological progress, relatively fast economic growth and the rising living standards in their wake were accompanied by such features which basically widened the possibilities of small- and medium-sized enterprises for a rational organization of production corresponding to advanced technology and needs (market demands) in the developed (and later on also in medium-developed) countries. In our opinion, it may be attributed mainly to this circumstance that the process of concentration and centralization came to a halt in the enterprise structure of the industry in developed countries.

Without aiming at completeness we would like to mention some relevant features and moments of development.

The requirement to rapidly meet special and changing demands has come to the fore in the engineering industry and within this especially in machine building. The production of such tools of work became more important which can be manufactured, owing to their special character, only piecemeal (individually) or in small lots. Automated transfer lines of factories manufacturing mass consumer goods, integrated processing equipment, various special-purpose machines, facilities for environmental protection, etc. are, for example, permanently of individual character. But, manufacturing of such type was extended also because of the acceleration of technological progress, since novel means of production and productive equipment can only be manufactured in small quantities in the first stage of running in. [11] All this has extraordinarily increased the importance of the ability of rapid change-over, flexible adaptation to demand and of piece production as well as production in small lots in the manufacturing of investment goods. As a matter of fact, from this aspect small- and medium-sized enterprises or factories have an advantage in many respects over the less mobile ones which can adapt themselves to new requirements only relatively slowly and expensively.

Modernization of the productive equipment and the increase of the productivity of small and medium-sized enterprises and factories in the engineering industry have been promoted by several technological innovations. Thus, for example, digital programme-controlled metal-working equipment or electronic production control opened the possibilities of partial automation in piecemeal and smallest production. This process is promoted also by the fact that an increasing proportion of components required for individually manufactured machines have been standardized and an industry specialized in manufacturing standardized components has developed which provided, within the scope of its very limited specialization, also considerable possibilities for the activity of small- and medium-size enterprises (factories). [14, 22]

The role of small- and medium-sized enterprises in the development and transfer of new technology cannot be neglected either. New production methods are often invented in small- and medium-sized factories which by the nature of things, are not fully automated. Here such new solutions can be introduced and tested in a relatively localised manner, which can later on be spread in the whole domain of small- and medium-sized

factories on the one hand, and applied also in big factories after a period of testing and perfection on the other hand.* It seems to be a well-founded statement by a leading engineer of a Hungarian big factory in his article: "It is no exaggeration . . . , that through the attitude to piece production also the attitude to technological progress and receptivity to novelty can be measured. Modern equipments individually manfucatured at present (e.g. products required for atomic power station) may easily become a main point in the assortment of industrial products after a few decades." [11]

Piecemeal and small lot production together with a flexible adaptability to changing demands became very important also in industries turning out consumer goods. Following the relatively considerable rise in living standards the consumption of the population as a whole shifted more and more towards quality goods; a continuous fast change in the demands for a widening assortment of clothing, furnishing, mechanization of households and of household electronic equipment, in general, could be observed. All this strengthens the position of small- and medium-sized enterprises also in this field.

Shifts in the international division of labour in developed (more developed) industrial countries have also contributed to the growing importance of piecemeal and small lot production as well as of the manufacturing of standardized component parts and units, in narrow specialization and ensuring perfect quality. There are two aspects of this matter. One is that the population of developing countries became capable of supplying labour for the manufacturing industry under the conditions of up-to-date mass production, while this latter can already be based also on a relatively backward population at present (also following from the modifications in the terms of sales). But, on the other hand, the population of the developed countries became more and more highly qualified. This involved a rather general trend in the international division of labour, namely, industries of developed countries concentrated much more than previously on the manufacturing of products requiring a relatively high cultural level and great "intellectual capital", which can be manufactured only individually or in small lots, and meet special demands. On the other hand, mass production with a less changing and uncomplicated assortment thus ensuring the superiority of big enterprises, became prevalent in the developing countries. No special explanation is required to realize that all this will also strengthen the position of small- and medium-sized enterprises in the developed industrial countries.

In the foregoing some moments of the survival and viability of small- and medium-sized enterprises were mentioned which belong to the sphere of production, interpreted in a narrow sense. It is, however, also important that, in connection with the high level of development, the demand for services of both personal and productive consumption has considerably increased, and the satisfaction of a great part of these services can be most

*The British literature formulates this matter also from another aspect stating that one of the reasons for the slow innovation process disadvantageously influencing the international competitiveness of the British industry is the passivity of enterpreneurial capital, small and medium capital and their abstaining from risks of new ventures. Cf. [20].

rationally ensured in the framework of small- and medium-sized enterprises. In an ever widening field of services, connected with personal and productive consumption, permanent and so-to-say personal contacts are gaining special importance. Owing to this and to the character of the working tools of maintenance and repair a special division of labour has developed; namely, between the complicated measuring stations of high accuracy indicating failures and attrition as well as the concrete skilled work of maintenance and repair activities practically done with manual instruments on the basis of the results obtained from the former. It needs no special explanation that this latter activity might be very rationally organized in small enterprises or plants relying partly also on family work. [3]

Development of the structure of Hungarian industry in comparison with some other countries

Research on Hungarian economic history unambiguously revealed the structure of Hungarian industry bearing the marks of late development at the end of the last and the beginning of this century. Accordingly, the development of the enterprises of the Hungarian industry exhibits a special duality in the period ranging from late industrialization to the First World War. On the other hand, forms usual in the Middle Ages and in early capitalism remained characteristic, small plants of mainly handicraft character were very wide-spread and their economic importance and vitality was relatively great. But, on the other hand, most up-to-date big enterprise structures (large-scale plants) and management types were spreading in some sectors of the economy which were the most modern ones of those times, skipping over or avoiding certain stages of development. [2] This duality and the huge enterprises established under the effect of industrialization efforts supported by the state in this framework cannot be regarded as merely special Hungarian features. It seems that this is a characteristic type of industrialization in such regions (countries) which are relatively near to countries that are more advanced in industrialization and can more or less take over impulses of the most advanced industrialization processes even if with some delay. [6]

The adaptation of the Hungarian industry to the new frontiers between the two world wars as well as to the changed world economic situation did not modify this characteristically dual structure in substance. What is more, the growing war orders prior to and during World War II contributed to the increased centralization of the manufacturing industry. [2]

Thus, socialist Hungary inherited a historically centralized structure of manufacturing industry from the very beginning. Under the conditions and circumstances of the period of socialist industrialization the degree of centralization further increased.

Industrialization following the reconstruction period and serving also the realization of full employment was unambiguously of an extensive character. Job-creating investments adjusted to the given conditions and to the relatively low qualification of the

available labour force expanded first of all the capacity of mass production in the heavy industry. Also, the shortage economy, following World War II, created favourable possibilities on domestic markets and also on those of the socialist countries for sales of mass produced heavy and light industrial commodities representing a simple technological level. Industrial development, adjusted to these conditions, was accompanied by the nature of things by the establishment of strongly centralized big enterprises.

The shortage economy strengthened the centralization of the industry in other respects, too. The embargo, the breaking off of previously established relations with Western firms, the lack of small- and medium-sized factories specialized in the production of semi-finished products and component parts caused permanent difficulties and problems of cooperation. Accordingly, sectoral control organs and later on also the big enterprises strove more and more after a specific enterprise autarky and the establishment of an organization of a horizontal-combine character.

A very important element of industrial centralization after nationalization could be found in the problems of personal policy and the supply with cadres. Lenin stated already in 1917: "The poorer a country in technically qualified and, in general, intellectual labour, the more urgent is the need to order as quickly and definitely as possible forced amalgamation and to begin its realization with the biggest enterprises." [12] It is obvious that following the losses of cadres because of the War and other effects resulting from the political sphere there was a very pressing shortage in Hungary "in technically qualified and, in general, intellectual labour" and thus it was justified to establish, even if for this reason, frameworks of big enterprises around intellectual cadres and those on the way of becoming intellectuals who were capable of managing them and were at the same time judged reliable from the political aspect, as well as to enhance the big enterprise character of the industrial organization entrusted to them.

The given practice of socialist economy contributed to the growing structural centralization in industry. The "identity" of the production lines of enterprises and the resulting competition between enterprises were qualified as harmful and irrational. On the other hand, however, it is very circumstantial and cumbersome to control and manage small- and medium-sized enterprises through detailed plan directives. In an enterprise organization involving many enterprises the continuous change in conditions, demands and possibilities creates an economic control activity working with permanent plan modifications. With big, even mammoth, enterprises it is easier to issue plan directives and the necessarily changing conditions need fewer formal plan modifications. In Hungary the large-scale organizational reform of industry was carried out between 1962 and 1964. In its framework enterprises were amalgamated with a view to centralization, conforming to the requirements of economic control based on plan directives, without any special concentration of productive forces, so that no essential modification occurred in the factory (plant) structure of the industry – as will be seen later.

In the following the enterprise and factory structure of Hungarian industry and its changes between 1955 and 1970 will be characterized in comparison with the industrial structure of other countries.

Comparisons of such character are extraordinarily difficult. Data cross-checked in all respects and with identical contents are not available. Nevertheless, such groupings may be used which reliably indicate trends as regards orders of magnitude. Taking also these possibilities into consideration tables were compiled indicating the distribution by size of total employment and of workers, respectively, among the groups of enterprises and industrial plants in the manufacturing industry and within it in the heavy and light industries as well as in some of their branches. (The groups represent size by employment.)

First we show a table (see *Table 1*) indicating the development in time of the distribution of employment among industrial plants. In the table the data of Sweden, the Federal Republic of Germany as well as of Poland and the German Democractic Republic are given beside those of Hungary.*

It can be seem from the table that the degree of concentration of plants in the Hungarian manufacturing industry increased to some extent between 1955 and 1970. In plants with less than 100 (more precisely less than 101) workers 16.6 percent of all workers in manufacturing worked in 1955, while only 13 percent of them in 1970. The proportion of workers in plants employing less than 500 workers decreased from 42.7 to 38.9 percent, while that of workers in plants with less than 1000 workers from 61.9 to 59 percent.*

In other words, this means that in 1955 38.1 percent of workers in the manufacturing industry worked in plants employing more than 1000 workers and in 1970 already 41 percent. It can be seen from the table that, as a result of concentration of plants, the average manpower per plant increased from 153 in 1955 to 194 by 1970. The data of the table referring to the 1960s indicate that the concentration of plant structure went on more or less continuously in the Hungarian industry, without special leaps as regards the whole of manufacturing.

Let us now turn our attention to the trends which can be read from the table and to the relation of Hungarian data to those of other countries.

The table shows the data of two capitalist countries. Each country represents a characteristic type of capitalist industrial structure. Sweden represents the type where medium-sized and small plants are predominant, and the FRG the type characterized by a great number of big industrial plants. The data of the socialist countries are similar rather to those of the FRG, but already significantly exceed it in concentration by the beginning of the 1970s. It is especially striking how much more concentrated (perhaps rather centralized) the plant structure is in the light industry.

*Tables 1, 2, 3 and 4 were compiled on the basis of [4]. The data used there were taken from statistical yearbooks and statistical census publications.

*These are cumulated data, therefore, for example, the 42.7 percent in 1955 involves also the manpower of plants employing less than 100 workers. Similarly, the 61.9 percent includes also the manpower of plants employing less than 100, 100–500 as well as 500–1000 workers, respectively.

Table 1

Distribution of employment among groups of industrial plants according to their working staff

(Plants with more than 10 employees) (In percentage)

Country	Year	Manufacturing industry plants employing at most				of this: Heavy industry at most				Light industry at most			
		100	500	1000		100	500	1000		100	500	1000	
		persons			average employment	persons			average employment	persons			average employment
Sweden[1]	1960	34.9	67.9	80.8	73	28.1	55.7	69.4	87	41.8	82.8	95.8	62
	1970	33.5	67.5	80.3	77	26.1	55.5	69.7	96	44.8	86.0	96.4	58
FRG[2]	1962	18.7	48.7	62.1	143	13.2	37.7	50.6	195	30.9	74.1	88.6	91
	1970	17.3	46.5	60.1	153	12.4	36.3	49.6	203	31.3	75.0	88.9	90
Hungary[1, 3]	1955	16.8	42.2	61.5	152	12.1	33.1	54.0	223	20.8	52.2	67.3	122
	1960	15.9	39.9	59.8	174	10.9	32.4	52.1	235	22.0	49.3	67.9	144
	1970	13.6	39.8	58.7	186	8.0	30.6	47.7	288	19.1	51.3	72.7	142
Poland[2, 3]	1965	17.4	41.2	57.1	151	13.4	31.8	45.8	198	18.7	50.8	67.3	140
	1970	15.3	39.8	54.3	167	11.6	29.1	43.2	225	16.1	47.7	64.0	158
GDR[2]	1956	17.9	41.7	54.4	134	11.1	29.9	42.3	214	26.8	54.9	68.3	93
	1960	15.4	39.8	53.4	159	9.7	28.0	40.6	243	24.0	54.6	69.9	109
	1970	11.0	28.5	39.2	227	6.1	19.0	28.8	361	20.9	44.9	56.9	133

[1] On the basis of the number of workers.

[2] On the basis of the number of workers and salaried employees.

[3] Socialist industry.

From consecutive data characterizing the individual countries it may be observed that concentration is generally characteristic of the plant structure in manufacturing. In Sweden there is a relatively small extent of concentration, and data of the light industry indicate an opposite direction (deconcentration). Somewhat more apparent, but still rather moderate concentration can be stated from data referring to the FRG and the plant structure of the light industry is stagnant also here, rather with a deconcentration character. Concentration of plants can already be more definitely stated in the socialist countries, and it is unambiguously characteristic not only of the heavy, but also of the light industry within the whole of manufacturing. Otherwise, these data indicate that the plant structure of the three socialist countries included in the table is more or less similar. In the heavy industry the industrial structure of the GDR is most concentrated, while in the light industry that of Poland. At the same time the plant structure in the light industry is least concentrated in the GDR.

Table 2 also includes data referring to the plant structure of the industry concerning five sub-branches of manufacturing for 1970. These data confirm the image obtained from *Table 1.*

The plant structure of the Swedish industry is much less concentrated in each of the sub-branches than that of the FRG. This difference is only partly motivated by the circumstance that statistics for Sweden contain only data processed on the basis of the number of workers, while those for the FRG on the basis of the number of workers plus salaried employees. (Because of the same statistical difference also data referring to Hungary should be corrected upwards when comparing them with data of the FRG, Poland or the GDR.) Plant concentration in each of the sub-branches of the socialist countries exceeds that of the FRG. Most striking is the degree of concentration in the textile industries of Hungary and Poland, as well as in the engineering of the GDR, while concentration in the Hungarian clothing industry and in the wood and leather industries of the GDR is relatively most similar to that in the FRG.

Though the plant structure of the industry bears some marks of a conscious industrial organization, nevertheless this structure means a concentration by territory and plants of the industry which can be stated in physical terms and is not of administrative or organizational character. In this sense therefore – i.e. as regards territory and plants – the manufacturing industry of Hungary and the other socialist countries is characterized by a much more concentrated industrial structure indeed, than that of Sweden and of the FRG, though to a lesser extent in the latter case. This more concentrated plant structure represents, at the same time, a considerably lower level as regards the development level and productivity of manufacturing as well as the up-to-dateness of its product pattern.

In *Table 3* data referring to the *enterprise structure* of the manufacturing industry can be found. Here – in conformity with possibilities provided by statistics – data of Great Britain and Sweden as well as of Poland and Czechoslovakia are given. In the given comparison the capitalist structure of big enterprises is represented by Great Britain as against the Swedish industry based on medium-sized and small enterprises. The data base is rather incomplete. In the case of Britain, enterprises employing less than 10 persons

Table 2
Distribution of employment among groups of industrial
(Plants with more than 10 employees)

Country	Engineering industry			Textile industry		
	Plants employing at most					
	100	500	1000	100	500	1000
Sweden	27.4	56.9	70.6	37.5	91.5	100.0
average staff		*91*			*71*	
FRG[2]	11.4	36.3	42.8	18.9	61.0	81.5
average staff		*222*			*138*	
Hungary[1, 3]	7.0	30.2	49.0	2.6	17.2	47.7
average staff		*275*			*528*	
Poland[2, 3]	9.8	26.0	40.9	4.2	25.1	40.5
average staff		*249*			*429*	
GDR[2, 4]	6.0	20.8	32.0	16.4	32.9	42.6
average staff		*358*			*182*	

[1] On the basis of the number of workers.
[2] On the basis of the total number of workers and salaried employees.
[3] Socialist industry.
[4] Wood, closing and leather industry: 1965

could not be separated from the given data, and thus the average staff of enterprises comparable with data of the other countries could not be determined for Britain. The data referring to Sweden do not give details for enterprises employing more than 500 persons. Concerning Poland only data referring to the entire manufacturing industry are available. In the case of Czechoslovakia a dynamical development of the structure could not be presented because the data were available only for one year. It is disturbing that for Hungary only data of the state-owned industry and for Czechoslovakia only those of the industry controlled by ministries are available.

Despite the deficiencies of the statistical base, definite trends can be stated from the table. We consider it a characteristic feature that the Hungarian data referring to 1955 and 1960, as well as the Polish data for 1965 show some similarity to the British data. This similarity can be observed in respect of the proportion within total employment of those employed in enterprises with a staff of 50 or 1000 persons at most. It is remarkable, however, how low is the proportion of smaller enterprises employing less than 100 persons in the socialist countries included in the table, even if we take into consideration that the data referring to Britain include also enterprises employing less than 10 persons.

plants according to their working staff in 1970
(In percentage)

Wood industry			Clothing industry			Leather industry		
100	500	1000	100	500	1000	100	500	1000
60.0	95.7	100.0	62.4	94.0	100.0	69.8	100.0	100.0
	42			*47*			*46*	
38.6	83.4	94.6	41.3	88.5	97.9	33.9	80.1	90.1
	76			*74*			*85*	
22.9	80.2	97.5	23.3	62.6	80.5	15.1	43.3	68.2
	117			*118*			*173*	
30.0	76.8	92.5	22.2	55.8	77.3	16.7	47.0	62.1
	98			*111*			*165*	
34.3	78.2	92.1	31.2	60.0	73.6	26.1	61.3	79.8
	75			*106*			*107*	

The development of enterprise structure, too, is generally characterized by concentration and centralization. This can only slightly be observed in the Swedish data and even there some deconcentration can be seen in the light industry. The British data already refer to a somewhat more definite process. In Hungary an industrial reorganization amounting to scaling up the enterprise structure of the industry took place between 1960 and 1970 (more precisely, between 1962 and 1964); this, i.e. the organization of mammoth enterprises is unambiguously indicated by the data of the table. Data of 1970 referring to Czechoslovakia show already the final result: organizations displaying economic activity of enterprise character are really giants, with more than 2000 employees on the average everywhere, while the number of those working in enterprises employing less than 1000 persons is quite insignificant. Of course, it should be taken into consideration that – as has already been mentioned – in the case of Czechoslovakia the data pertain to the industry controlled by ministries, while for Hungary those of the state industry are given. It is obvious that data referring to the entire state and cooperative industry would show for both countries a less centralized enterprise structure than that in the table. But, considering the relatively small weight of local and cooperative industry these data would not too much deviate from those in the table either.

Table 3

Distribution of employment among groups of enterprises according to their working staff (enterprises employing more than 10 persons)

(In percentages)

Country	Year	Manufacturing industry				Heavy industry				Light industry			
		enterprises employing at most											
		100	500	1000		100	500	1000		100	500	1000	
		persons			average employment	persons			average employment	persons			average employment
Great Britain[1]	1963	14.3	32.1	41.2		11.1	25.6	34.4		23.0	49.9	61.1	
	1968	13.7	29.9	38.3		11.1	24.8	32.9		21.8	45.7	55.8	
Sweden[2]	1968	22.4	44.0		107	17.4	34.5		140	30.1	57.6		81
	1973	21.9	42.1		112	17.4	33.1		143	31.7	61.1		78
Hungary[3]	1955	3.8	29.9	54.8	416	2.0	24.2	49.7	571	3.7	30.4	52.8	427
	1960	1.4	20.5	41.7	575	0.9	18.5	40.4	729	1.4	25.5	50.1	551
	1970	0.4	8.1	18.3	1295	0.2	4.4	12.8	1693	0.5	11.5	23.6	1106
Poland[4]	1965	2.8	23.5	39.0	547								
	1974	0.9	15.3	25.7	900								
Czechoslovakia[5]	1970	0.0	2.1	10.3	2020	0.0	2.0	11.1	2046	0.0	1.6	4.6	2457

[1] On the basis of the number of workers and salaried employees together with enterprises employing less than 11 persons.

[2] On the basis of the number of workers and salaried employees.

[3] State industry, on the basis of the number of workers.

[4] Socialist industry, on the basis of the number of workers and employees with salary.

[5] Industry controlled by ministries, on the basis of the number of workers.

In *Table 4* comparative data are presented for five sub-branches of the manufacturing industry. The picture obtained on the basis of these data motivates what has already been said. However, it is worth comparing the enterprise structure and the plant structure (see *Table 2*) of the given industrial sub-branches.*

In capitalist countries the average staff in the enterprises is about one and a half times as much as that in industrial plants. In the Hungarian state industry this ratio is about fivefold. This comparison unambiguously shows, too, that the enterprise structure of the manufacturing industries of Hungary and similar socialist countries is characterized by a very strong organizational and administrative centralization.

Development of the enterprise structure of the Hungarian industry in the 1970

The very powerful organizational centralization in Hungary (and also in other socialist countries) can be interpreted as a solution adjusted to requirements of economic control and management based on plan directives. From this alone it would also follow that the programme of applying a new kind of economic control and management relying on the organic unity of plan and market shall include also such concepts of enterprise organization which are aimed at breaking the very strong centralization of the industrial enterprise structure in certain fields, first of all in several sub-branches of the light industry and in some of the engineering industry. In the course of the preparation of the 1968 reform of the Hungarian mechanism no such decentralization programme was elaborated. The Party decision on the reform postponed measures of this kind, which were otherwise considered as necessary. It was emphasized that this was not a task to be fulfilled in the form of a campaign (simultaneously all over the country), but continuously, depending on its topicality and on the tensions caused by problems arising in one or another branch of the industry. But, in connection with those tasks, too, which characterize the possible way of Hungarian economic development after the 1960s, the concept of the reform of the economic mechanism and the concrete objectives of the reform alone make topical the decentralization of the enterprise structure, the establishment of small- and medium-sized enterprises and their growing weight in the industry.

*The machine-building and metal-working industry in the first column of *Table 4* comprises only a part of the engineering industry in the first column of Table 2 which includes also the manufacturing of vehicles and the electrotechnical industry both consisting mostly of larger enterprises and plants. In the wood-working industry of the FRG the average staff number is smaller in the enterprises than in plants, we cannot give any explanation for this fact.

Table 4
Distribution of employment among groups of enterprises according
(In percentage)

Country	Year	Machine-building and metal working industry			Textile industry		
		enterprises					
		100	500	1000	100	500	1000
		persons			persons		
Sweden[1]	1973	28.4	50.1		29.9	70.1	
average staff			*90*			*83*	
FRG[1]	1967	15.7	46.6	60.9	16.8	54.4	73.2
average staff			*170*			*154*	
Hungary[2]	1970	0.2	4.3	15.2	0.0	1.2	4.6
average staff			*1490*			*2761*	

[1] On the basis of the number of workers and salaried employees.
[2] State industry, on the basis of the number of workers.

The reform of economic mechanism was justified, in most general terms, by the fact that the extensive phase of Hungarian economic development objectively came to an end, since the extensive resources of growth had become unambiguously exhausted by the end of the 1960s. Accordingly, and taking into consideration also the changing demands on domestic and foreign markets (including the circumstance that a gradual "hardening" of markets of the CMEA-countries can easily be foreseen) the requirements of the intensive phase of growth had to be kept in view. This means – among others – that we have to change over from mass production requiring labour with relatively low qualification more and more to the production of goods involving more qualified labour and intellectual capital. It is obvious that such a way of development requires, on the one hand, a relatively wide range of enterprises suitable for the output of individually produced or small lot products as well as for more elastic management, and it should be accompanied, on the other hand, by the organization and establishment of a producing apparatus consisting of smaller units for the considerably specialized manufacturing of standardized partial units, spare parts as well as of auxiliary materials and additives in wide assortment and reliable quality.

In the intensive phase of economic growth investments must not be such which characteristically create new jobs. Versatile endeavours and the undertaking of risks are needed as well as such conditions under which investment initiatives and development

to their working staff (enterprises employing more than 10 persons)

Wood working industry			Clothing industry			Leather industry		
employing at most								
100	500	1000	100	500	1000	100	500	1000
persons			persons			persons		
54.0	87.5		47.0	85.9		62.7	100.0	
	47			*53*			*48*	
41.6	82.0	91.2	30.9	74.6	86.4	25.9	59.7	69.0
	66			*91*			*112*	
0.4	28.9	58.7	0.0	5.8	20.1	0.1	5.1	13.4
	579			*1398*			*1696*	

concepts of various enterprises may compete with each other. Such conditions, too, are better developing if small- and medium-sized enterprises have a bigger weight, taking into consideration also the fact that certain kinds of innovative initiatives are always more suitable for small and medium-sized enterprises from the outset.

The reform of the economic mechanism envisaged a controlled functioning of the market mechanism fitted into the frameworks of planned economy. This again postulates competition of domestic producers on the market, at least in those branches where the small size of the country allows it at all. Therefore, it may be topical even from this aspect to eliminate monopolistic situations which have become unjustified, to break up those national big enterprises where the big enterprise organization can be attributed almost exclusively to the requirements of economic control and management based on plan directives.

Some decentralization of the enterprise organization would have been required by the incentive system developed by the reform of the economic mechanism and which has been functioning ever since, even if with some hitches. This incentive system has been an explicitly collective one from the aspect of the development of personal incomes, insofar as the increase in the earnings of the entire collective of an enterprise depends on profits and enterprise income. It is obvious that the activation of collective incentive can be better filled with adequate contents in the frameworks of relatively smaller enterprise

organizations, since in smaller enterprises there are more possibilities for workers, more concretely for those having already spent a longer time with the given enterprise and thus also having some privileges to participate in management activity in substantial matters.

Following the reform of the economic mechanism the lack and the insufficiency of small- and medium-sized enterprises appeared rather sharply. Resulting from these deficiencies and shortages an enterprise behaviour vividly reacting to market effects, shortages, and sales possibilities on Western markets has developed first of all in the scope of medium-sized cooperative enterprises. In the 2–3 years following the reform the work of indsutrial cooperatives was characterized by a definite boom, further small- and medium-sized ventures aimed at the elimination of shortages were established, adjusting themselves to the given possibilities, in the form of multiplying industrial productive units as auxiliary workshops of agricultural cooperatives.

As a result and as was expectable also tensions came to the fore. The auxiliary workshop of agricultural cooperatives, as well as industrial cooperatives achieving great profits on domestic and export markets could attain better wage-increasing possibilities and in some trades even pay somewhat higher wages than in the large-scale industry. This was partly due also to the much more intensive work than usual in large-scale industry. Also the circumstance had some part in that in the previous period wages were lower precisely in the industrial cooperatives. As a consequence of these changes in relative wages, furthermore, resulting from the new type of working possibilities in cooperatives and auxiliary workshops, which were more diversified and to some extent even of creative character, a certain regrouping of labour took place. That made the labour situation of big factories a little more difficult especially in the strongly industrial regions and within them first of all in Budapest.

As a reaction to these necessarily appearing shifts in relative wages as well as to some glaring and very much over-estimated economic abuses (crimes) concomitant with the revival of small ventures, the activities of auxiliary workshops meeting real demands – just beginning to develop – were strongly limited through administrative measures, while the dependence of wage payment possibilities on the development of profits (profitability), was squeezed within very narrow bounds also with regard to cooperatives. Though – feeling the lack of small- and medium-sized enterprises – a government decision was taken in April, 1970 on the development of small- and medium-sized plants, no considerable actions were taken following this decision.

Under the given conditions centralization of the industrial enterprise structure gained further momentum in the 1970s. Between 1968 and 1975 90 independent enterprises were liquidated, first of all through fusions and amalgamations. [18] The number of state-owned industrial enterprises decreased from 779 to 737 in 1975 and 1976. [19] In the last 1 or 2 years several fusions took place especially in the engineering industry. [17]

We do not wish to and even cannot dispute whether a concrete amalgamation or fusion was justified or not. But it can be stated on the basis of the data that the organizational changes of recent years have worked towards further centralization of the enterprise structure in the industry and further sharpen the tension caused by the lack of

small- and medium-sized enterprises in the economy. Besides, it should also be mentioned that in this process even the existing small- and medium-sized enterprises are at present in a state of complete uncertainty; they fear of being sooner or later also amalgamated and this necessarily restrains the putting forth of initiative and enterprising. It is also justified to recall what was otherwise stated by an investigation carried out by the Ministry of Labour: ". . . since amalgamated enterprises usually change over to conveyor-belt mass production they need semi-skilled workers instead of skilled ones, while previous research and development activities are liquidated in almost all amalgamated units." [1] All this liquidates in several cases "intellectual capital" producing remarkable technological and economic results. [7, 13, 15].

We do not wish to discuss the question here, how far the objectives of the reform of the economic mechanism were realized or not, nor what factors impeded the continuous development of the reform from the organizational aspect. We only wish to point to some direct reasons strengthening the centralization process, because of which the period passed since the reform has not been characterized by the strengthening of the sector of small- and medium-sized enterprises, but rather by their further weakening.

We are living in a period of industrial development in Hungary which is extensive in a specific and spontaneous way. Since freely available labour resources or those to be regrouped from agriculture into the industry have became inambiguously exhausted, the big enterprises capable of dynamic expansion resulting from their economic situation and their position in the power structure can procure the necessary labour only from other enterprises. On the other hand, one of the simplest forms of obtaining additional labour is the amalgamation of other enterprises. Shortages, narrow cooperation bases, uncertainties of domestic and international cooperation do all almost inspire our big enterprises to further widen their production autarky. For example, if a big enterprise introduces a new group of products following the requirements of development, then, to realize this, further cooperation partners would be needed. In lack of them it will provide, through amalgamation, such plants which can be retooled for manufacturing the necessary products (that would be otherwise produced through cooperation). In the framework of ever widening enterprise autarky supply will deteriorate in many products as a result of the increasing lack of small- and medium-sized enterprises. To fight against this phenomenon administrative authorities enforce the so-called "responsibility for supply of big enterprises" covering more and more groups of products. But this responsibility for supply will again increase the centralization in the case of big enterprises.

The role of industrial cooperatives in the sphere of small- and medium-sized enterprises justifies that the centralization and concentration process of recent years be also separately discussed.*

*The materials referring to industrial cooperatives were prepared by Gyula *Tellér*.

With industrial cooperatives a concentration process promoting, often even replacing it, a powerful organizational centralization took place following the rapid increase in their staff in the early 1950s. [16], [27]. In the second half of the 1960s and the first half of the 1970s a concentration process bearing qualitative elements came to the fore. This is well indicated by the fact that between 1966 and 1975, i.e. during ten years, the number of cooperatives belonging to the industry decreased by altogether 6 percent (from 792 to 747) [23], [25] and, at the same time, also the disadvantageous fragmentation of industrial cooperatives diminished (between 1970 and 1975 round 450 plants were liquidated [26] first of all in the lowest category employing 1–10 workers), the average number of workers employed in an industrial plant increased from 25 to 30 [28]. In the knowledge of this positive concentration process and with a view to protecting the flexibility and management security of small enterprises capable of fast market movements such government declarations were made which laid emphasis on the qualitative side of concentration also further on, and according to which the enterprise sizes of industrial cooperatives should be considered as adequate. [24]

From the mid-1970s on, however, the emergence and acceleration of a centralization process similar to that in the early 1950s and early 1960s can be experienced. The starting of this process was indicated by the fact that the overwhelming part of fusions falling to the first half of the decade (round 30) had taken place in 1975.

Then, in 1976 the number of cooperatives belonging to the industry decreased by 50 through fusions, that is by as much as during the previous ten years. And in 1977 the number of fusions was again about 50 already during the first three quarters of the year.

Namely, the logic of the given conditions of management forces even the still existing small- and medium-sized enterprises to grow. From scarce resources big enterprises can more easily have a share. The entire organization of the economy – including credit granting bank organizations, export- and import companies – are "tuned" for big sizes. Accordingly, big enterprises are in a more advantageous situation than small- and medium-sized ones when contacting the above mentioned agencies even if only because of their working method. Besides, the apparatus works too slowly in judging credit demands, in perceiving and transmitting export possibilities, in obtaining and submitting price offers, for being able to transmit rapidly changing market demands to producers on the one hand, and to properly administer the producers' initiatives, on the other hand, which are made with a view to flexible and fast adaptation to these possibilities and whose efficiency will depend precisely on the sensitivity and liveliness of this adaptation.*

Endeavours at expansion of organizations in this sphere are further motivated by the fact that several big enterprises follow the way of extensive development realized through amalgamation and the swallowing of small enterprises. Amalgamation is generally aimed exclusively at obtaining additional labour; when doing so, big enterprises usually

*It is worth mentioning in this context that bearing in mind precisely the special conditions of administering small enterprises – and certain political viewpoints –, the Bureau of Small Firms and the Investment Company of Small Firms were established in the United States.

argue with "under-exploitation of their valuable fixed assets because of labour shortage", and even if they buy the means and assets of amalgamated cooperatives or units, they do not utilize them or a great part of them at all. In this situation one of the defensive methods of local (cooperative) leaders is to increase the size of the cooperative through fusions and thus to reach the "zone of authority" where they can already compete with more success for keeping their labour force, for better supply with means and assets as well as for resources and possibilities necessary to obtain them. It is remarkable in itself that a cooperative which has become bigger through fusions as regards size, stock of assets, production value, etc. enhances also the respect for its leaders, thus they themselves can fight with more success against attempts at amalgamation.*

Besides, also factors of consciousness have an important part in that small- and medium-sized enterprises do not obtain the necessary support. Let us mention an article published in the January 31, 1978 issue of the newspaper Népszabadság as an example of a view to be corrected. According to this ". . . it cannot be forgotten, either, that one of the particularities of the industry of the country Békés lies in its fragmented character, the many plants and manufacturing units. 20 percent of all workers are working in such plants where their number is less than 100 . . . , and only 12 percent of them can be found in big factories employing more than 1000 workers." [8] From such an approach evidently result the support and even forcing of the amalgamation of plants and enterprises, instead of preferring actions first of all promoting the efficient functioning of given, already developed units. As a reflection to the proportions mentioned as evidence of "fragmented character" in the article let us recall that in the light industry of Sweden (see Table 1) almost half of the workers are working in such plants whose staff is less than 100 and the share of plants employing more than 1000 persons amounts only to 3–4 percent. Even in the much more concentrated light industry of the FRG the share of small plants (with less than 100 employees) is almost one third, while that of big plants is only a little more than 10 percent.

*

*Fusion and organizational centralization often result in a forced increase of the administrative apparatus, in increased fragmentation of the amalgamated cooperative and bureaucratic difficulties. Over and beyond that enlarged cooperatives often strive after larger lots and the introduction of mass production, which may result in loosing their old markets, in reduced readiness for smaller innovations and makes cooperation relations of the enterprises inelastic. An effect of fusions, not really economic but closely connected with economic phenomena, is what concerns the cooperative as a form of ownership. Increasing sizes of cooperatives are unavoidably accompanied by the decrease, beyond certain limits even the loss of their cooperative character, and the owner's identification as an important production motive will cease. This is promoted otherwise, also by the fusions themselves which were forced on to members from outside. (Case studies on fusions made at the Research Institute for Cooperatives deal concretely with the "natural history" of fusions and their effects. [5], [9], [10], [21]

We have tried to outline the development process of the enterprise and plant structure of the Hungarian industry and to show that the present structure is over-centralized – even in view of the requirements of the intensive phase of growth – and the sector of small- and medium-sized enterprises is unhealthily and irrationally small, also under the effect of developments in the last two-three years. After having presented various trends and facts this article could be closed by proclaiming general principles and requirements – sounding also like proposals. Thus, for example: the safety of existence and functioning of our small- and medium-sized enterprises (including also cooperatives) should be ensured; it must be achieved that smaller productive units shall not be in any disadvantageous situation concerning the assertion of their development possibilities and credit demands. However, the problems of the organization of production are very concrete, and thus they can hardly be remedied by general therapy. Therefore, organized and detailed investigations covering various fields of production would be required in order to determine tasks in harmony with the further development of the economic mechanism and the objectives of structural policy.

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СТРУКТУРА ВЕНГЕРСКОЙ ПРОМЫШЛЕННОСТИ ПО РАЗМЕРАМ ПРЕДПРИЯТИЙ И ПРОИЗВОДСТВА

Г. РЕВЕС

Для структуры промышленных предприятий ВНР характерна весьма сильная централизация производства (средняя величина предприятия также несколько больше, чем в европейских капиталистических странах). Помимо наследия прошлого, в Венгрии так же как и в других социалистических странах, столь значительная централизация производства объясняется характером промышленного развития и требованиями директивного управления экономикой.

Проведенная в 1968 г. реформа хозяйственного механизма должна привести к значительному расширению доли мелких и средних предприятий, однако этого не произошло. Увеличение числа мелких и средних предприятий, а также рост мелких производств осложнил положение крупных предприятий в области ресурсов рабочей силы, в том числе в отношении

зарплаты, и под влиянием этого в начале 70-х годов были приняты ограничительные меры. Далее, из-за наличия дефицитности в экономике и других факторов продолжалось своеобразное экстенсивное развитие промышленности, а также усилился процесс централизации – крупные предприятия получают необходимую для их развития рабочую силу путем слияния с мелкими предприятиями. Автор указывает, что эта тенденция не соответствует основным принципам существующей системы управления экономикой, и ставит вопрос об ускорении разработки продуманных и согласованных мероприятий, направленных на расширение сферы и укрепление позиций мелких и средних предприятий.

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IMPACT OF THE CONSUMER PRICE SYSTEM ON THE INCOME AND CONSUMPTION PATTERNS IN HUNGARY*

How do consumer prices affect the income relations of the various social strata and groups in Hungary? In what manner do consumer prices affect the pattern of personal sonsumption? Starting from the present consumer price policy and from the currently valid system of consumer prices it is attempted to conclude to what extent price policy can be used – with the aid of preferences and dispreferences in consumer prices – to achieve various social aims, or, to what extent it may impede the achievement of certain aims.

Questions of consumption, the pattern of consumption, and consumer prices have recently come into the centre of interest again in Hungary. Revived discussions indicate also that the consumer price system does not function by far perfectly. If we recall that the Hungarian consumer price system has its roots in the 1946 currency stabilization and the 1951 price and wage reform and that hardly any changes have taken place since, we are justified in our doubts whether this system could work efficiently under the changed conditions of today. A detailed description of historical preliminaries – though desirable – would go beyond the limits of the present article. Therefore, for such analysis I refer the reader to [1, 2, 5].

It is characteristic of the situation in 1978 that consumer prices are often diverted from producer prices by means of turnover taxes or consumer price subsidies.

Even today the extent of deflection from producer prices is determined separately for about 900 different products or groups of products. The average rate of price subsidy for the most subsidized group of product: i.e. food – amounts to 20 percent. Dotation of services is also high. Over half of the turnover tax is realized on alcoholic drinks and tobacco, but considerable taxes are levied also on clothing articles. Even within the main groups of articles differentiated price deflection rates are asserted – often set individually for each product.

Impact of the price system on income relations

The view is widely spread that in Hungary the price system has a considerable income-levelling effect, supporting those having low income. Yet conclusions are drawn for the impacts of the price system on income relations usually in possession of only a superficial knowledge of price preferences, relying upon arbitrary conceptions about the

*At the end of July 1979. after the study had been put to press, important changes took place in comsumer prices in Hungary. Consequently, the analyses and conclusions of the study refer to the conditions before the price adjustment.

consumption of the various social strata and groups. In order to reveal the real situation it is indispensable to know detailed data on the consumption of each social stratum, as well as the rates of price deflection. Therefore, I relied upon the consumption data of the household budget surveys of the Central Statistical Office and upon the rules establishing the price deflection rates in trying to infer what tendencies really assert themselves.*

Income redistribution resulting from the differences in the average price deflection rates of the main groups of expenditure

If we look at the consumption of households belonging to diferent income brackets in a breakdown by the main expenditure groups, what seems the most conspicuous is that the ratio of food consumption diminishes considerably parallel with the increase in income. (See *Tables 1* and *1/a.*)* It is from this fact that the conclusion is drawn by many that, because of the higher ratio of food consumption, those having low income receive a corresponding additional subsidy through the consumer price system. Yet the higher ratio of food consumption does not mean automatically a higher subsidy. The primary reason for this is that not only purchased products are consumed, but also consumption from own production may be considerable, while consumer price deflections are realized only through purchases.*)

If we consider the proportion of total food consumption and draw conclusion from it with regard to price subsidy, it will be not only the size of subsidy that will seem larger

*The data of household budget surveys are often all too aggregated. Thus it has ben necessary several times to make estimations with the aid of other data. A further problem is caused by the fact that, because of the number of households included in the statistics, their selection and the course of data collection, even the original data are only of a limited exactness. Yet I think that this exactness is sufficient to demonstrate the main tendencies and the most important features of the impacts of the price system on incomes.

*Why it has been necessary to publish two Tables is that the classification of the household budget statistics of the Central Statistical Office changed between 1974–1976. The great advantage of the classification of 1976 is that it contains data on the economically inactive population as well; what is more, their reliability is also higher since the investigation covered a larger number of households and thus representation is better. At the same time, the earlier grouping of households of wage-earners (workers, peasants, those having dual income, intellectuals) was more useful for our subject than the new one, because in the latter one agricultural workers employed in state farms are put into the working class, while for the purpose of our analysis, they have more in common with the cooperative peasantry.

*Even within purchases price deflections are actually realized only in trade, but not in purchases from the population. The latter are, however, of a rather low rate (amounting to 3–6 percent of food consumption with each stratum), and even within them the rate of non-subsidised articles is high (vegetables, fruit, egg, etc.). Thus, it is not necessary to separately investigate purchases from the population. Food from own production may also be subsidised, though not through the consumer price system, but through other channels, such as various production subsidies. Yet it is improbable that considerably larger subsidies should be granted for small-scale producers than for large-scale farms.

Table 1

Ratio of food consumption and services in the personal expenditure of each social stratum in 1974 (%)

Yearly net income per head	Food consumption*	Food consumption from own production	Food purchased	Food purchased + services
Workers				
–9600	46.6	16.3	30.3	38.5
9601–14400	39.8	8.1	31.7	42.0
14401–19200	35.5	6.9	28.6	39.9
19201–24000	33.7	6.1	27.6	39.8
24401–28800	31.9	4.5	27.4	40.2
28801–	28.2	3.4	24.8	38.9
Intellectuals				
9600–14400	34.3	5.1	29.2	39.4
14401–19200	34.8	3.3	31.5	45.0
19201–24000	32.1	2.6	29.5	44.6
24001–28800	29.6	1.9	27.7	43.9
28801–	24.8	1.3	23.5	40.9
Dual income earners				
–9600	39.9	20.0	19.9	27.7
9600–14400	39.3	18.5	20.8	28.1
14401–19200	35.9	17.0	18.9	25.8
19201–24000	33.7	16.8	16.9	25.1
24001–28800	31.4	16.0	15.4	24.5
28801–	27.9	14.6	13.3	21.5
Peasants				
–9600	52.9	21.2	31.7	38.9
9600–14400	44.8	22.8	22.0	29.3
14401–19200	40.4	21.8	18.6	26.1
19201–24000	37.5	20.5	17.0	24.9
24001–28800	34.6	19.5	15.1	22.7
28801–	30.3	17.2	13.1	20.7

Source: Háztartásstatisztika (Household budget statistics.) 1974. Budapest, 1975. Központi Statisztikai Hivatal.
*Inclusive of consumption from own production, valued at consumer prices.

than it is in reality, but also we shall receive a false picture about the distribution of subsidies among the various income brackets. The ratio of consumption from own production goes namely down parallel with the increase of income. It may be seen from Tables 1 and 1/a that the ratio of income spent on food shows much smaller difference by income groups – especially with worker, intellectual, and inactive households – than

Table 1/a
Ratio of food consumption and services in the personal expenditure of each social stratum in 1976 (%)

	Food consumption	Food consumption from own production	Purchased food	Purchased food + services
Working class	33.7	7.0	26.7	39.0
Cooperative peasantry	36.1	16.9	19.2	27.1
Dual income earners	34.5	14.3	20.2	29.0
Intellectuals	27.7	3.4	24.3	42.5
Inactive earners	44.0	12.1	31.8	40.5
Inactive households, in which the yearly net income is:				
–9600	48.0	15.9	32.1	43.2
9600–12000	54.0	16.8	37.2	44.8
12001–14000	49.7	14.5	35.2	45.5
14001–16800	45.6	12.8	32.8	43.3
16801–19200	45.3	12.6	32.7	44.4
19201–21600	44.8	11.5	33.3	47.1
21601–26400	40.1	10.3	29.8	45.2
26400–	37.3	9.0	28.3	46.0

Source: Háztartásstatisztika (Household budget statistics.) 1976. Budapest, 1977. Központi Statisztikai Hivatal

the total food consumption. Thus, the income-levelling effect of price deflections supporting those having lower incomes is not so important as might be expected upon the basis of the deflected proportions of total consumption.

It also works against income levelling that the other strongly preferred group: that of services is availed of to a larger extent by those having higher incomes. The combined proportion of expenses on food and services differs only little by income groups – particularly with workers, intellectuals and inactive households.

Income effects of the dispersion of price deflection rates within the main expenditure groups

Since price deflection rates change with the different articles also within each main expenditure group, it is necessary to examine as well the income redistribution it leads to. In purchases the ratio of food is the largest, therefore. I tried to find out first of all what income redistribution comes about through the different consumption proportions of various kinds of food, through their different subsidies.

In his book "Consumption and Price" Róbert *Hoch* writes the following: "Statistically it can be directly shown that the higher the income of a family, the greater portion of its outlays is paid as turnover tax . . .". In his opinion this can be worked out also separately for food, since those having low income enjoy a high subsidy in their food expenditure, the ratio of subsidy goes down with increasing income, and those having high income already pay a positive turnover tax in their food expenditure. [4].

Yet my calculations have produced the result that each income group receives in relative terms almost the same subsidy on its food purchases (relative to these expenses) and, taking into consideration the total food consumption, the tendency with workers and intellectuals is exactly the contrary of what has been just quoted: *the ratio of subsidy grows parallel with income.* I obtained the results published in *Table 2,* covering households with active wage-earners, by examining, relying upon the household budget statistics of the Central Statistical Office, expenses on the various kinds of food and their value corrected for price deflection, and then I added them up for the total of food consumption. In the *Table* I show the total amount of price subsidy "received" in food consumption (column 3), as well as the size of subsidy on the purchase of food for Ft 100 and on food consumption valued at Ft 100 at consumer prices.

The figures show clearly that the subsidy on Ft 100 of food purchase does not much or tendentiously differ by income brackets. Differences are so small and incidental that they may be the results of erroneous data. (The difference between the highest and the lowest values amounts only to 5 percent.)

The amounts of subsidy shown in Table 2 were computed according to the price deflection rates valid up to 1976. From 1st July 1976 the price subsidy on meat and meat products subsidised until then more than the average of foodstuffs was reduced by about 30 percent and that entailed, of course, a change also in the amount of subsidy on Ft 100 of expenditure on food. Therefore, I investigated also what change this measure has brought about in the relative subsidy of each group. From Table 3 it appears that the rate of subsidy on Ft 100 of expenditure on food does not differ much by income groups even if computed with the new turnover tax rates. (The computations were made only for workers' households, but the situation is presumably the same in other groups.)

Relying on the consumption data of the 1976 household budget survey and upon turnover tax and price subsidy rates I computed also how the price subsidy asserted in food purchases develops as a function of income in economically inactive households. (See Table 4.)

The subsidy on Ft 100 food purchase of the inactive population goes down parallel with increasing income, as opposed to households of the active wage-earners. At the same time, since the ratio of food consumption from own production is high in this stratum, and is decreasing parallel with increasing income, differences in the amount of subsidy on Ft 100 food purchase estimated are little also here at consumer prices.

Summing up what has been said up to now, it may be stated that, in consideration of the total expenditure on food, *the different price deflection rates of each kind of food do not result in different rates of support for each income group.* By no means can such

Table 2

Impact of the consumer price deflections of foodstuffs with the main groups of population (Ft)

Yearly income per head	Total food consumption	Food purchases	Amount of subsidy	Ratio of subsidy	
				in percentage of food consumption	in percentage of food purchases
Workers					
–9600	3957	2537	869	22.0	34.2
9601–14400	4856	3841	1243	25.6	32.4
14401–19200	5902	4536	1501	25.4	33.0
19201–24000	6930	5555	1859	26.8	33.5
24001–28800	8166	6983	2278	27.9	32.6
28801–	8903	7805	2546	28.6	32.6
Intellectuals					
–14400	5235	4434	1436	27.4	32.4
14401–19200	5848	5262	1729	29.6	32.9
19201–24000	6809	6234	2039	29.9	32.7
14001–28800	7590	7078	2326	30.6	32.9
28801–	9106	8606	2771	30.4	32.3
Dual income earners					
–9600	5045	2525	836	16.6	33.1
9601–14400	4807	2546	848	17.6	33.3
14401–19200	6046	3174	1042	17.2	32.8
19201–24000	7018	3528	1166	16.6	33.0
24001–28800	7820	3839	1283	16.4	33.4
28801–	9025	4182	1340	14.8	32.0
Peasants					
–9600	4722	2833	942	19.9	33.3
9600–14400	5655	2781	987	17.5	32.0
14401–19200	6501	2984	971	14.9	32.5
19201–24000	7447	3386	1094	14.7	32.3
24001–28800	8198	3589	1169	14.2	32.6
28801–	9577	4138	1349	14.1	32.6

Remark: Calculations are based upon the consumption data of the 1974 household budget statistics (Központi Statisztikai Hivatal, 1975), and upon the rules of the Ministry of Finances concerned with turnower tayes and price subsidies (Pénzügyi Közlöny, 28th December 1975)

Table 3
Impact of the reduced consumer price subsidy of meat in workers' households (Ft)

Yearly income per head	Amount spent on meat purchase	Reduction of the price subsidy			Subsidy on Ft 100 food purchase from 1st July 1976
		%	Ft/year	Ft/month	
9600–14400	1016	30.4	359	30	23.0
14400–19200	1165	30.7	417	35	23.9
19200–24000	1568	30.4	560	47	23.4
24000–28800	1873	30.3	658	55	23.2
28800–	2308	30.0	904	67	21.0

Source: Computations relying on the household budget survey of the CSO and on turnover tax and price subsidy rates valid from 1st July 1976.

Table 4
Impact of the consumer price deflections of food on inactive households (Ft)

Yerarly income per head	Food consumption	Food purchases	Amount of subsidy	Rate of subsidy in percentage of food	
				purchases	consumption
–9600	5884	3929	885	21.8	14.5
9600–12000	6240	4243	894	21.1	14.3
12001–16800	7228	5454	1101	20.2	14.4
16801–21600	8754	6409	1209	18.9	13.8
21601–26400	9789	7095	1290	18.2	13.2
26401–31200	10398	8474	1487	17.5	14.3
31201–36000	10581	7687	1250	16.3	11.8
36001–45600	11742	8348	1415	17.4	12.1
above 45601	11789	8055	1397	17.3	11.9
Total	8319	6017	1154	19.2	13.9

Source: Consumption data of the 1976 household budget survey of the CSO.

tendency be demonstrated that the different turnover tax and price subsidy rates would affect more favourably those having low income.

On examining the relative size of subsidy on food consumption (Table 2, column 5) it is striking that, while there are hardly any differences among income brackets within

each group of population, they are considerable among these groups. Since the ratio of food consumption within total expenditure is not so much different, and subsidy on food purchases is also about identical, the differences can arise only from the different ratios of food consumed from own production – not subsidized through the consumer price system – in each group. *Thereby quite a considerable redistribution comes about not only among the different social strata* (at the expense of peasant and inactive households and those having dual income to the advantage of workers and intellectuals), *but even within these strata a more advantagous situation is created for the town-dwellers than for the village population.* Namely, the ratio of food consumed from own production is an average 6.8 percent with intellectuals, of which it is 2.4 percent in towns and 20.4 percent in villages; it is 16.2 percent with workers; 46.2 percent with those having dual income and 50.7 percent with peasants. In inactive households the average ratio is 27.7 percent: in towns it is 9.1 percent and in villages 41 percent.

These data show palpably the extent of subsidy, since the subsidy on Ft 100 food purchase is approximately the same with these groups.

The extent of support is basically determined by the ratio of purchases within food consumption *The Hungarian price system thus works towards a reduction of consumption from own production.* Although the number and production of household-plots and complementary farms has not been decreasing since 1965, the ratio of consumption from own production amounted only to 29 percent of food consumption in 1970, and to 22 percent in 1974, as compared with the 34 percent of 1965. [8.]

This reduction has harmful consequences from several aspects. The shift from consumption from own production to the consumption of purchased products may entail a waste of social labour. (E.g. milk is sold to the procurement agency, and then bought in the shop for the household, if possible. Thus the milk returns – in a roundabout way – to the same place. The situation is similar with meat.) If the price system is not changed, there is only one way to eliminate the sources of loss such as mentioned in our example, namely, if villages are supplied very insufficiently with such products. Yet this can be done obviously less and less, and even its effect is not always a growing consumption from own production at the expense of sales, but that consumption decreases. This is proved e.g. by the fact that milk consumption in Hungary is lowest exactly in the villages, i.e. where it is produced. That the problem is not simply a difference in habits is clearly shown by the fact that groups of the population that left the villages to live in town – where cheap milk is easy to buy – consume a lot of milk. (The ratio of those drinking milk daily is 85 percent, while it is 65 percent in traditional village settlements.)

The often very high subsidy on certain articles – differing even within groups of articles – leads to such consequences as affect disadvantageously mainly those having low income. *Namely, the articles enjoying higher subsidy within a group – and thus cheaper – often become shortage articles. In purchases the rate of forced substitution is high.* Many people buy more expensive products because they cannot get cheaper ones.

All that allows to infer that *though the Hungarian consumer price system has a certain income-levelling effect supporting those having low income, this effect is not significant.* At the same time, price deflections leading to this little extent of levelling have other, highly questionable effects.

Impacts on the pattern of consumption

The deflection of consumer prices from producer prices (from their relative proportions) may be aimed – beside forming income relations – also at influencing consumption. Does any tendentious effect aimed at the development of a better consumption pattern assert itself in the Hungarian price system, and towards what pattern do the present prices act? What consumption is promoted and what hindered by the current prices?

Obviously, basic living conditions must be guaranteed for all. This is in fact largely promoted in Hungary through the high subsidy on products of vital importance, mainly on food and services. (Of course the fact that these products are available for everybody is not the result merely of the price system. Thus, first of all, it is important that there is no shortage of such goods. It is only in this way that the consumption promoting effect of price subsidies can assert itself.)

Yet the sphere of products of vital importance is not a constant category. Even as regards the conditions of physical existence, we can see changes. There are different requirements also within the field of nourishment. On a lower level it is a sufficient condition of existence if there is food, and it does not matter what it is. On a higher level, however, to eat one's fill cannot be considered as a guarantee of physical living conditions. On a higher level of development healthy nutrition becomes a basic requirement, and an increasing number of products is included in the sphere of basic needs beside food, while others lose in importance. At today's stage of development we cannot rest content with providing for "quantity" alone. A modern pattern must be striven after in nutrition, clothing, as well as in services. That is why I examined also what consumption is promoted and what hindered within each main group of products by the Hungarian price system.

Let us examine first of all the group of foodstuffs. Consumption data of Hungary reveal that, while the quantity of consumption might be called exaggerated (it exceeds the level of a number of more advanced countries), its pattern is backward. This is shown by the deviation from the biologically necessary pattern – defined by the science of nutrition – and also from international data. [9] The most conspicuous phenomenon is the extremely high proportion of fats in consumption. (Out of 21 European countries only two can be found where it is higher than in Hungary.) In this already unhealthily high consumption eating habits undoubtedly play a role, yet a change in the stituation is by no means encouraged by the subsidy on fats which is well above the average. Also within the consumption of fats an unhealthy structure has developed. The ratio of vegatable fats is very low, and that of animal fats – first of all hog-fat – is very high. This

also has its reasons rooted in tradition, but undoubtedly it is a further weighty reason that the price subsidy on hog-fat is over threefold of that of cooking-oil, and on margarine a turnover tax is levied.*

An exceedingly high consumption is promoted also by the high price subsidy on cerels.

From the aspect of consumption pattern and of healthy nutrition the high consumption of meat, i.e. of animal proteins, may be called a positive feature. This has been largely promoted by a high price subsidy. According to research data a healthy development of the organism requires the consumption of at least as many times 0.5 grammes of animal protein as many kilograms is the body-weight. In Hungary daily protein consumption was 49 grammes in 1975, that is, it perfectly fulfilled the requirement. With the raising of prices of meat and meat products in July 1976 the rate of subsidy went down by 30 percent and consumer prices went up by 30 percent. As a consequence, in the first six months of 1977 meat consumption fell by about 14 percent in comparison with the same period of the preceding year. In earlier years a dynamic increase of meat consumption – of yearly 8–12 percent – was characteristic. The rate of growth is expected to return – starting from the lower level – to that of earlier years. This is indicated also by the fact that in the second six months of 1977 growth was already over 10 percent in comparison with the same period of the preceding year.

The picture is contradictory in the development of milk consumption. Subsidy is high, yet its result is not reflected in average consumption. If, however, we look at the consumption of the urban and village population, it will appear that the low average is caused by the very low consumption in the villages (I have mentioned its reason before.)

So far I have examined mainly the effect of subsidies. It is not by chance that I have given it a more detailed analysis. This has been partly done because at present price subsidies are overwhelming, partly because the larger part of the turnover tax is realized mainly on consumer articles, such as tobacco and alcoholic drinks, and the high turnover tax on these is justified beyond doubt. The price of clothing articles is also increased with turnover tax*, but not to a large extent.

In certain cases, however, the so-called luxury turnover tax is rather high. This is justified with such products which satisfy in fact luxury and individual needs. At the same time, however, it often impedes the inclusion into consumption of new and modern products (e.g. household machines), because these are also often qualified as luxury articles and charged with turnover tax. The price of new articles may be relatively higher

*It has to be noted that the high price subsidy on fats is largely determined by demand and supply relations and thus support may be justified, its harmful effect on the consumption pattern notwithstanding. The situation may be similar with other articles. In particular analyses, and in establishing prices this must be taken into consideration by all means. Within the limits of this article, however, I cannot analyse in detail the effects of demand and supply relations, and the justification of price deflections based thereupon. In this section I investigate only the effects of the actual situation on the consumption pattern.

*Children's shoes, and part of children's wear are subsidised.

because, even if no turnover tax is levied on them, the articles that have been in trade for long can be sold but at the old price because of the rigidity of the price system, increasing costs notwithstanding. But the price of new articles can be stated in accordance with new costs, and thus they may be more expensive even if the use-value does not change practically.

Dispersion of price deflection rates

I have mentioned it already that price deflection rates determined even today separately for a large number – almost 900 – groups of products or individual products are valid.* This dispersion is too large, and not easy to survey. The various aims related to forming consumption cannot justify this dispersion. With food alone there are 200 price deflection rates. The desirable structure cannot be determined to such detail even in nutrition research. I wish to throw light upon the contradictory character of the many different deflection rates through a few examples.

The high turnover tax on alcoholic drinks is by all means justified. At the same time, it is doubtful whether the more than forty different tax rates – and their dispersion from 19 to 92 percent – are justified. It does not seem likely that the consumption of champagne corresponds more to our social aims than that of wine, yet the turnover tax rate on wine is almost the double of that on champagne, and the turnover tax rate on beer is almost the double of that on wine.

In Hungary the price subsidy of services – and particularly of public transport – is very high. This is in fact justified by numerous arguments. At the same time, it is doubtful whether the 37 different price deflection rates dispersed along a wide scale are justified, or, e.g. the fact that while price support on the full-price tickets of railway transports amounts to 25–107 percent, a turnover tax of 20 percent is levied on long-distance bus-fares including monthly tickets. The incorrectness of this practice becomes particularly conspicuous if we know that quite a number of small settlements are accessible only by bus, and thus for many the only possibility of commuting.

In this article I have no possibility to analyse in detail the role of deflections with each consumer article, and their effect on the pattern of consumption. It appears clearly, however, from what has been said that in the present Hungarian price system no such preference system of the consumption is asserted that would unambiguously express our social and political aims. Our present price system is characterized rather by confusion and disorganization than by the assertion of a deliberate system of objectives. (The situation is further complicated and its survey impaired by the fact that with the same products different subsidies and taxes are realized in the course of production and in producer prices.)

*

*Prior to the introduction of the new system of control and management there were several tens of thousands of price deflection rates. Their number was then reduced to 2000 and by 1970 it fell to less than half. But there has been little change since then.

Thus the analysis of the Hungarian price system leads to the conclusion that it does not serve efficiently either incomes policy objectives, or those concerned with forming the consumption pattern.

Do the slight income-levelling effect or a few positive effects on the consumption pattern justify the present deflections asserted in the price system? Would it be more advantageous to abolish the preference system, or to amend it?

Justification of today's consumer price policy

In examining the question what consumer price system would be the most appropriate today, one must start basically from the given situation of production i.e. its real possibilities. Arbitrariness or the separation of consumer prices from their economic environment involves risk as well as sacrifice. This becomes perceptible particularly if the economy is faced anyway with difficulties. Thus in the 1970s, beside the unfavourable foreign economic and other impacts on the Hungarian economy also the disadvantageous and retarding effects of the price system have made themselves felt increasingly.

It is beyond doubt, too, that in the most natural and transparent price system relative prices will reflect relative inputs. A price system in which deflections are prevalent is less transparent – even if it serves the best aims –, it disturbs clear sight, and thus allows for more uncertainties and distortions.

Therefore, the question must be asked: in what fields is it correct to deflect consumer prices from producer prices to an extent above the average?

Justification of price preferences aimed at income policy objectives

It is difficult to assert preferences aimed at income policy objectives in the price system, since a result can be obtained only through price deflections of considerable extent and range, but that disturbs a clear survey and may lead to other hardly foreseeable effects beside changing income relations.

It is beyond dispute that it is a primary task to guarantee the subsistence conditions, and also that it may be justified to support families with low incomes, in-so-far as the low income per head is due mainly to the larger number of the dependents.

For the achievement of these aims, however, price deflections do not represent the only possible method. In both cases direct income policy instruments can be used. Raising the amount of family allowance and pensions, or other similar income policy measures may promote the achievement of these aims much more directly. Such instruments are suited also for supporting only those with whom it is justified. Preferences through price deflections do not allow this.

The argument against the elimination of price preferences with exclusively income policy aims seems to be justified that: "If we eliminate income preferences but maintain other (cultural, production, etc.) preferences and deflections arising from the balance situation, those having high income will pay less net income than those having low income." [3]

This argument is indeed correct if the elimination of preferences asserted in prices is a one-sided measure. Such effect can be avoided, however, if other incomes policy measures are taken at the same time. Their expediency is even enhanced by the fact that preferences asserted in prices are of a general effect. Those having low income receive greater support only in relative terms: in absolute terms it is those having high income who obtain greater support.

Besides, support through the price system often misses the target. E.g. the- subsidy on children's articles (clothing, furniture) may be advantageous not only for children, since these may be used also by grown-ups. What is more, even if these articles get to children for whom they are intended, it is rather those having high income (and thus not large families) who enjoy the subsidy, since they have more possibility to buy more children's articles.

Upon these grounds I do not think it justified to assert income policy preferences in our consumer price system.

Justification of price deflections aimed at influencing the consumption pattern

The consumption pattern is determined by the development of circumstances. In regulation a number of automatisms have important roles. Among them the effect of higher income may be the most important. Rearrangement of the consumption pattern may come about independently of the income level, characteristic of a certain period, with the introduction of new articles or in connection with fashion. Consumption is also largely determined by the degree of urbanization.

Even today habits play an important role. At the same time, consumption patterns in other countries have a growing impact, too.

Thus automatisms determine to a certain extent the development of consumption. In spite of it, it is necessary and also possible to influence consumption centrally – to constrain or strengthen the effect of the automatism. Many different kinds of instruments are available for this purpose.

Such are first of all that the state may, through investments and developments, create or expand the possibility of consumption. In the pattern of consumption the development of infrastructure and the growth of urbanization play determinant roles. Improvement of the commercial network and supply may also result in thorough changes.

Since income has an important effect on the development of the consumption pattern, the state may use also income policy measures to influence the pattern of consumption. This is important particularly for the elimination of differences in the consumption of the various groups and strata of the population.

The consumption of certain articles is considerably influenced by social benefits in kind, either in a way that the article (or service) in question is available free of charge, or that certain grants raise the demand for other products, or bring about the conditions for their consumption. (E.g. free education and the resulting higher cultural level will obviously entail higher demand for other cultural services or articles as well.)

The system of credit supports and hire-purchase, etc., may also play a not negligible role. And, last but not least, it is indeed possible to regulate consumption also through consumer prices.

To what extent we can use any of these instruments depends on the character and clarity of the given objective, as well as on the results obtainable with the individual instruments.

It may be said in general that the primary task is to provide for the conditions and possibility of consumption of the given service. The largest effect is exerted by the production side; income policy may come only after it, and finally price policy can follow. This order of sequence holds all the more as the consumption and demands of the population cannot be formed at will, and what is to be achieved is that the possibility of free choice should remain.

Preferences with consumption objective should be asserted in the price system if and only if the conditions of changes in consumption are otherwise given, and if we wish to achieve general effects.

It would require a more thorough knowledge to decide in detail, which are the articles whose consumption it is necessary to influence with the aid of price deflection. Yet I shall outline a few cases, in which I hold price deflection to be justified.

It is obvious that the sphere of articles and services related to health must be subsidised. I hold the price subsidy of cultural articles and services to be similarly obvious, even if we know that thereby those having high income will enjoy more benefits than those having low income. It is, namely, beyond dispute that with prices proportionate to costs of such articles and services not even the minimum of culture were guaranteed for the social groups having low income. This is typically the field where the keeping of prices at a low level demands serious sacrifices, even though the part of the price subsidy received by those who would buy these products even at input-proportionate prices is superfluous from the point of view of influencing the consumption pattern. And yet, if the pattern can be shifted into that direction, it will be worth the sacrifice.

Also, I hold the preference of certain services aiding women in their so-called "second shift" (e.g. laundry and dry cleaning) to be justified and important by all means, at least in our days, when there is still a lot of aversion – rooted mainly in prejudice – to the use of these services. Facilitation of the household work is a basic condition of the emancipation, healthy way of life, and education of women, as well as of a better care for children, and it has a considerable influence also on the harmony of family life. At the same time, it has also an economic effect, since women – as well as men taking part in household work – can work more efficiently in production after having had more rest.

Is there a way to change?

The development of a price system basically reflecting input proportions would probably raise the price level. Of course, prices of certain articles could be reduced, particularly if simultaneously with changing consumer prices also producer prices were adjusted. In this case the sphere and extent of price reductions could be also more significant. Yet with food and most services today subsidies are granted also in producer prices, so that in these fields an increase in prices would be difficult to avoid. This can be done, however, only if the rise in prices can be compensated. The rise in prices of food and basic services cannot be compensated by the reduction of prices of other articles bought generally less frequently and of lesser vital importance. Therefore, the rise in prices must be compensated by raising incomes.

In determining the extent of compensation it must be observed that the living standards of not a single social stratum or group must fall, and the compensation must be perceptible, meaning that an over-compensation is necessary.*

Further problems are caused by the fact that the rise in prices would affect the different social strata in highly different ways. As we have seen earlier, the present price deflections are advantageous to a much higher extent for the town population, because of their higher rate of food purchases, and, within that the Budapest families get even more support.

If we examine the amount of support, it may be stated that in it the groups having high income and intellectuals receive higher support. If, therefore, the extent of compensation is set uniformly, and we wish to provide also for realization of the principles described, it would amount, in its totality, to a considerable over-compensation and would require enormous financial means.

Let us consider the group of food. This is the most important factor, since it makes up the greatest part of expenses, in it is realized the determinant ratio of price subsidies, and, in addition, on other articles – except for alcoholic drinks and tobacco – a turnover tax of hardly 5 percent is realized.

*In compensating the rise in the price of meat in 1976 neither of these requirements was adequately satisfied. With a view to counter-balancing the rise in the price of meat a compensation amount of Ft 60 was uniformly granted, with the exception of dependents not entitled to family allowance. Taking into account those not entitled to compensation the per capita amount became Ft 35–40. From Table 3 also the decrease of the monthly price supperts can be read. Since price supports were decreasing generally as prices were growing, these amounts show also what additional expenses the rise in prices would entail – with unchanged consumption. Accordingly, additional expenses in the different income brackets amount, on average, to Ft 30, 35, 47, 55, 67 per month, respectively. Accordingly, actual compensation took place only in the lowest income categories (below Ft 1600 per capita monthly income), and over-compensation only with Ft 1200 per capita income. Above Ft 2400 full compensation did not take place even in such families where everybody is entitled to a monthly compensation of Ft 60.

If we wished to provide only for a zero level of turnover tax, the average additional expenses would amount – assuming unchanged consumption – to Ft 210 per head with town-dweller intellectuals, Ft 146 with village intellectuals, Ft 121 with village workers, Ft 94 with those having dual income, Ft 88 with peasants and Ft 96 with inactive households.* (Since these additional expenses are average figures for social strata, for important groups within these strata even these amounts would not be a compensation, since those living in Budapest and those having higher income would incur larger amounts of additional expenses.) If, therefore, we look at the situation in this in a break-down of two large groups – we shall see that the uniform compensation would amount to about 50 percent over-compensation with the greater part of the population, while in other parts compensation would be barely guaranteed. Thus uniform compensation would require considerable financial means. Beside all that, it would result in a larger extent of income redistribution. These factors would justify differentiated compensation, which is, however, hardly feasible.

Different compensation amounts may cause tensions. Thus it is open to question, whether a differentiated compensation of workers according to domicile can be implemented. The difficulty of this will be particularly clear if we remember that this would mean different amounts even for those working at the same place.

A further difficulty is presented by the fact that unchangeability of prices has been proclaimed through 25 years as an absolute necessity and a fundamental feature of socialism. This also contributes to the fact that even small rises in prices give grounds for serious aversion. Therefore, it would be important to inform the public more widely than at present, and to continuously influence the public opinion. Namely, people today feel themselves cheated with every rise in prices.

The public is uninformed in questions regarding prices. Prices affect people the most directly, therefore they feel interested in their direct effects. This is natural, yet it would be less so, if they knew more about indirect effects. Few people know about the size and structure of price deflections, and particularly about the secondary effects of the price system on development, i.e. on the living standards. This is a particularly great obstacle before the introduction of a more flexible price system. As a matter of fact, even if a single rise in price is made acceptable through income compensation – if prices do not become more flexible after that – the aim has not been achieved. And, if we do not succeed in altering public opinion at least to some extent, it cannot be achieved.

On the other side, it must be taken into consideration that changes in price involve the rearrangement of demand. Therefore, changes can be implemented only and where supply corresponding to the changed demand can be guaranteed.

*Using 1975 consumption data with the economically active and 1976 ones with the inactive population.

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ВЛИЯНИЕ СИСТЕМЫ РОЗНИЧНЫХ ЦЕН НА СТРУКТУРУ ДОХОДОВ И ПОТРЕБЛЕНИЯ В ВЕНГРИИ

Ю. ЮХАС

На протяжении многих лет от системы розничных цен в Венгрии ожидали выполнения двух основных задач. Через систему цен пытались достичь, с одной стороны, осуществления некоторых целей политики доходов (как-то: обеспечение основных жизненных условий, оказание помощи, относительно лицам с низкими доходами), а с другой стороны, – влияние на структуру потребления. Основной целью политики розничных цен было также сохранение стабильности цен. В образовании сегодняшних розничных цен весьма существенную роль играет система отклонений цен – налоги с оборота и субсидии. Автор ищет ответа на вопрос, хорошо ли служит эта система осуществлению поставленных целей.

Она обращает внимание прежде всего на воздействие оказываемое действующей системой цен на доходы основных социальных групп. На основе данных бюджетных обследований автор делает расчет влияния субсидий и налога с оборота, содержащихся в розничных ценах, на основные социальные группы и категории получателей доходов. Она приходит к выводу, что нынешняя система цен лишь в ограниченной степени служит достижению целей политики доходов и ее влияние на выравнивание доходов весьма незначительно. В то же время дотирование цен необоснованно ставит отдельные общественные слои в неблагоприятное положение.

Анализируя влияние системы розничных цен, отдельных коэффициентов отклонения цен на структуру потребления автор констатирует, что нынешняя система цен в Венгрии не способствует формированию прогрессивной структуры потребления, а, скорее, препятствует этому.

Взвесив сложившиеся условия и возможности, автор считает необходимой изменение системы цен. Наиболее приемлемой она считает систему цен, которая по существу отражает пропорции затрат и не содержит предпочтения, определяемые целями политики доходов. Дотации же, влияющие на структуру потребления, необходимы лишь в тех случаях, если результаты, получаемые от них, бесспорно оправдывают приносимые жертвы.

Относительно возможностей, автор подчеркивает, что изменения следует вводить только в том случае, если можно будет значительно компенсировать населению неблагоприятные материальные последствия пересмотра цен.

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CLASSICAL MODELS OF CONSUMPTION ANALYSIS IN THE SERVICE OF PRICING CONSUMERS' GOODS IN HUNGARY*

Experiences obtained with the quantification of *three "classical" models,* namely the "constant elasticity" model, the Stone model and the cross-section model are reviewed, together with our conclusions derived from the results.

The research work on which this article was based had *four objectives.* First, we wanted to know whether there was a possibility for the quantification of the models with Hungarian data. Second, we wished to arrive at some concrete conclusions regarding the consumer price policy to be followed. More exactly, we wanted to find an answer to the

*This publication relies on a more detailed study written by the authors in 1978 on their research work connected with the further development of the Hungarian price and wages system [16]. The study mentioned was prepared according to the requirements of the National Planning Office, the Ministry of Home Trade, the National Office of Materials and Prices and its Research Institute, on the initiative of, and with the research funds provided by the Research Institute for Applied Computer Sciences. Unpublished statistical data were made available to the authors by the Hungarian Central Statistical Office (HCSO). The computations based on models with time series were performed by K. *Hulyák* (HCSO Econometric Laboratory) and by S. *Losonczy;* those based on the cross-section model by Gy. *Muszély.* The obtained results were evaluated and commented upon – in addition to those mentioned – by Gy. *Szakolczai.* – The present publication deals, in the first line, with conclusions of economic character. The methods used and the experiences obtained with them are expounded in two other studies [15] and [19], which are also based on the original study [16].

In addition to the *international literature* cited in the methodological part of the present study, our work relied on the *Hungarian publications* dealing with the methods and results applicable to our purposes. The first Hungarian publications dealing with the methods – and partly with the computations – in question were written by Mrs. J. *Benedeczky* [4], M. *Ördög* [20] and Gy. *Tényi* [28]; some special methodological questions were dealt with by I. *Kovács* [17], [18]. Also the application of the models to economic policy problems was started fairly soon: R. *Hoch,* K. *Csató* and I. *Kovács* [11] applied mathematical formulae in analysing the consumer price policy for the period 1950–1965; R. Hoch and I. Kovács [12] examined the effect on demand of changes in income and in consumer prices on demand; R. Hoch, I. *Kovács* and M. *Ördög* [13] forecasted the consumption pattern for the period 1971–1975; and subsequently, M. Ördög [21] quantified price elasticities for the purpose of medium-term planning. The Stone model, very important in our research, has also been estimated, quite independently from our work, by Ö. *Éltető* [5], J. *Enyedi* [6], as well as I. *Kakuszi* [7]. Mrs. *Antal* [1], [2] examined a question related to ours, namely, the food consumption of low-income people. Also A. *Simon* [24] examined similar questions with econometric methods, partly the same as those used in our study, namely the development of personal consumption and savings. Finally, T. *Érsek* [8] and T. *Róna* [23] wrote on the practical application of the methods in question, as well as on the role of the price system as a regulator of income and consumption, and on the compensation of price rises.

question, what consequences an approximation of the consumer prices to the proportions of production prices, i.e., of productive inputs would entail, and whether such a price policy would be advisable or not in our conditions. Third, we wanted to elaborate some practically applicable devices for the purpose of detailed computations on which the planning of consumer prices could be based. Finally, the experiences obtained were to be utilized also in a way to formulate certain suggestions regarding further work of this type.

In the first part of the article the basic notions, the models and the data will be surveyed.

Next the direct results of the computations and the statistical indicators of their reliability will be reviewed, but this part already draws some important conclusions for economic policy. The following two parts present the numerical results of the computations regarding income and price elasticities together with the economic conclusions. The last part summarizes the conclusions relating to methods, the principles of consumer price policy, the founding of price policy measures with computations, as well as those affecting further research.

The basic concepts, the models and the data

The *classical models* dealt with in the following explain the changes in consumption with the aid of the change in incomes and prices. The effects on consumption of these two independent variables are called the *income* and the *price effects.* Within the first, we may distinguish *primary* and *secondary price effects.* The first type relates to direct or immediate effects of price changes, the second means the indirect or intermediate effects. Again, within the primary price effects we may distinguish the *primary own-price effect,* exerted by the price of this same article on its consumption, and the *primary cross-price effect* expressing the dependence of the consumption of a given article on the price of another article. The primary cross-price effect may again be subdivided into the two cases of *substitutability and complementarity:* in the first case the consumption of an article (e.g., margarine) increases when the price of another article (e.g., butter) rises. In the second case, e.g., the demand for and the purchase of automobiles would decline under the effect of rising petrol prices. Within the secondary price effects, on the other hand, the income effect and the general substitution effects can be distinguished. The *income effect* means that real incomes are declining when prices rise, evidently affecting the volume and structure of consumption. The *general substitution effect* means that consumers rearrange their expenditures when prices are rising, so that they will spend less on the purchase of articles whose prices were raised and use the income saved for the purchase of other articles.

All these effects are expressed by the classical methods of consumption analysis in terms of income and price elasticities. *Income elasticities* measure the effects of income. The *price elasticities* may be either *"own-price elasticities"* expressing the own-price effect or *"cross-price elasticities"* expressing the cross-price effects. In both cases, again, the types of non-compensated and compensated price elasticities have to be distinguished

(i.e. whether price changes are compensated by changes in income or not). The *non-compensated elasticities* (own-price or cross-elasticities) express, in addition to the primary price effects, also the secondary ones, namely the income effect and the general substitution effect. The *compensated price elasticities* – when the price change is accompanied by a corresponding change of income, i.e. when along with the price change such a change of nominal income occurs which leaves real income unaltered – express, apart from the primary price effect, only secondary price changes caused by the general substitution effect since the income effect is – by definition – zero.

For the analysis of concrete problems of Hungarian price policy it is necessary to know the income elasticities, the own-price and cross-price elasticities, and within the latter the non-compensated and compensated price elasticities. Price changes are, namely, not always accompanied by income compensation – either because this cannot be satisfactorily solved for practical reasons, or because it does not seem justified. (An example for the latter case: the raising of the prices of some luxury goods or of alcoholic beverages.) The *principal objective* of our analysis *consists in defining these various* (and variously determined) *elasticities.*

Among the three models presented here, the *constant elasticity model* is the simplest and oldest one.* The model consists of a series of linear equations written in the logarithms of the variables, and constructed independently for each group of commodities.

$$\log q_i(t) = \alpha_i + \eta_i \log \overline{Y}(t) + \delta_i \log \overline{p}_i(t) \tag{1}$$

Here $q_i(t)$ means the quantity bought and consumed from the i-th commodity group in the period t, in terms of values at constant prices; $\overline{Y}(t)$ is the total consumption expenditure at constant prices, (i.e., deflated) which is equal to total income; $\overline{p}_i(t)$ is the relative price index (i.e., deflated by the general price index) of the i-th commodity group, whereas α_i, η_i and δ_i are parameters defined in the course of computation.

The first of the three computed parameters, α_i is a constant; the second, η_i expresses the *income effect,* the third, δ_i the *price effect.* Since the individual equations are independent, the model, evidently, can express only the own-price effect but not the cross-price effects. This independence of the equations has the advantage of permitting an independent and distortion-free analysis of the special properties characterizing the various commodity groups. At the same time, however, the independently computed parameters do not represent a system satisfying the general requirements of consistency that can be raised against such a system of parameters. Another insufficiency of the model is the assumption of constant elasticity, i.e., the neglect of the fact that elasticities change with the increase of income. Finally, we note that we estimated the parameters of the model by the well-known method of ordinary least squares.

*Its form used here may be traced back to *Houthakker* [14]; as regards its concrete form and the elaboration of the computing method we relied upon an article written by *Goldberger* and *Gamaletsos* [10].

The Stone model

The *Stone model* is a consumption model consisting of a complete set of demand functions based on the concept of maximization of the utility function; its theoretical background is the so-called *Stone-Geary utility function.* The model distinguishes, within the income to be spent, the part called subsistence income and another one called supernumerary income. According to the authors of the theory, the *subsistence income* is just enough to cover the absolutely necessary "basic needs", and therefore the way of its spending is not influenced at all by the price conditions, whereas in spending the *supernumerary income* the consumers will try to maximize the utility function, depending on the relative ratios of the various consumer prices.

The *expenditures* (at current prices) spent on the various groups of commodities may be written in the form

$$v_i(t) = p_i(t)\,\gamma_i + \beta_i\, Y^*(t) \tag{2}$$

The first term on the right side is evidently the necessary or *subsistence consumption* Y^*, at current prices, that is, the product of the price index $p_i(t)$ and the subsistence consumption T_i at constant prices. The second term expresses how the social group in question distributes its *supernumerary income* – which is equal in the model to the difference between total expenditure and subsistence consumption at current prices –, according to the β_i proportions of incremental consumption between the various commodity categories. Thus, the β_i parameters, together with the already mentioned γ_i-s, are the decisive elements of the Stone model. These two sets of parameters were also determined according to the principle of the least squares. The total sum of deviations across all commodity groups and of all observations were minimized by applying the *iterative method* described in the original publication of Stone [25].**

The objective of our computations performed with the *cross-section model* was to obtain quantitative results broken down by income brackets and by more detailed commodity categories.*** The basic conception of the model is expressed by an equation of the type

$$\frac{\Delta q_i}{q_i} = E_i \frac{\Delta Y}{Y} + \left| \sum_j e_{ij} \frac{\Delta p_j}{p_j} + u_i. \right. \tag{3}$$

*In an article published also in Hungarian [27], Professor *Stone* gave account of his model; in the notation of the model we have followed, however, two of his earlier publications [25], [26].

**It has to be remarked that this procedure is problematic from several points of view, and today it can be no more considered as up-to-date. Several authors, including *Zellner* [30], *Barten* [3], *Pollak* and *Wales* [22] have dealt with the improvement of the estimating methods applied to the model.

***The method applied here was elaborated mainly by following the train of thoughts of R. *Frisch* [9] and H. *Theil* [29].

According to this, the relative change of consumption in two or several subsequent years may be obtained by adding the product of the relative income changes multiplied by the income elasticities of the product plus the relative price changes multiplied by the price elasticities, and corrected by disturbance u_i. There are fairly many unknowns in this equation, since the model presupposes also the determination of the matrix of cross-price elasticities, whose estimation needs additional assumptions. For this purpose, the concept of *maximizing the utility function* was used.

Leaving the discussion of theoretical problems to another publication [19], we proceeded in practice as follows. The empirical *Engel-curves* for the various commodity groups were estimated first and the *income elasticities* were determined from these individually. Starting from these income elasticities and using the relative price and income changes the value of the *income flexibility* could also be defined. Knowing E_i and Y, the *price elasticities* can be uniquely determined. The method thus allows and unequivocal quantification of the parameters.

Our basic study [16] contains the *data* used in the calculations. For lack of space we cannot publish them here, but we shall outline the methodological questions connected with them.*

The *first two models* were computed on a perfectly identical data base, to wit on the statistics of total consumption in the years 1960 through 1974 [34], as well as on the summary data of household budget statistics published in the Statistical Yearbooks [35]. The data used in the *third (cross-section) model* were obtained from the household budget statistics of the years 1972, 1973 and 1974 [32]; here, however, not only the published data were used, but also some of the underlying details were made available for the purposes of our computations by the Hungarian Central Statistical Office.

The division of *consumption* by commodity categories is identical in the three models. The seven categories contain: food, beverages + tobacco, clothing, heating and other household energy, durable consumer goods, other industrial articles and services. However, the contents of these categories diverge: in the case of the first two models based on time series we started from the quantity (at current prices) of the total consumption comprising all goods purchased or produced at home or obtained as wages in kind, whereas the computations with the third (cross-section) model included only the consumption of purchased goods.

Income was also computed differently: In the first two models, the sum of expenditures was substituted for the income. This corresponds to the assumption of the Stone model on the equality of income and expenditure. In the third (cross-section) model, however, the computations started from the "net income". (This means the sum of the various money incomes, of wages obtained in kind, and of home-produced goods, less the taxes and tax-like expenditures.)

*The study often quoted [16] publishes the data, and discusses the related problems in detail.

The *price indexes* used in our computations were also taken from the publications of the *HCSO* [34], [35]. These publications contain the price indexes in a breakdown by 4 large social groups; for the groups of workers and intellectuals there is also a breakdown by income brackets. The latter data were used to determine the price elasticities of consumption by income categories for this group of population. No such breakdown is available for the peasant and double-income* households. Therefore, it was impossible to quantify the price elasticities of the individual income brackets in these social groups, and only the income elasticities could be determined in such a breakdown.

The scepticism expressed by Hungarian experts in connection with the mathematical analysis of consumption has relied mainly on the argument that the changes in consumer prices were too small in this country for a quantification of their effects. But Figure 1 shows that, between 1960 and 1974, the *change in the relative consumer prices* was, if not excessive, still remarkable. For instance, the relative price index of beverages + tobacco** was about 20 percent higher in 1973 than in 1960, while the relative price of heating and other household energy fell by almost 20 percent in the same period. Such a divergence of the relative prices cannot be considered negligible. Though the changes in the relative prices were significant, it is also true that some of them (e.g., in the case of clothing, durables and other industrial goods) were partly due to trend effects. Thus, the relative price changes were not independent of the changes in real income; as a matter of fact, both developed as functions of time. This, evidently, shows a certain multicollinearity. Since the problem is the graver the more aggregated groups of consumer goods are examined, the resulting error is not negligible.

Reliability of the results

From the *the constant-elasticity model* we have computed the parameter

$$D = \sqrt{1 - \frac{\bar{s}^2}{\delta^2}}$$

expressing the goodness of fit for every social group and commodity category. This parameter is the square root of the coefficient of determination, where $\bar{s}^2$ and δ^2 are the unbiased estimates of the variance of the residuals and of the dependent variable, respectively. The values thus computed are shown by Table 1. It may be seen that the *demand equations* of the model *fit well* – in most cases very well – *the consumption data.* The values concerning the whole population attain or exceed 0.99 practically in all cases, which is a very good result. However, the values concerning the various social strata and commodity categories show certain divergences that seem to be systematic. The values of the D parameter concerning intellectuals and the category of "other industrial

*Double-income households are those where there are persons drawing income from both agricultural and non-agricultural activities and one of them is head of the household.

**Inclusive of coffee, tea, cocoa, sugar and candy (Translator's note).

articles" are characteristically lower than the rest, even though their absolute values are remarkably high.

It may be assumed that the consumption structure of *intellectuals* is, as a result of their better financial situation and, above all, of their more diversified motivation, *less dependent on income and price effects* than the consumption of other social groups. As regards the category of "other industrial articles", this commodity group is exceedingly heterogenous. It is enough to mention that it also includes the purchase of building materials, the importance of which is very high in some social groups and very low in others. Moreover, these purchases are rather independent of the short-run income and price effects. No wonder that, in this category, lower D coefficients were obtained.

The *income parameters* (income elasticities) of the constant-elasticity model are shown in Table 2, together with the t-ratios

$$t = \frac{\mu}{s(\mu)}$$

expressing the significance of the parameters, where μ denotes the estimated parameter value, and $s(\mu)$ the usual estimate of the standard error of the parameter, obtained by the method of least squares. It turns out that the values of the *t-ratios* are *relatively high* when compared with those of the investigations of similar character. The values obtained for the total population move between 7 and 44, and also the values concerning the various social groups are high. Only in a single case (purchase of durable industrial goods by the group of intellectuals) is the result of the t-test 1.61, i.e., a value smaller than that of a significant parameter (1.78) at 90 percent confidence level.

There are some other essential differences among the values, partly confirming and partly complementing what has been said in the foregoing. The t-ratios are always lowest with the intellectuals, although even here the "natural correlation" between consumption and income is high in an absolute sense. It also turns out that the determination of consumption by income is highest in the categories of food, beverages and tobacco, clothing, heating and other energy consumption – exactly as expected.

It is in the case of *peasants and double–income earners* that the *correlation between income and consumption is strongest* (compared to other social groups), especially regarding the categories of durable consumer goods and of the "other industrial articles". Also this is understandable from a sociological point of view, since in the purchases of these two social groups the building materials have an outstanding role, as a form of accumulation of wealth. Income and the consumption of *beverages and tobacco* are most highly correlated in the case of *manual workers*. Thus, in this social group an increase of income very characteristically raises the consumption of these goods dangerous to health – a result of our computations that leads to rather serious considerations.

The *price parameters* of the constant elasticity model are shown, with the corresponding t-ratios, in Table 3. These price parameters are no more identical with the price elasticities, but the reliability of our computations can be checked only with their aid. As a rule, the computed values of the t-ratios are here smaller by an order of

magnitude than those obtained for the income parameters, meaning that the *consumption depends much less on prices than on incomes,* although in some cases a most decisive price effect can be shown. Moreover, the reliability of our computations is much lower with regard to the price effects than to the income effects.

Turning now to a more detailed evaluation of the results, we find, in the first line, that *food consumption* (at the level of aggregation used) *depends very little on prices.* In fact, for intellectuals and peasants we obtained positive price parameters (which seem theoretically unacceptable). This means in fact, taking into consideration also the values of the t-ratios, that the total food consumption of these social groups scarcely reacts to price changes. This result is not surprising: the consumption of the better-situated intellectuals could have been hardly influenced by the relatively small price changes of the recent years, and since the food consumption of the peasants is based partly on their own production, the price effects are evidently low also here. Even the development of the consumption of purchased food is much less influenced by the prices than by the supply situation in the villages, or by the constantly decreasing availability of own-produced food.

The situation is quite different in case of *beverages and tobacco.* All price parameters are here negative, and – with the exception of the intellectuals – they differ from zero on a high level of significance. It seems that *a price rise reduces consumption most markedly in the case of manual workers;* the negative correlation is somewhat less strong but still very characteristic for peasants and double-income earners, and it is least significant, in the statistical sense, for the intellectuals. This result indicates that the *consumption of alcoholic beverages and tobacco can be influenced* efficiently by *raising prices.* Particularly the big price parameter and close determination obtained for *workers* is very important because it shows that whereas the consumption of beverages and tobacco very decidedly increases with the rise of incomes in case of manual workers, it can be greatly reduced by raising prices.

Our computed results seem to be fairly consistent with the *practical experience* that, although rising prices strongly reduce the consumption of beverages and tobacco, this effect is of a transitory nature, and consumption regains quickly its former level owing to the subsequent rise in incomes. One may conclude from this, in the first approach that the *relative prices of these goods* (especially of alcoholic beverages) *should be continuously increased* in order to keep down their consumption on an acceptable level; later we shall come back to other, more general conclusions.

As regards the category of *clothing,* the results obtained for the *manual workers* and *intellectuals* strongly differ from those obtained for the two other social groups. Namely, in the first two cases the price parameters are negative, and the t-ratios are high, especially for the manual workers. This means that the purchases of clothing by these two social groups can be very decisively influenced by prices, and an occasional price reduction would strongly increase them. When confronting this conclusion with the strong reaction of the manual workers on the prices of beverages and tobacco, it turns out unequivocally that the consumption pattern of this social group could be decisively

"refined" by changing the relative prices of beverages, tobacco and clothing. The rather surprising values obtained for the *peasants* and *double-income earners* show that the expentidures on clothing are in these two social groups more or less independent of prices; they seem to depend on rather rigid consumption habits.

In the category *of heating and other sources of energy* used by the households, price parameters of relatively high negative values were obtained for every social group, and the differences from zero were significant. It seems, thus, that the energy consumption of the households *reacts very definitely on prices.* This conclusion is very important for economic policy, because it shows that considerable amounts of energy could be saved with the aid of an adequate price policy. But it has been mentioned in the foregoing that, in the period examined, the prices of primary energy developed exactly in the opposite direction.

The results for the *durable consumer goods* are very similar to those obtained in the category of clothing, so that the results of these two categories seem to mutually reinforce each other. We obtained very high negative price parameters for the social groups of manual *workers and intellectuals,* and also fairly high values for the t-ratios, showing that their purchases strongly depend on price. On the other hand, the price parameters have very small absolute values for the *peasants and double-income earners* (or are even positive in the case of peasants!), and the t-ratios are very low. It seems, then, that in the latter two social groups the purchase of durable goods is practically independent of price. They spend a rather constant percentage of their incremental income on such goods.

It is perhaps in connection with the durable goods where the *interrelation between income and price parameters* appears most decisively. While for manual workers and intellectuals we obtained relatively low income and high price parameters, the situation of the two other social groups was just the reverse. Thus we may unequivocally draw the conclusion that the consumption of the first two groups is decisively influenced by prices, whereas that of the latter two groups depends in practice only on incomes. Thus, a "dynamic" consumer price policy aimed at improving the pattern of consumption is likely to be successful with regard to the first two social groups only.

The categories of *"other industrial articles"* and of *services* will only be mentioned in passing, since we cannot observe similarly characteristic interrelations: in the first case because the category is excessively heterogenous, in the second because the "consumption" of services depends much less on incomes or prices than on social habits, and even more on the extent to which the services are available.

As regards the reliability of computations with the *Stone-model* we only wish to point out – without presenting the numerical results – that, *in spite of occasional divergences, the results obtained with the two models seem to reinforce each other mutually,* in the sense that both models show closer or less close correlation between the dependent and independent variables of the same places. Nevertheless, the results do not allow in themselves to draw economically meaningful conclusions, first of all because the model ensures internal consistency of the system of parameters by reducing the differentiation of the parameter values.

Using the *cross-section* model, the *Engel-curves* were first determined. It will be discussed later to what extent the results coincided with those obtained from the models dealt with until now.

The income elasticities

The income elasticities obtained from the constant-elasticity model are identical with the income parameters shown in Table 2, and are generally *consistent with the values expected on the grounds of theoretical considerations* and direct practical experience.

Income elasticities in the group of *food* have values around 0.5; they are lowest for the intellectuals, much higher for manual workers and even higher for the peasants and double-income earners. These latter values reflect probably a shift in the consumption pattern toward purchased food. The values obtained for *beverages and tobacco* exceed unity, as it was expectable. The *exceedingly high value of 1.77 in the case of the manual workers* may be a cause for grave concern, showing that the workers spend an irrationally high share of their incremental income on beverages and tobacco; the values obtained for the peasants and double-income earners are lower. This is all the more so, since in the sample of the household budget survey families under "settled" conditions are over-represented, and thus the results obtained from these data are likely to underestimate the actual income elasticity for the whole category of the manual workers.

This fact unequivocally justifies the price policy aimed at a *continual raising of these prices.* Even more far-reaching conclusions may also be drawn. It seems, namely, that it would be necessary to *reduce the relative prices of clothing, durable and other industrial consumer goods, making* thereby *these products more accessible to the workers,* in order that the increase of their incomes might serve a growing purchase of these goods rather than a rapid extension of the consumption of alcoholic beverages and tobacco. As regards the values obtained for the *peasants and double-income earners,* they show that the consumption of beverages and tobacco in these two groups is more decisively depending on the social position than on the income level though also the latter has a not negligible influence, since even here the income elasticities exceed unity.

In the group *of clothing* the income elasticity is much higher than unity for the *manual workers;* it is much lower than unity for the *intellectuals,* and slightly lower than unity in the other two social groups. The value obtained for the intellectuals shows that this social group is best supplied as regards clothing, and therefore nearest to the level of saturation, whereas the supply of the manual workers is the least satisfactory. In the category of *heating and other energy,* the relative values obtained are essentially the same as in clothing, and they seem to be rather high; we are going to come back to this problem in connection with the cross-section model. In the case of *durable goods,* the low value obtained for intellectuals seems to be connected with the high price elasticity to be shown later. The value around unity in the group of manual workers, as well as the values around 2 for the peasants and double-income earners seem to be realistic and consistent

with the results of the constant-elasticity model. In the group of other industrial goods all the computed values (relatively low for intellectuals, relatively high for peasants, and around unity for the other two social groups) seem to be quite acceptable. As regards services, the income elasticity is low for intellectuals and considerably higher for the three other social groups, showing the higher level of supply of the first group in 1974 (and the relatively small possibilities of improving it), as well as the very bad supply of the workers and especially of the peasants and double-income earners, and its slight improvement – though considerable in percentages – during the period examined.

The income elasticities obtained with the *Stone-model* are rather similar to those obtained from the constant-elasticity model, and also their dispersion around the average is essentially similar; however, they are more equalized, i.e., *they diverge less from one another and from unity.* All this shows that the Stone model which determines a consistent system of parameters reduces the differentiation of parameters by commodity categories because it ensures consistency. The results are thus slightly differing elasticities. The differentiation by social groups is also mitigated in a similar way. These *results* therefore can be *used to correct the values obtained from the constant-elasticity model and to ensure their consistency;* they are not suited, however, for planning computations in themselves. Our experiences with the model are thus rather unfavourable, while others, – first of all Éltető [5] – report on more favourable results. The possibilities for using and improving the model have therefore to be investigated also in the future.

With the quantification of the *cross-section model* we wished to obtain, in the first line, more detailed results. Here, in Table 4, we present only the values computed for the social groups, and differentiated by income brackets; a similar breakdown by commodity categories will be analysed in a subsequent part. If we compare the values not broken down according to income brackets with those obtained in the other two models, we find that the quantitative divergences are sometimes considerable. They can be explained by the following causes.

As it was explained in the original report [16] in more detail, the income elasticities of the peasants and double-income earners regarding *food* as well as *beverages and tobacco* are here lower, because the presented data reflect only the consumption of purchased goods, and because in these social groups the purchased consumption is determined first of all by the supply situation, whereas the effect of income differences is but secondary. Also the values obtained for *heating and other household energy* are lower, because the long-term changes of the housing situation had brought, between 1960 and 1974, large masses into circumstances under which the expenditures on heating, lighting etc. are characteristically higher. The cross-section model does not reflect this shift, and this leads to lower income elasticities. As regards the *other commodities,* the results of the cross-section model are necessarily different from those obtained from the time series computations. In the first line, the lower values obtained for beverages and tobacco, and for durable goods reflect that expenditures on these articles by people belonging to different income brackets at a given date differ less than the change induced by a rise in income over time. (This conclusion, that seems justified on the ground of

logical considerations, will also be numerically confirmed in the following.) It cannot be thus expected that the results of the cross-section analysis should exactly agree with those obtained from the analysis of time series. The importance of the cross-section model is that it can be used – after a logical checking – for complementing the values obtained from the time series models, and for their further breakdown by income brackets.

Important conclusions can be drawn for consumer price policy from the analysis of the *results broken down by income brackets.* It is a general feature – but most conspicuous in the case of the manual workers – that the income elasticities of the expenditures on food, beverages and tobacco and also household energy are relatively small in the lowest income category: they are higher in the second-lowest, and they start to decline beginning with the third-lowest category – as the income elasticities of the basic goods are supposed to – with the increase of income. At the same time, the income elasticities of clothing, as well as durable and other industrial goods are highest in the lowest income category, and they are much lower in the second-lowest one. In the case of clothing, this decline of the parameter values continues at a fast rate with the increase of income, whereas with durable and other industrial articles the income elasticities decrease less markedly or even stagnate in the higher income categories (with the exception of a single excessively high value).*

All that means that the *households belonging to the lowest income brackets* in all 4 social groups, but most characteristically in that of the workers, are making efforts to raise their consumption to the general "socially accepted level" first of all regarding the supply with clothing, durable and other industrial goods, and, in the interest of this, they are inclined to restrict their purchases of food, beverages and tobacco and household energy. In other words: it is *just the lowest income brackets* that *tend to economize on the expenditures serving the consumption of basic necessities or of beverages and tobacco, in order to ensure for themselves a level of consumption of clothing, durable and other industrial goods which they hold today already indispensable* taking into consideration the consumption levels of higher income categories. According to what has been said here, the cross-section and the time series computations could not yield numerically identical results because in the same income brackets – particularly in the case of lower incomes – the demand for industrial articles asserts itself more strongly today than it did earlier on the same income level.

In view of the results of our computations, the *commonly accepted view may be challenged that the government-subsidised prices of food and heating materials serve in the first line the benefit of the social groups having the lowest incomes,* whereas turnover taxes levied on clothing, durable and other industrial goods afflict the more well-to do layers. It follows from this view that although it would be advantageous from the

*In the highest income bracket of the peasants: this may be explained by the smallness of the sample, as a result of which already the random purchase of a few motor cars can lead to excessive values.

economic (production and structural policy) aspect to change the present system of consumer prices (by eliminating price subsidies and introducing a uniform system of turnover taxes), this is hardly if at all practicable, because it would aggravate the situation of the poorest layers of Hungarian society.

This opinion might have been correct under circumstances that prevailed twenty or thirty years ago; but our calculations show that in our days *exactly the opposite is true.* The low-income layers are now endeavouring, in the first line, to increase their purchases of clothing and other industrial articles to a level that seems to be justified in view of the general level of socially determined requirements. As a result, these *low-income groups are worst hit by the turnover taxes levied on these goods,* because they hinder them in developing a modern and more advanced consumption structure they are striving after. At the same time, the price subsidies on food and household energies subsidize, instead of the layers having the lowest incomes, rather those falling into the middle-income brackets. Thus, *the introduction of a uniform turnover-tax system* – which would result in higher relative prices for food and energy, and lower relative prices for clothing and other industrial products – *would affect the lowest-income layers in a definitely favourable manner, provided,* of course, that their *increased expenditure* on their present level of food consumption would be *compensated.* Incidentally, also the otherwise advisable rise of the prices of beverages and tobacco could thus be realized in a way which but slightly afflicts these low-income layers. It seems thus, that there is a much greater conformity between the requirements of economic and social policy than it is generally assumed; moreover, there is an almost complete parallelity between these two aspects.

The question may be raised to what extent our conclusions are affected by the fact mentioned in connection with the sources of data, i.e. that the *households figuring as samples are not sufficiently representative:* probably the share of economizing, thrifty households is much greater in the sample than in the total population, and it is also probable that this distortion is the greatest in the lowest income categories. This assumption is confirmed by the well-known fact that very different types of households belong to these categories, including elements of the lumpenproletariat, alcoholics, and also large families with several children that are honestly struggling to make two ends meet. We believe that the validity of our conclusions is not affected by this, because the *consumer price policy has to be directed by the interests and consumption structure of the last-mentioned layer which deserves most the society's support.*

Our findings regarding the group of heating and other energy used by households are also worth attention from the aspect of *energy saving.* When dealing with the sources of our data we already emphasized that the relative consumer prices of primary energies declined expressively between 1960 and 1974, and that this change was evidently contrary to the requirements of energy saving. We may now add that the price subsidies making possible this low level of relative prices are much more advantageous for categories with middle income than for the lowest ones. Thus, the *arguments based on social policy considerations for the maintenance of these price subsidies are much less valid than it is generally assumed.*

On the grounds of these results we must draw conclusions not only of social and economic but also of methodological character, i.e., as regards the procedure hitherto followed. Two methods have to be decisively distinguished from this aspect: the so-called static and the so-called dynamic, which latter takes into account also the developments to be expected in the future.

In general, analyses dealing with the problem in question belong to the *static* type: they try to determine how the various large social groups are spending their incomes, i.e., what percentages of income they spend on purchasing the various categories of commodities; and how a certain change in the relative prices of these commodity categories would modify the price index of total consumption (and through this, the real income) of each social group. This type of analysis is very useful when one tries to answer the question how a given change in the relative consumer prices can be compensated in order to attain that, as far as possible, the real incomes of every social group remain essentially unaffected.

When, however, the problem is not the "re-pricing" of the present consumption structure but rather its expected development and the factors determining the course of events, a *dynamic concept* (more exactly, one *taking into account also the development to be expected*) becomes inevitably necessary. Here, the effect of a price change depends not on the present consumption pattern but on its future development.* Therefore, *the effects of price changes on the real incomes of the various social groups can only be measured adequately by taking into account,* beside the present consumption pattern, also *the pattern of the future, incremental consumption.*

This holds even more if the *effects of price changes are compensated by adequate incomes policy measures.* The immediate effect of the price changes on the consumption pattern will be relatively small (we shall deal also with this problem subsequently), so that the new consumption pattern corresponding to the new price situation will not be formed all at once but gradually, along with the subsequent increase of income. Price changes thus exert their effect not immediately, but only gradually. Therefore, *when a price rise is compensated,* it is not necessary to fear from a lasting decline in the use of the commodity concerned: *the rise of the relative prices will cause, instead of a sudden change in the consumption, a gradual modification of its trend, which makes the problem more manageable.*

The price elasticities

The non-compensated and compensated own-price elasticities obtained from the *constant elasticity model* for 1974 are shown by Table 5.

*When, for instance, a given social group spends, in the base period, relatively much on food and less on industrial products but it may be expected that, with a future increase of its income in a later period, a considerably smaller share of its incremental income will be spent on food and a higher share on industrial goods, such modification of the prices will be more advantageous for this social group where the relative prices of food would rise and those of industrial goods would decline.

Analysing the computed values of *non-compensated own-price elasticities* by commodity categories, in the category of *food* we have obtained negative parameters of low absolute value for every social group except for the intellectuals. The small positive value obtained for the intellectuals means that – with a view to the very low value of the t-ratio shown in Table 2 – the food consumption of intellectuals is practically independent of the price level. A similar situation may be observed in the case of peasants and double-income earners: all this was referred to in the part discussing the reliability of the results of computations. Essentially higher negative price elasticities were obtained for *beverages + tobacco.* When consulting also Table 2, they are highly significant, with the exception of the intellectuals. It follows from these that a *one percent rise in the price of stimulants causes almost a one-percent decline in their consumption.*

In the group of *clothing,* the results obtained are rather interesting. The negative price elasticities of the *intellectuals* are high, those of the *manual workers* are much lower; for the *peasants* and *double-income earners* positive values were obtained, of which the one concerning the peasants is highly significant in the statistical sense. This means that the intellectuals react on price changes more intensively than the manual workers, whose consumption is much more determined by their incomes. The income effect is so much dominant in the case of the peasants and double-income earners, that we obtained positive price elasticities. Since this is evidently due to the fact that the expenditure on clothing develops in these social groups as a function of time, at a similar rate with prices, this can be interpreted to mean that, in these groups, the price effect is small or even negligible.

In the category of *heating and other household energy,* we obtained negative elasticities exceeding unity for the *intellectuals,* and considerably smaller price elasticities for the *other social groups.* Thus, the situation is similar to that observed with clothing: the intellectuals, approaching saturation, have a wider possibility to react, i.e. they are more free to modify their consumption pattern as a function of prices than the other social groups. However, the effect of price on the development of consumption is not negligible even in the other social groups, especially not in that of peasants and the double-income earners, and the parameters obtained for them are highly significant. We shall come back to the economic interpretation of these results.

The price elasticities of the *durable industrial products* diverge widely: the values obtained for the *intellectuals* and *manual workers* are strongly dependent on prices, those of the *double-income earners* also depend on them significantly, but those of the *peasants* are practically independent of prices. (These results are confirmed also by the t-ratios shown in Table 2.) It seems, thus, that the amount of durable goods purchased by the peasants depends rather on incomes than on prices – as has been shown already in connection with the income effects and income elasticities.*

*This could have been more satisfactorily interpreted if the price changes in this category had been discussed in greater detail. As a matter of fact, real major price changes could only be observed with furniture. There was no possibility to conduct such a detailed investigation as yet.

The price elasticities of *"other industrial goods"* are surprisingly low; in the case of workers, we obtained even positive values. Since the corresponding t-ratios are also low, no definite economic meaning can be given to them. This is due – as it has been mentioned before – to the heterogeneity of the goods belonging to this category. The non-compensated own-price elasticities of the *services* are for the same reason also unsuitable for substantiating some economic conclusions, and for the same reason.

Turning now to the *compensated own-price elasticities,* these values obtained for the category of *food* are *considerably smaller* than those of non-compensated own-price elasticities. For instance, in the case of a compensated 10 percent rise in the price of food, the food consumption of the total population and of the manual workers would decline only by slightly more than 1 percent; the results obtained for the intellectuals and the peasants indicate – taking into account also the low t-ratios shown by Table 3 – that the *effect of price changes on consumption is here practically zero;* almost similar results were obtained for the double-income earners. The fear is thus unfounded that if, as a result of economic considerations, the relative prices of food were raised, this would lead to an inpermissible deterioration in the level of food consumption. Our computations have shown that – if adequately compensated – food *consumption would not gradually decline following an occasional price rise.* It also follows that in the period of a possible price change the demand for industrial articles would not suddenly grow and thus we need not fear shortages in their supply. Thus, *a change in the relative prices may not lead to a rearrangement of the present consumption structure but rather to the modification of its future development,* probably in the direction of a more sophisticated consumption pattern.

The reason for this is that any *compensation can affect only the present consumption pattern;* the low compensated own-price elasticities can apply thus only to this "inherited" part of consumption, whereas the higher values of the non-compensated own-price elasticities will influence the pattern of incremental consumption to result from a subsequent increase in income. The great difference between the compensated and non-compensated own-price elasticities causes therefore the well-known phenomenon that *the already attained level of food consumption is rigid,* and does not change under the influence of higher prices, particularly if compensated; price *changes influence only the pattern of incremental consumption.* Evidently, all this puts the expected effects of an occasional change in food prices in a different light.

The situation with the prices of *beverages and tobacco* is quite different. In the case of food the compensated own-price elasticity is generally less than one-third of the non-compensated own-price elasticity, whereas in the case of beverages and tobacco the first value is only by 10 percent less than the second; the absolute values of elasticity are, even in the compensated case, around unity. That is, if said rises are compensated (either through increasing the nominal income, or through reducing the price of other goods), this will offset the consumption-reducing effect of the price rise only to a minimum extent. This reinforces from another side our conclusion that it is expedient to

continuously raise the prices of these commodities (and within them, in the first line, of those dangerous to health).

In the case of *clothing, durable and other industrial goods,* the difference between compensated and non-conpensated own-price elasticities is slightly greater than in the case of beverages and tobacco, but it is still relatively small. This shows that the consumption-rearranging effect of prices asserts itself strongly even here which is very desirable. The reliability of the values obtained for the "other industrial goods" is even here doubtful, and the situation is similar with *services.* Instructive – though by no means surprising – results were obtained in the category of *heating* and other *household energy.* Here, the compensated own-price elasticities are but slightly less than the non-compensated ones. From this it follows that a rise in the prices of energy can seriously influence their consumption even when the additional expenditure caused by the price rise is refunded to the consumer. This result is remarkable also from the methodological point of view because it is highly significant in the statistical sense; and it is important for the economic policy because it shows that a price rise of energy may efficiently serve the aim of energy saving also in the case of a full compensation.

The price elasticity computations performed with the Stone model supplied even less utilizable results for practical economic analysis than the income elasticities obtained from the same model. The differentiation of the values of own-price elasticities computed with this model is slight not only by social groups, but also by groups of commodities – the differences are frequently negligible. The Stone model makes also possible to determine the matrices of cross-price elasticities. The obtained values are low and uniform; their small divergences are not economically meaningful. This is why these numerical results have been omitted here.

The results obtained with the *cross-section model* were used for performing detailed *calculations* subdivided by *income brackets.* First, it has to be examined whether the main results, not broken down by income brackets, are consistent with those previously obtained. For lack of space this comparison is shown in Table 6 only for the non-compensated price elasticities. The table contains only the values obtained for the various income brackets of the manual workers and intellectuals. Namely, in view of the small price sensitivity of the peasants and double-income receivers, the parameters of these two social groups could be measured adequately through this model.

On the ground of the values one may conclude that *as regards their economic contents, the results presented here do not contradict those obtained from the previous models.* The values obtained from the cross-section model are, nevertheless, more uniform, the price elasticities diverge but slightly from -1, being somewhat lower for food, fuel and household energy, somewhat higher for clothing, still higher for beverages and tobacco, as well as durable and other industrial goods. There is but little difference between the price elasticities of the manual workers and intellectuals, and it seems – in contrast to what has been formerly observed – that the sensitivity of the former social group is somewhat greater than that of the latter. Thus, even if there are marked differences, there is no essential divergence in the results obtained from the various

models, so that – after ensuring the conditions of consistency and after logical control – even the combinations of the parameters obtained from the various models might be used for the purposes of analysis.

When examining the *values* obtained for *the various social groups subdivided by income brackets,* we find that in the group of manual workers the own-price elasticities tend to be greatest in the lowest income brackets. This is found in six cases from the seven, while the price elasticity is highest for the second lowest income brackets in one case. In the higher brackets the price elasicities markedly decline with but a few exceptions. As a contrast, in the group of intellectuals, in six cases from seven it is in the second lowest income bracket where the price elasticity is highest, and only in one case is the elasticity highest in the lowest income bracket. After this follows a very marked and rapid decline – this time without exception – of the elasticities in the higher brackets. All this shows that exactly the *lowest income brackets* of these two social groups *take the greatest effort to rearrange their consumption pattern according to the price changes,* whereas those belonging to the higher brackets react less to price changes because their income situation is more comfortable. It follows that every change in prices, if it is accompanied by corresponding changes in nominal income, induces a spontaneous re-arrangement of the consumption pattern – at least as regards manual workers and intellectuals – and its favourable effect is greatest in the lowest income categories; in other words, it is here that the "secondary advantages" attainable after the price changes are greatest.

Also with the aid of the cross-section model, the *compensated own-price elasticities,* as well as the *compensated and not conpensated cross-price elasticities* were computed. Since they are low and not differentiated values, they are not presented or discussed in this study.

Final conclusions

From the *methodological* point of view, our most important conclusion is that the classical models of consumption analysis can be estimated adequately from the Hungarian data. The results obtained with various models reaffirm each other mutually, in spite of occasional divergences from the conceptual viewpoint and lend themselves easily to economically meaningful interpretation. Most of the economically meaningful results were obtained with the constant elasticity model, while the Stone model caused most of the methodological difficulties. But this does not allow to draw final conclusions regarding the usefulness of the particular models.

Our calculations led to the result that the pattern of consumption depends first of all on *income;* the effect of the prices is much less but in most cases still well observable. These two factors, taken together, explain most changes in the pattern of consumption. The income effect is relatively small in the case of food, greater in that of clothing, still greater for beverages and tobacco, and greatest for durable goods. At the same time, the price effects are also smallest in the case of food consumption; the consumption of

beverages and tobacco and of clothing depends more on prices, and the purchase of durable articles depends even more on them. Evidently, these results are consistent with our other observations and general assumptions.

Our calculations have shown, at the same time, great divergences between the various *social groups* as regards the above observations. Thus, in the case of peasants and to some extent in that of the double-income earners, the sensitivity of the consumption of food and clothing to changes in income and prices is relatively small; consumption is mainly determined here by the social situation. The purchase of durable and other industrial goods, however, depends in these social groups almost exclusively on income, the price effects being negligible. As regards, however, manual workers and intellectuals, their purchases of beverages + tobacco and clothing strongly depend on their incomes, and are greatly influenced also by the price effects in all categories of expenditure. Changes in incomes and prices influence thus much more the pattern of consumption.

There are divergences in consumer behaviour – in the sensitivity of consumption to price and income – also by *income brackets.* In all social groups, but most characteristically in that of manual workers, the households having the lowest incomes attribute a primary importance to raising their consumption level in clothing, durable and other industrial goods to the level of general social requirements, to a more sophisticated consumption pattern, and in the interest of this, they are willing to bring sacrifices as regards their consumption of food, beverages and tobacco.

It follows that the widespread opinion stating that the uniformization of the turnover tax system, although it would be advantageous from the economic point of view, is not practicable, because it would be contrary to the interests of the poorest layers of society, cannot be maintained. It seems that in our days the opposite is true: *the turnover taxes levied on industrial articles put the heaviest burden exactly on the strata with the lowest income, hindering them in developing a more up-to-date pattern of consumption.* Thus, uniformization of the turnover tax system would be advantageous exactly for these low-income strata.

The *price elasticities* of the various income brackets seem to support this view. Thus, the restructuring of consumption is strongest – at least in the case of the manual workers and intellectuals – in the low-income brackets, and therefore also the advantages connected with such restructuring are here the greatest.

The proposals advocating a restructuring of prices and thus of consumption, cause usually to some uneasiness, because it is feared that such a policy may lead to an impermissible decline in the level of consumption, especially as regards food. Our calculations, however, show that this concern is likely to be exaggerated as regards food, because in the compensated case the already attained level of food consumption will be practically sustained by all social groups, even in the lowest-income brackets, so that the consumption of food would decline, in the case of occasional (compensated) price rises, only to a negligible extent. Thus, a change in the relative prices would, instead of rearranging the existing structure of consumption, modify rather its future development, in the direction of a more up-to-date consumption pattern. An indispensable condition of

the latter is an increasing consumption of industrial articles and services. On the ground of similar considerations we may assume that *a change in the relative prices is not likely to lead to an abrupt increase in the consumption of industrial articles* either.

Setting out from these results, it seems necessary to check the correctness of the calculations serving as a basis for consumer price policy, also from the methodological point of view. It seems that it is no longer satisfactory to start – as it has been done until now, according to the traditional static conception – from the shares of the present income the various social groups are spending on the purchase of each commodity category. It is equally or even more necessary to forecast how they will utilize their *incremental incomes*. This way of looking at things will throw – as we have seen – a wholly different light on the problem.

The income elasticities of *beverages and tobacco* are, in the case of the manual workers, almost terrifyingly high, but they are high enough also for the other social groups. Their price elasticities are also highest for the manual workers, but are not negligible in the case of other groups, either. Thus, if we intend to limit the consumption of beverages and tobacco, we have to *raise their relative prices continuously.*

The expenditures on *heating and household energy* depend on prices to a surprisingly high extent in almost every social group and income bracket. Thus, the *saving of energy* – an absolute necessity under the present circumstances – *might be effectively served by price policy.* Since the income elasticities of this group of commodities are highest in the middle-size income brackets rather than in the lowest ones, the state subsidies spent on the supporting of prices benefit not the poorest, but rather the more well-to-do layers of the population.

The interrelations revealed and considered to be of prime importance for consumer price policy need *further verification.* For this purpose it seems necessary to extend the statistical basis to the recent years, and to take into account the results of the new household budget survey of the HCSO. A more detailed breakdown should be applied in further calculations with respect to both consumers and groups of commodities. Also the procedure followed should be improved from the methodological aspect – but the scope of this article does not allow further discussion of these subjects.

Table 1

Multiple correlation coefficients of the constant-elasticity model

Social group	Food	Beverages + tobacco	Cloth-ing	Heating etc.	Durable goods	Other ind. articles	Services
Total population	0.998	0.997	0.989	0.990	0.997	0.993	0.993
Manual workers	0.997	0.990	0.996	0.996	0.982	0.828	0.970
Intellectuals	0.919	0.913	0.933	0.938	0.936	0.782	0.932
Peasants	0.994	0.986	0.998	0.976	0.994	0.984	0.985
Double-income earners	0.996	0.986	0.996	0.995	0.989	0.992	0.982

Table 2
Income parameters of the constant-elasticity model (in parantheses: the t-ratios)

Social group	Food	Beverages + tobacco	Cloth-ing	Heating etc.	Durable goods	Other ind. articles	Services
Total population	0.57	1.34	0.86	1.25	1.87	1.66	1.12
	(44.95)	(27.53)	(17.13)	(16.51)	(7.69)	(14.39)	(13.32)
Manual workers	0.55	1.77	1.08	1.15	1.09	1.21	1.44
	(38.97)	(27.69)	(24.57)	(24.74)	(2.78)	(2.97)	(7.45)
Intellectuals	0.36	1.12	0.68	0.72	0.50	0.87	0.59
	(7.07)	(5.85)	(5.45)	(4.86)	(1.61)	(2.62)	(3.52)
Peasants	0.69	1.12	0.91	1.01	2.35	1.44	1.60
	(31.32)	(11.73)	(59.05)	(35.20)	(10.34)	(15.44)	(7.92)
Double-income earners	0.71	1.15	0.96	0.96	1.88	1.21	1.44
	(38.02)	(11.98)	(38.56)	(28.73)	(7.47)	(19.56)	(7.67)

Table 3
Price parameters in the constant-elasticity model (in parentheses: the t-ratios)

Social group	Food	Beverages + tobacco	Cloth-ing	Heating etc.	Durable goods	Other ind. articles	Services
Total population	–0.21	–0.64	–0.13	–0.46	–1.75	–0.04	–0.76
	(1.67)	(2.82)	(0.44)	(1.94)	(1.18)	(0.05)	(1.76)
Manual workers	–0.19	–1.11	–0.51	–0.64	–3.33	1.06	–0.70
	(1.44)	(4.06)	(2.64)	(5.12)	(1.90)	(0.57)	(0.65)
Intellectuals	0.46	–0.86	–1.15	–1.16	–4.46	–0.12	2.17
	(0.82)	(0.80)	(1.91)	(2.61)	(2.59)	(0.07)	(2.37)
Peasants	0.12	–0.93	0.60	–0.43	0.31	–0.20	–0.72
	(0.45)	(2.22)	(3.24)	(3.99)	(0.14)	(0.12)	(0.78)
Double-income earners	–0.09	–0.78	0.20	–0.69	–0.85	–0.51	–0.98
	(0.41)	(1.90)	(0.72)	(5.93)	(0.33)	(0.59)	(1.01)

Table 4

Income elasticities in the cross-section model by income brackets

Social groups and income categories*	Food	Beverages + tobacco	Clothing	Heating etc.	Durable goods	Other ind. articles	Service
Manual workers Total:	0.75	1.12	0.89	0.67	1.21	1.05	1.32
1. category	0.80	1.06	1.19	0.58	1.45	1.12	1.38
2. category	0.88	1.21	0.85	0.66	1.18	1.03	1.45
3. category	0.79	1.14	0.75	0.69	1.23	1.02	1.31
4. category	0.51	0.88	0.59	0.69	1.22	1.03	1.22
Intellectuals Total:	0.58	1.02	0.79	0.67	1.54	1.11	1.27
1. category	0.68	0.94	1.24	0.63	1.50	0.90	1.63
2. category	0.67	1.03	0.87	0.66	1.68	1.21	1.49
3. category	0.59	1.07	0.80	0.66	1.60	1.14	1.39
4. category	0.56	0.96	0.40	0.83	1.57	0.93	1.17
Peasants Total:	0.40	0.62	0.82	0.59	1.30	1.25	1.35
1. category	0.35	0.66	1.20	0.45	1.45	1.45	1.20
2. category	0.41	0.63	0.88	0.63	1.24	1.36	1.30
3. category	0.38	0.56	0.61	0.67	1.24	1.22	1.31
4. category	0.42	0.50	0.33	0.50	1.54	1.16	1.40
Double-income earners Total:	0.56	0.68	0.82	0.69	1.37	1.20	1.27
1. category	0.77	1.10	1.10	0.61	1.80	1.34	1.10
2. category	0.55	0.72	0.90	0.64	1.35	1.16	1.32
3. category	0.53	0.46	0.52	0.73	1.29	1.07	1.14
4. category	0.48	0.56	0.60	0.85	1.20	1.14	1.50

*1. category = annual income under 15.000 Fts
2. category = annual income between 15–19.000 Fts
3. category = annual income between 19–24.000 Fts
4. category = annual income over 24.000 Fts

Table 5

Non-compensated and compensated own-price elasticities in the constant-elasticity model

Denomination	Food	Beverages + tobacco	Clothing	Heating etc.	Durable goods	Other ind. articles	Services
Non-compensated:							
Total population	−0.35	−0.76	−0.22	−0.49	−1.76	−0.25	−0.81
Manual workers	−0.31	−1.16	−0.60	−0.66	−3.12	+0.76	−0.80
Intellectuals	+0.21	0.88	−1.08	−1.14	−4.03	−0.23	+1.66
Peasants	−0.20	−0.95	+0.41	−0.46	+0.07	−0.37	−0.81
Double-income earners	−0.31	−0.81	+0.03	−0.70	−0.98	−0.60	−1.03
Compensated:							
Total population	−0.14	−0.53	−0.11	−0.44	−1.60	−0.03	−0.65
Manual workers	−0.12	−1.02	−0.43	−0.61	−3.02	+0.91	−0.60
Intellectuals	+0.32	−0.80	−0.99	−1.11	−3.97	−0.10	+1.77
Peasants	+0.07	−0.84	+0.53	−0.41	+0.28	−0.17	−0.65
Double-income earners	−0.06	−0.71	+0.17	−0.66	−0.74	−0.44	−0.88

Table 6

Non-compensated own-price elasticities in the cross-section model, by income categories

Social groups and income categories*	Food	Beverages + tobacco	Clothing	Heating etc.	Durable goods	Other ind. articles	Services
Manual workers Total:	−0.98	−1.37	−1.14	−0.88	−1.51	−1.32	−1.56
1. category	−1.21	−1.57	−1.75	−0.71	−2.17	−1.70	−1.97
2. category	−1.05	−1.37	−1.03	−0.81	−1.39	−1.21	−1.62
3. category	−0.87	−1.16	−0.81	−0.74	−1.04	−1.06	−1.29
4. category	−0.61	−0.95	−0.65	−0.74	−1.27	−1.09	−1.24
Intellectuals Total:	−0.78	−1.20	−1.02	−0.85	−1.41	−1.20	−1.34
1. category	−0.86	−1.12	−1.41	−0.77	−1.75	−1.08	−1.70
2. category	−1.06	−1.57	−1.35	−1.06	−2.46	−1.81	−2.02
3. category	−0.90	−1.50	−1.17	−0.99	−2.18	−1.59	−1.77
4. category	−0.69	−1.09	−0.48	−0.96	−1.66	−1.06	−1.25

*See remark at Table 4.

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ИСПОЛЬЗОВАНИЕ КЛАССИЧЕСКИХ МОДЕЛЕЙ АНАЛИЗА ПОТРЕБЛЕНИЯ ДЛЯ ОБОСНОВАНИЯ ПОЛИТИКИ РОЗНИЧНОГО ЦЕНООБРАЗОВАНИЯ

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В статье на основе квантификации трех классических моделей теории потребления представляются выводы, которые можно подвести в отношении политики розничных цен.

Расчеты безоговорочно подтвердили, что на основе венгерских данных эти модели могут быть успешно квантифицированы и использованы для обоснования политики розничных цен. Было выявлено и то, что между образом поведения различных социальных групп и категорий по величине дохода имеются большие различия, и поэтому плановые расчеты такого рода целесообразно производить только в довольно детальной разбивке по социальным группам и доходным категориям. Главное такое различие состоит в том, что потребление рабочих и работников умственного труда в гораздо большей мере зависит от цен, чем потребление крестьянства и населения с двойным доходом, и в том, что – в отличие от общераспространенных предположений, причем это наиболее характерно для рабочих, – категории с наиболее низким доходом в гораздо большей степени стремятся расширить круг потребления промышленных товаров, чем категории с более высоким доходом. Налог с оборота промтоваров, таким образом, сегодня уже наиболее тяжелым бременем ложится на слои с наиболее низким доходом, в первую очередь им препятсявия в формировании современной структуры потребления.

Из расчетов было выявлено и то, что компенсированная эластичность цен на продовольственные товары является существенно более низкой, чем некомпенсированная, в то время как в случае остальных видов товаров эта разница много меньше. Таким образом, складывается такое впечатление, что при соответствующей компенсации потребление продовольственных товаров не снижается в заслуживающей внимания степени, когда повышаются цены на них, зато в таких случаях сильно увеличивается доля промышленных товаров в приросте дохода. Изменение розничных цен, таким образом, преобразует не уже имеющуюся структуру, а, скорее, ее приращение. Это указывает на то, что при изменении соотношений розничных цен не произойдет ни снижения уровня снабжения продовольственнымы товарами, ни скачкообразного повышения спроса на промтовары.

Заслуживают внимания и результаты расчетов относительно потребления спиртных, табачных и прочих пищевкусовых товаров. Оказалось, что эластичность потребления этих продуктов в зависимости от дохода – особенно у рабочих – велика в пугающей мере, то есть очень высокая доля приращения дохода тратится на покупку таких пищевых товаров. Это указывает на то, что безусловно правильна политика цен, параллельно с ростом доходов постоянно повышаются цены на пищевкусовые товары, вредные для здоровья. Выявляется и то, что путем снижения относительных цен на промтовары следовало бы направлять прирост доходов в такие каналы, где бы он служил правильным целям, как например, образованию культурной и современной структуры потребления, и не приводил к пагубным последствиям как например, распространению алкоголизма.

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ECONOMIC POLICY AND REGIONAL DEVELOPMENT IN HUNGARY

Interdependencies existing among the phases of economic policy in social development after World War II, regional development, and the transformation of the settlement network are pointed out. It is stressed that regional development is not to be separated from general economic development: it is the regional projection of the latter.

The spatial dimension of social development

Nobody would deny the *time* dimension or the historical character of social development, yet it is all the more difficult to convince theoretical economists or economic decision-makers about the spatial *(regional)* dimension of the economy. It occurs not infrequently that regional development is reduced to the problem of the local council budget or of state support to some region. But that is not right: Hungarian society exists in the specific physical space of the country, and every element of its activity appears also spatially. A definite geographical distribution of the forces of production, and a continuous flow of population, products, energy and information among regions are characteristic of its functioning. Regional development is the *spatial dimension* of the everyday activity of society, in which – beside the development level and character of society – also the earlier established system of settlements and infrastructural networks, and the differences in geographical environment come to expression.

All this amounts to saying that to each economic policy phase there belongs also a corresponding regional development phase, independently of whether a deliberate regional development policy has been formulated or not. Of course, the situation is not such as if regional development corresponded automatically to economic policy aims. First, the regional structure of the economy, i.e. the settlement network reacts on changes in economic policy with a delay, its transformation is slow: the existing networks of roads, public utilities and telecommunication represent important factors of inertia. Second, certain technological processes – such as the concentration of industrial plants – may assert themselves, if not adequately subordinated to social objectives, also spontaneously and thus weaken economic policy. In the course of development unavoidable tensions arise from the above-mentioned changes (only stagnation can guarantee full harmony). These tensions may delay and distort the assertion of economic policy. Their relieving: the harmonization of regional economic structure with general socio-economic development is a programme that can never be fulfilled perfectly, yet it is of primary importance.

Economic policy phases and regional development

A) *Basic situation following World War II.* At the initial stage of socialist planned economy both the regional structure of the economy and the settlement network reflected the backward economic structure. The larger part of the country was backward agrarian area of low standards. Industry was strongly concentrated in the capital: 51 percent of industrial workers were employed in plants located within the administrative boundaries of Budapest. This ratio was 60 percent back in 1930 and, as a result of heavy industrial development in the countryside implemented in the framework of preparations for war, it fell to 54 percent by 1941. In the course of post-war reconstruction activities several totally destroyed Budapest industrial plants were not rebuilt, while in a few factories in the countryside capacity was enlarged. Thus, by 1949 "only" 51,3 percent of industrial workers were employed within the administrative territory of the capital.[1]

In Hungary no modern town network existed. *Network* means different hierarchical levels and a functional system of relations (sub- and superordination) of towns. A considerable part of Hungarian towns – first of all those in the Great Hungarian Plains – were not of full value even in a capitalist sense, as regards either their functions or social structure. They were so-called rural market-towns, and in their economic life agriculture played an extremely important role. Townforming functions were limited to administration, education, and to being markets of agricultural products: industry was almost entirely missing. The attraction area of small market-towns stayed within their administrative borders and was limited to the detached farms in their area. Also, there were large areas without any towns at all.[2, 3, 4]

The regional economic structure of the country was thus of a very simple form: Budapest was the only dynamic centre that influenced the whole area of the country. Outside the capital an advanced manufacturing industry existed only in Győr, and an advanced heavy industry only in Miskolc–Diósgyőr. There was hardly any connection among countryside towns or the different regions of the country. – Natural resources were exploited inefficiently: even the modest mineral resources were hardly utilized, farming was the most backward on the most fertile loess soils of the Great Plains and the rational utilization of waters was unimportant.

B) *The 1950s: the phase of accelerated industrialization.* When the elimination of social inequalities was envisaged in the building of socialist economy, the regional inequalities did not escape attention, either. At the time of its announcement the first Five-Year Plan contained regional development objectives and stressed the importance of industrialization on the Great Plains. This, however, remained a pious wish. In that period no regional development policy was elaborated, what is more, in the over-centralized economic control system of plan directives regional planning did not exist (or, it was replaced by the "breaking-down of plan-targets by counties.")

Regional development in that period was determined from the outset by the emphasized role of energetics and metallurgy, as well as by the restricted role of agriculture in economic development. The elasticity of energetics and metallurgy with

respect to location is slight: they are located mainly at the place of occurrence of the raw material, or (in case of imports) along the lines of transportation. The economical size of such plants is very large (not even approached by those founded in the 1950s), the need of a country of Hungary's size is satisfied by just a few plants. Thus the sectoral character of economic development determined that a considerable industry could develop only at a few new settlements, adjusted first of all to sites of raw material deposits (coal, bauxite). It was also a natural consequence that the regionally concentrated heavy industrial development temporarily further increased the inequalities between industrially advanced and backward regions.

The most important result of regional development in the 1950s was that advanced industry was no longer concentrated to the capital. The ratio of industry in the capital went down to 44,1 percent between 1949 and 1955 (from the total industrial employment of the country), though in the meantime the employment in state-owned industry grew in absolute terms from 292 thousand to 433 thousand in Budapest. But that was lagging behind the sudden rise in the number of industrial workers in the countryside.[5] New industrial areas appeared, first of all along the Hungarian Middle Mountains: the Borsod industrial region emerged with Miskolc at its centre, and the industrial centres of Nógrád, Pécs–Komló, Tatabánya, and Várpalota were built up: the NE–SW industrial axis of Hungary became established.

The relative position of the Great Plains and of the Transdanubian Hills much deteriorated. A few industrial plants were founded in these parts, too, but about two-thirds of the area were avoided by industrialization. Labour abandoning the overpopulated agriculture migrated in masses (primarily from the Great Plains counties) to Budapest and, in general, toward the industrial axis of the country. Between 1949 and 1960 the migration gain of Budapest was 345 thousand persons; that of four largest provincial cities (Pécs, Miskolc, Debrecen, Szeged) was altogether 165 thousand persons. Over one quarter of towns suffered migration losses.[6]

C) *Transitory period between 1958 and 1968.* The economic policy of this period was of a transitory character from several aspects: while preserving the economic management system of the preceding period it tried to improve it considerably by eliminating earlier exaggerations and one-sidedness. The most important social event of this period was the collectivization of agriculture; the structural transformation of industry started (e.g. accelerated development of the engineering and chemical industries). And, what is particularly important from the aspect of our subject: the objectives and framework of a comprehensive regional development policy were for the first time formulated. This first regional development policy identified development with industrialization, which was in fact justified by the actual situation of that time: the serious employment difficulties of the Great Plains and the Transdanubian Hills, the neglected state of the tertiary sector, and the uncertainty of ideas about the future of collectivized agriculture. Later, in the course of economic progress, regional development included a growing number of comprehensive social aspects.

One of the most important results of regional development in the years between 1958 and 1968 was that the industrial decentralization of Budapest began. In 1960 still 44,2 percent of industrial workers were employed in the capital: the same ratio as in 1955. Industrial plants of the capital were then divided into three categories: those to be removed within ten years (mainly for reasons of town-planning); those allowed to remain in the capital but not to expand; and those allowed to develop further. In the capital, and later also in the Budapest agglomeration, the foundation of new industrial plants was prohibited, and very few exemptions were granted indeed.

In the beginning, restriction did not bring much result. Reconstruction in the industrial sectors was started, which, through replacement of out-dated equipment, enlarged production capacities at the existing plants. At the time of collectivization and the years following it, the outflow of labour from agriculture was very strong, which presented a great labour supply in the capital, encouraging industrial enterprises for labour absorbing development. Settlement restrictions in the capital did not keep the immigrants away, they just stopped them in the mushrooming outskirts i.e. in the inner agglomeration belt. The growth in the number of industrial workers of the capital, having lasted for a hundred years, stopped in 1965, and it went down by 2 percent between 1966 and 1970. Yet the industry of the agglomeration was growing very fast: employment in the industry grew by 730 percent between 1949 and 1966 (by 230 percent on the national level). In 1960 the restriction of industrial location was extended to 64 settlements surrounding the capital, though there was no obstacle to expansion of the existing plants, and new locations did not cease at once, either.

Acceleration of development of the five "big cities" of the countryside (Miskolc, Debrecen, Szeged, Pécs, Győr) was of great importance. From the feasible strategies of regional development the strategy of growth poles was selected. Accordingly, investments serving development are concentrated to a few centres which, by starting to grow fast, will soon emanate a considerable developing influence to their surroundings, thus starting themselves the development of their attraction area. This practice seemed particularly necessary in Hungary, where only one-twelfth of the capital's population lived in the second biggest city of the country (in 1970).

Though these big cities of the countryside were called "counterpoles" in the terminology of regional planning, they did not and cannot grow into regional centres similar to the French "métropoles régionales". Big cities can grow out of large and advanced attraction areas only; on the small area of Hungary with a medium density of population four or five big cities cannot develop. It is a long revealed regularity in the gradation of cities according to population rank size rule that a perfectly regular gradation can be established only in countries with a large area, large population, and economically advanced. In economically developed countries with small area and a medium-sized population (such as Hungary) two cases are possible: either several populous medium-sized cities develop with an important regional influence – but there are no big cities (such as Switzerland and Belgium), or the centralized urban development produces a big city of a million, but then there are no real regional centers i.e. big countryside cities (e.g.

Hungary, Denmark, Ireland, etc.). A big city of a million could develop within a small country exactly because its attraction extended to the entire area of the country, and was not shared by regional centres.

In the late 1960s the development of medium-sized towns accelerated, particularly that of county seats and of those having important industry.

In the course of industrialization local worries about employment ceased, what is more, the towns in question started to exert an increasing influence on their environment. An urban agglomeration developed only around Miskolc at that time: other towns rather regrouped their own labour resources, while commuter belts were also taking shape.

As a result of this development the number of towns with modern functions and social structure has much grown: the peak of a modern hierarchy of towns is just emerging.

Also the geographical distribution of the forces of production became more even. Industrial centres appeared on the Great Plains (first Debrecen and Szeged, later Szolnok, Kecskemét and Nyíregyháza), and later in the agrarian areas of Transdanubia (Szombathely, Székesfehérvár, Zalaegerszeg, Kaposvár, etc.). By the end of the 1960s the polarization of "Budapest – countryside" was replaced by the following regional structure:

– Budapest remained the main centre of industry and generally of the economy. The quantitative growth of industry came practically to an end; the continuing leading role was primarily a consequence of the presence of enterprise (decision) centres and of the research and development centres. The outer ring of the Budapest agglomeration vastly expanded.

– Outside the Budapest agglomeration the Borsod district has grown into an important industrialized area, together with the region along the Danube between Győr and Dunaújváros; smaller districts developed in the Nógrád basin, in Tata, and Várpalota, and in the Pécs–Komló region. Some of the industrial areas of the country were brought into a difficult situation by the one-sided mining and heavy industrial structure. It was an urgent task – later successfully solved – to reconstruct these depressed industrial areas, to introduce modern industrial branches, and to overcome employment difficulties arising from the closing down of the uneconomical brown-coal mines.

– In the medium-sized and big towns of agricultural regions industrial centres were built up. On the Great Plains – where initial conditions of large-scale farming were advantageous – agriculture started to develop at a fast rate: it became economically dynamic. By the end of the sixties agricultural and industrial incomes became by and large levelled out. Agricultural character does not involve necessarily a disadvantage in respect of income, yet it remained disadvantageous in that the demand for labour diminished in agriculture, so that migration continued also from successful agricultural areas.

– The regions avoided by industrial development and unfavourable even for agriculture because of natural or settlement conditions became more conspicuous and caused increasing social tensions. Backward areas – which are large and hold about 1 million people – came into the centre of attention of regional development.

The new system of economic control and its effect

The reform of economic management in 1968 opened up a new period also in regional development. A certain decentralization of economic decisions promoted regionally decentralized development: an increasing part of the settlement network of the country came under the attraction of modern economy.

Regional development policy became more comprehensive and better grounded. The first long-term regional development plan conception was drawn up, followed by conceptions relating to the development of the settlement network. A few regional incentives were included into the system of economic regulators, rather timidly. Such was e.g. the Central Regional Development Fund to be spent on the removal of industry from the capital, on transformation of the industrial structure in coal-mining districts, and on industrialization in underdeveloped areas.

The most important regional development effect of the reform of economic control derived from the fact that it allowed for various levels of development decisions. The independence of local councils was increased: county councils started to be looked upon as official controllers of the whole life of the county. Though county development funds remained rather modest, most of them were spent on infrastructural development – mainly housing – that decisively influenced the economic capacity of settlements. For the Fifth Five-Year Plan period (1976–1980) county councils drew up medium-term regional development plans, and several counties even have conceptions for longer terms. Country councils have determined the network of lower degree centres in their area and control their development.

The important role of enterprise decisions (enterprises have the half of the investment funds at their disposal) resulted in that the geographical location of new industrial plants was mostly decided by enterprises, thus reflecting enterprise interests. Enterprises locating industrial investments in the countryside have their headquarter usually in Budapest, and the main reason for such location is that production could not be expanded in the capital. The primary obstacle to industrial expansion in the capital was labour shortage, thus the main attraction of industrial location in the countryside is free labour. No large masses of labour were available in country-towns, either, therefore, mainly relatively small plants (employing 2–300 workers) were founded in small towns and larger villages. Location of industry in the countryside is geographically widely scattered.

Opinions about this method of industrialization are widely diverging in Hungary, but in most part they are disapproving ones. The most important objections are the following: small industrial plants in the countryside function with lower efficiency and productivity than do the parent establishments in the towns; several plants had to be liquidated in a few years because of ill-cosnsidered location, and this caused employment difficulties; while the enterprise located plants in the countryside, at the plants in the city expensive equipments were left unutilized; industrial locations within the same settlement were not adequately coordinated: the production lines of the plants located are not

connected to each other, and their further development depends on the market interests of the enterprise and not on the interests related to the development of the settlement; labour is used one-sidedly (mainly unskilled female labour is employed); etc. Although no comprehensive evaluation of the dispersed location of industry has been drawn up yet, the above-listed and correct – objections are probably relevant not to the consequences of industrial location in the countryside in general, but to those of inefficiently implemented locations. That is to say, low productivity is not to be ascribed simply to inexperienced labour, but also to out-of-date products and out-of-date equipments located to the countryside, which is not at all necessary. In spite of the numerous problems I think that the period of dispersed location of industry in the countryside – closed by now – brought basically good results. Its most important result is to have introduced industrial culture into a large number of village settlements, first of all on the Great Plains.

Industrialization of villages played an important role in strengthening the network of small towns. The larger villages having obtained the status of township in the course of the past fifteen years owe their development – with the exception of Balatonfüred and Siófok – to previous industrialization. I am sure that without the industrial investments made by enterprises industrialisation could have prevented the decline of a much smaller number of larger villages and countryside towns, since the central regional development programme in the 5th Five-Year Plan designated only a few settlements for industrial development.

The central decision sphere (the National Planning Office, and Ministries) marked out the location of a relatively small number of investments, of a high value and of great importance in their regional development effects. Most of these are attached to important industrial areas; a new regional development effect is expected mainly in the southern part of the Danube valley of Hungary.

Regional development policy formulated its actual tasks in terms of two objectives: efficient regional economic development, and levelling of the living conditions of the population in different regions. Indeed, since 1968 important results have been achieved in levelling the differences in economic development and in living standards between the counties. As regards both the rate of employment, and per family income, regional differences have become negligible. In most counties of the Great Plains the growth of incomes was above the national average, and that reduced the lag (in the most backward counties per capita income was only 8 percent below the national average). All that may be attributed primarily to the fast industrialization of the Great Plains. Industrial employment in the Great Plains grew by 44 percent between 1965 and 1970 (against 17 percent on national average). Between 1970 and 1974 the number of industrial workers of the whole country did not change, while on the Great Plains it grew by a further 11 percent. In ten years (1965–1974) the share of the Great Plains in the total of industrial workers rose from 16 to 21 percent (by about 135 thousand persons).[8]

Regional levelling asserted itself in living conditions as well. Rural housing has greatly improved, running water supply and (bottled) gas were spreading fast, the

construction of access roads was completed: every settlement with over 200 inhabitants was connected to the national bus network. A considerable levelling has taken place *within* the individual settlement categories, though the same has not yet happened *among* them.

As a result of accelerated development the loss of population of previous agrarian areas has stopped: the regional distribution of the population has become more stable. In the last ten years restriction of the quantitative growth of Budapest has continued. The yearly migration gain of Budapest remains below 10 thousand. (in 1968 it was still thousand.) The number of industrial workers fell considerably: by 100 thousand in ten years, and the share of the capital in the industrial employment of the whole country went down to 28 percent. The decentralization of cultural and research functions also began, though on a smaller scale. Reduction of the number of industrial workers in the capital is not considered by everybody to be a positive feature, since labour shortage in industry has become chronic, together with the underutilization of expensive production equipments. Reduction of the number of industrial workers by 100 thousand does not mean, of course, that so many have left the capital, but that they moved into the tertiary sector. Thus the lack of 100 thousand could be covered only through immigration which, counting also members of the family, would increase the population of the capital or of the agglomeration area, where overcrowdedness is already on the verge of becoming intolerable, by about 400 thousand. The lack of industrial labour in the capital can and must be mitigated by better enterprise work organization, reduction of the oversized administrative staff, and the scrapping of out-dated production equipments.

The five big provincial cities are beginning to fill the role of regional centers. Among them the population of Miskolc and of Debrecen have exceeded a population of over 200 thousand. The internal territorial system of relations of the planning-economic districts [6] of the regions belonging to these provincial big cities is under construction, and elaboration of their long-term development plans has begun.

In 1971 a decision was passed by the Council of Ministers on the development conception of the national settlement network. This conception relies on uniform principles in developing the whole functional town network of the country: from the capital through higher and medium-level town centres to low-level centres of village status. This conception determines exactly also the contents, infrastructural standards, and role of the different hierarchical levels.

Thus the development of the regional and settlement network in the early 1970s was highly positive, though, of course, it was not free from problems and contradictions.

The first such problem is that while regional levelling asserts itself among large regions of the country, and even among counties, differences in standards among settlements *within* counties have grown. This is explained by the fact that county investments and other developments went primarily to county seats and perhaps also to a few other centres, while the overwhelming majority of settlements were not allocated any central development funds. This in itself would not matter, if adequate development funds accumulated also locally. Settlement development has, however, a financing system

which takes away the funds from every settlement, centralizes and then redistributes them. In the course of redistribution development resources are spent at the peaks of the settlement hierarchy. In this way differences between villages and towns are growing within counties.

The weak point in the conception relating to the development of the settlement network is that it plans in fact but the town network. Planned development covers only 10 percent of the more than 3000 administrative settlements: in nine-tenths of them only spontaneous processes take place. It is true, though, that this 10 percent constitute the most dynamical part of the settlement network, in which over 50 percent of the population of the country are living; but in the rural settlements almost 50 percent are living, and also the half of industrial workers. These settlements must not be left to their fate: complex and long-term rural development plans have to be drawn up. If only the peak of the settlement pyramid is planned and the bottom is allowed to deform, the whole settlement network may get distorted.

The third problem is that regional development processes asserting themselves during the past ten years came to a standstill. In the present economic plan period the process of regional levelling stopped, and a new concentration started in certain fields.

We know that this has again economic policy reasons: the unfavourable international economic situation brought to the surface the weakness of the Hungarian economy and in the actual economic "emergency" situation central control and central intervention have strengthened.

A turning-point of future development

In the development of the settlement network a point of divergence for the future of Hungary has been reached: either the construction of a modern settlement network proceeding from top to bottom will be pursued further on, or – as a few signs indicate it – the upper hierarchical levels of the town network will strengthen, while the rural settlement network will decompose at an accelerated rate. Both cases are possible at present.

An analysis of the consequences of these two possibilities would require a separate study. Here I wish to argue only summarily for the modernization of the *entire* settlement network: decentralized regional development and that of the settlement network must not be given up.

This is necessitated by the logic of historical development. The Hungarian settlement network – as a whole, and also as regards proportions between villages and towns – always reflected the character and demands of the given society. Therefore, a settlement model of the advanced socialist society based on the conditions of the Hungarian settlement network has to be elaborated as soon as possible. Hungarian village and town settlements must be developed purposefully, according to this model.

There is no reason why this model should imitate the settlement development model of advanced capitalist countries. Foreign analogies should be treated cautiously: the urban population proportions of advanced capitalist countries must not be set as requirements towards Hungarian economic development.

A few years ago a lively dispute arose about the "under-urbanization" of Hungary (i.e. lagging urbanization in comparison with the economic development level of the country).[9, 10, 11] There were two proofs of backwardness quoted: the low ratio of urban population in the total, and infrastructural backwardness. But the statistical definition of urban population is different in every country, and percentage proportions are therefore simply incomparable. In Norway e.g. a town is a settlement in which at least 200 people live in houses situated within 50 m from each other. Let us just try to apply this definition of a town to Hungary. We would precede England. Also according to the criteria of French town statistics the number of town-dwellers in Hungary would be above 80 percent. In some countries – e.g. Belgium and the GDR – there are no administrative differences between village and town: the town is only a statistical concept based on the number of inhabitants (over 2000). And infrastructural backwardness – true, beyond doubt – is not a question of urbanization, since the functioning of an advanced economy is smooth only with an advanced infrastructure covering the *whole* area of the country.

One more reason why we need not attain West-European town proportions is that they have been brought about by the particular features of capitalist society (e.g. the social subordination of villages, settlement concentration serving capitalist enterprise interests, and the sporadic character of village settlements) which, of course, were not and will not be present in Hungary.[12] The capitalist urban development model might be reproduced even under different social conditions, if the abovementioned technical efficiency aspect is given free scope, if enterprise and sectoral interests are not subjected to social interests (through, as distinct from capitalist countries, we have the necessary instruments thereto), and if in our settlement development the production costs of laying on the water-supply system or the optimum utilization of the tower-crane play a more important role than social objectives. If we reproduced the Western urban development model, we would reproduce its deadlock as well: the deserted countryside, the big city agglomerations of a size beyond control, and concentrated environmental pollution. The blind alley is not denied by the official circles of advanced capitalist countries either, and they try to find a way out of it. In England e.g. the number of urban population was highest in 1950 – since then rural population has been growing in number and proportions; between 1960 and 1970 the growth in the population of North-American towns also stopped, and the rural ratio started to rise. Should we also go into the towns only in order that the next generation should start to escape from them?

The purposeful development of village settlements is desirable also because only settlements included in the plan receive their share from the redistribution of national income. At present the biggest source of inequality is not found in employment or education, but in the domicile. Half of the population is excluded from state infra-

structural investments, from the use of a number of public services enjoying considerable subsidizing; almost half of the industrial workers are excluded from workers' housing programmes, etc. Such discrimination – as every discrimination – is alien to our society; it is a relic of the distorted development of the country, and is tolerable only temporarily.

It is one of the characteristic features of the transformation of world economy that food and raw materials are upgraded, and the economic importance and prestige of raw material producing countries and regions are growing. It seems logical also to revalue our rural districts that produce raw materials and food.

Yet the increase of food production is not only a problem of agrotechniques or state procurement prices. Between 1968 and 1974 the development of Hungarian agriculture was fastest not on the most fertile lands, but in areas connected with regions of the highest urbanization and the best infrastructural supply (Budapest agglomeration, North-Transdanubia). Modern agriculture is increasingly infrastructure-intensive: the use of energy networks (natural gas, electric energy), and transport needs are on the increase. While agricultural labour is diminishing, its quality is strongly improving, and qualified people expect more of their man-made environment than the foregoing peasant generation. The development of food production is already hindered by backwardness of the rural infrastructure.

Towns are, beyond dispute, the most dynamical elements of transformation of the economic spatial structure. Yet it is wrong to limit dynamism to towns, or to assume that villages develop only under the influence of towns. The rural region has its own inner dynamism which affects the development of towns. Such a dynamic element is industrializing large-scale agriculture, manufacturing industry located in villages, tourism at certain places, etc.

Summing up: I think it is necessary in Hungary to elaborate a comprehensive development policy for rural settlements, i.e. to further modernize the settlement network. I feel it a particularly important task to develop the network of small towns i.e. of low-degree centres. It is not in opposition but as a complement to urban development that I think rural development is important. The preservation of the whole rural settlement network cannot be planned, either; a concentration process may be assumed also within this network. Since the rural settlement network developed under the conditions of agriculture based on private property, it was adjusted to the needs of such agriculture. Today, however, it is not only private farming that is a matter of the past, but also the overwhelmingly agricultural character of villages. Therefore, I also assume a further increase in urban population, a certain concentration of village settlements, and the development of large villages into towns in the future. It is, however, necessary to plan the desirable proportions between villages and towns in the longer perspective and generally the *whole* Hungarian settlement network, so that daily decisions should not relieve only pressing concerns, but also lead to a desirable future from the social point of view as well.

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ЭКОНОМИЧЕСКАЯ ПОЛИТИКА И РЕГИОНАЛЬНОЕ РАЗВИТИЕ В ВЕНГРИИ

Д. ЭНЕДИ

В статье анализируется взаимосвязь экономической политики и регионального экономического развития в Венгрии. Предполагается, что региональное развитие отражает общие направления развития экономики, но территориальное распределение и характер ресурсов (географическая среда, распределение населенных пунктов и т. д.) в свою очередь влияют на общее экономическое развитие. Односторонняя экономическая структура довоенной Венгрии (чрезмерная доля сельского хозяйства, слабость современных отраслей промышленности) отразилась и на региональной экономической структуре: Будапешт в чрезмерной степени концентрировал промышленность и урбанистические функции, сеть городов была развита слабо, на большей части территории страны господствующую экономическую функцию имело сельское хозяйство.

В послевоенный период можно выделить три крупных этапа экономической политики:

1. Период быстрой индустриализации (1950-е годы). В первую очередь развивалась энергетика и тяжелая промышленность, которые имеют весьма значительную территориальную обусловленность. Управление экономикой было до крайней степени концентрированным, политики регионального развития не было. Возникли новые промышленные районы вокруг

источников полезных ископаемых, усилилось относительное отставание аграрных районов Альфельда и юго-запада страны, что привело к значительной миграции населения. Произошел дальнейший рост промышленности столицы.

2. Переходный период (1959–1968 гг.). Впервые была разработана всесторонняя политика регионального развития (в 1959 году), основной целью которой было ограничение экономической роли столицы и индустриализация провинциальных городов. Завершение коллективизации (1959–1962 гг.) высвободило значительное количество рабочей силы из сельского хозяйства, которую стремились использовать в местных центрах. Особенно значительным было развитие пяти крупных провинциальных городов (Мишкольц, Дебрецен, Сегед, Печ и Дьер), которые стали превращаться в противовесы Будапешта (внутри собственных регионов). В средних по величине городах была создана значительная промышленность, в том числе во многих бывших аграрных (торговых) городах Альфельда.

3. Новая система управления экономикой (с 1968 г.). В ходе начавшейся в 1968 г. экономической реформы наиболее важным в территориальном развитии стали решения, принимаемые местными (областными) советами и предприятиями. Сельскохозяйственное производство быстро росло, было ликвидировано отставание аграрных районов по доходам. В 1971 г. был принят закон о всестороннем и перспективном развитии сети неселенных пунктов.

В центре политики территориального развития уже больше не стоит промышленность, так как промышленность значительно разрослась в территориальном отношении, и количество промышленных рабочих больше не увеличивается. Две основные цели территориального развития: а) эффективное использование местных ресурсов, б) региональное выравнивание жизненных условий. Децентрализация будапештской промышленности прошла успешно, доля столицы в промышленном производстве страны снизилась с 51% (в 1965 г.) до 29%. Основная задача будущего – пропорциональное развитие в территориальном отношении сети небольших городов, региональное выравнивание уровня урбанизации.

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THE PUBLIC SECTOR AND THE INTERNATIONAL ECONOMIC POSITIONS OF DEVELOPING COUNTRIES

The study is based on a paper presented at the request of the United Nations. It is with the strategic importance of the public sector in the struggle for a new international economic order in a broader perspective. The basic issue of the study is the role of public enterprises in the long and difficult process of economic decolonization. This has important national and international implications. Among the international factors the author examines the role of the public enterprises in foreign trade and international capital flows (including their relations to transnational corporations).

The role of the developing countries' public sector in international economic relations has to be viewed in a broader perspective. It must not be restricted to the role of state-owned establishments in individual deals. It should be looked upon from the aspects of an over-all development strategy at the core of which economic decolonization is the main issue.

Economic decolonization, since it could not go parallel to the political process of decolonization, will be a much longer, much more complicated and difficult period not only for the developing countries but for the world as a whole. It includes both the transformation of the prevailing international economic relations and changes in the internal economic structures in the developing countries.

It is evident, for example, that at this stage of development the economic tasks in the Third World are far more complex than those, mostly political issues, with which the countries were struggling before or immediately after gaining independence. The concrete nature of the tasks, of course, varies by regions and sometimes by countries as a result of the great and growing inequalities in economic possibilities, potentials and performance.

It has been understood long ago also that underdevelopment is not merely a „quantitative" difference or a „gap" between development levels. It is a system of relations in the socio-economic structures within the countries which emerged historically and correspond to the patterns of international economic and political relations imposed by colonialism.

These structural problems could not disappear even after the independence of the new countries. An extrapolation of the presently dominating trends in world development patterns points towards growing inequalities. This is particularly true for the next 50 years, the last quarter of the 20th century and the first part of the 21st. Extrapolation of the existing trends cannot, of course, be accepted for a proper forecast since it reckons only or mostly with forces and mechanims known today.

Problems of external linkages

The struggle for a New International Economic Order (NIEO) has to include both the international and the national aspects of economic decolonization, since the international and national consequences of colonialism are hindering the solution of such important tasks as:

– to change the dominating patterns of the international division of labour and the developing countries' role in world production and trade;

– to stabilize the internal economic position of the developing countries;

– to satisfy the basic needs of the population;

– to improve the international bargaining position of the developing countries;

– to improve international cooperation between developing countries.

The forces working for a NIEO are of socio-economic nature, and the processes for shaping a NIEO have to be also diverse and manysided. The feedbacks between socio-political factors and forces on one hand, and economic patterns (both international and national) on the other, play a special role.

Most of the national economic organizations are not yet equipped to deal with problems of such character, nor are the international economic institutions established earlier for other purposes. The problems are especially conspicuous in the international implications of certain national development strategies.

A development concept in which mostly or only external factors are playing a dominant role is a powerful working concept in quite a number of developing countries as well as in international organizations. This concept was influencing the main ideas of the international development strategy for the Second Development Decade.

For many of the developing countries exclusively or mostly export-based growth is, in general, a rather limited possibility. We may anticipate that a group of developing countries can and will further intensify their relations with the developed western industrial countries while their majority (in terms of population) cannot count on development generated only or mostly by external forces.

The facts indicate that an economic growth based mostly on external linkages and helping at the same time in solving the domestic socio-economic problems of the developing countries is highly improbable for the vast majority of these countries. This majority must introduce growth patterns which are basically generated internally. This is, of course, not a new discovery. It is important to note that most examples of successful development have been the cases of internally generated growth. This does not imply that external linkages did not play an important role in quite a number of them, nor that any developing country could disregard the international sources of or obstacles to growth.

Even in the framework of an internally generated development strategy the importance of international trade for the developing countries will not diminish and there are no indications that it could do so in the coming decades.

First of all, most of the developing countries have to import capital goods, machinery and equipment for their industrialization. The proportion of such import requirements may vary by countries between 10–100 percent.

Second: the development of modern efficient agriculture requires also imports: agricultural machinery, fertilizers, herbicides and pesticides, sometimes a great part of total consumption. The raising of productivity in traditional agriculture also necessitates imports (pumps, chemicals, transport equipment etc.).

Third: the establishment of modern infrastructure, ports, roads, railway lines, electricity and other utilities have also a rather high import content in many countries.

Fourth: together with the import of capital goods, they have to import licences, know-how, expertise etc.

Fifth: the establishment or modernization of armies requires also imports of weapons, ammunition, often know-how and expertise as well.

Sixth: many developing countries, where monoculture is characteristic of agriculture and agricultural productivity is too low, cannot cover internal food requirements, thus they have to import foodstuffs.

Seventh: a great number of the developing countries depend on imports of fuel, raw materials, semi-manufactured goods or industrial consumer goods.

The development of Western Europe, North America, Japan, the Soviet Union, the East-European socialist countries, the People's Republic of China etc. – which all followed the model of internally generated development – was in a certain respect also dependent on external sources, regardless the great differences in socio-political and economic characteristics, though even this dependence was far from uniform. They were different in many respect from the present global position of the developing countries. There was one thing common, however, in all of them: the development was initiated, and steadily supported basically by internal political forces and accompanied by endogenous socio-cultural patterns.

There is another important historical lesson. The later the period for modern industrialization started, the stronger was the tendency to restrict the adverse influences of world market forces on growth by applying several protective measures, by using the state against external forces which could impede internally generated development. Socialist countries present a most notable case in this respect, though the experience is wider. The indicated tendency can be explained by the growing interrelations between politico-economic forces operating on the world scene. In this environment reliance on internally generated development calls for protective measures, not necessarily for the traditional measures of protectionism but for a wide range of various measures which defend a country against undesirable external market influences and pressures.

With the possible exception of a few specific cases, internally generated development seems to be the only feasible alternative open to the developing countries in view of their complex national and international problems. Internally generated development is not only an economic issue, it is a social force as well, it integrates the nation better, it gives the people satisfaction with their own achievements, a sense of creativity, it increases their feeling of self-confidence and dignity, and strengthens the international position of the country.

Internally generated development is also the best framework for understanding and planning the main socio-economic factors of development policy, and also for understanding the strategic importance of the public sector internally and in international economic relations as well.

According to the experiences of the developing countries, after achieving political independence the public sector started to play a leading, quite often a predominant role in implementing national economic goals. The role of the public sector was especially important in certain strategic issues like

- establishment of sovereignty over natural resources,
- development of economic and social infrastructure,
- stimulation of industrialization, establishment of national research and development potentials,
- reduction of unemployment and
- strengthening the international position of the developing countries.

Public enterprises proved to be crucially important also from the aspect of plan implementation. In such mixed group of countries like Algeria, Egypt, Iran, Tanzania, Ghana, the objective importance of state enterprises for planning was strengthened by the fact that through them production, consumption and incomes were influenced in the most direct way, and they also had indirect influence on the output patterns of other sectors.

The mere existence of the public sector did not, of course, guarantee efficient internally generated economic growth. Yet it proved to be an important condition for, and a possibility of, promoting it under given socio-economic circumstances. It has became also clear that with the improvement of the public sector important reserves could be mobilized for faster, more efficient growth.

It is also indicated by the differences between the above mentioned two development strategies that the concept of internally generated economic growth requires a different attitude towards the public sector than the other one based on transmission. It is incompatible with the concept of an internally generated development strategy that the public sector should serve only or mostly the interests or the increase of profits in the private sector, that it should undertake unprofitable operations only and should be a tool for subsidizing the private sector of the economy. Not only because this role of the public sector leads to permanent attacks on and criticism of its activities for being inefficient, and a source of losses etc. The reasons are much wider and deeper. The public sector cannot help the implementation of far-reaching development programs, major structural changes and reforms if it is subordinated to the interests of the private economy which is governed by the narrow profit-motives only. At the same time, it should be emphasized that the public sector cannot serve broad national development policy objectives properly, if it is inefficient, disorganized and bureaucratic.

It is evident, of course, that those countries which introduce far-reaching economic and social changes in order to liquidate the internal consequences of colonialism and take the path of socialist-type development, utilize the public sector in a comprehensive way.

This does not mean, that in the mixed economies the state could and should not use the public sector in a broader macro-economic perspective as well. In many developing countries, where the private sector is weak and concentrated in those areas where the return on capital is the fastest, only the state can set up steel mills, hydro-electric projects, large fertilizer plants etc., which provide the foundations for further and larger industrial development without undue dependence on external sources. State foreign trade operations can help the control and concentration of hard currency flows even in these developing economies in the framework of a well conceived national development program and use the public enterprises for this purpose, and for the solution of other vital tasks, such as the improvement of foreign trade planning (including the necessary measures for the implementation of the plans).

The developing countries vary to a great extent in their dependence on foreign trade. The exported and imported goods also differ. In some countries public enterprises are playing a decisive role in foreign trade, in other countries the private sector or the multinational corporations dominate international transactions. The concrete measures required in international trade relations may differ accordingly.

There are, however, several taks of general character, in whose solution public enterprises might be important instruments:

– the national export potential of the developing countries must be strengthened by a better planning of production for export, by the establishment of projects whose output could be sold on foreign markets and, at the same time, they could promote the solution of urgent economic and social problems of the country (by using locally produced materials, increasing employment etc.);

– the establishment of export-oriented industries in the developing countries should not increase dependence on the import of parts, components or materials from the developed industrial countries; otherwise export earnings would became substantially reduced by the costs of increased imports. The planning of export industries should be consistent with national sectoral developments.

Public enterprises in foreign trade operations

The role and the involvement of the public sector in foreign trade is one of the crucial issues in the struggle of the developing countries for gaining control over their natural resources and in the efforts to strengthen their position in the world economy. It is not merely an institutional question or a matter of trade policies. The place and role of the public sector in foreign trade has several aspects. The first one is the role of state-owned trade enterprises or agencies.

The role of the public enterprises operating in foreign trade is extremely important from both strategic and short term aspects. The experiences of the centrally planned economies proved how great role was played by the centralized state foreign trade system in helping the implementation of their development strategy. By concentrating export

resources in the framework of specialized foreign trade enterprises they were able to control export earnings and increase their bargaining power in foreign markets. Concentration facilitated also a better planning of exports.

On the other hand they were able to concentrate on imports essential from the aspect of national goals and priorities. Imports were closely connected with the planned allocation of resources. Through the major purchases of the large-scale trade enterprises they actually improved the barganining position of the countries more than in exports.

In principle, they were able to use the best experts in the given field, who were not available in great numbers. At a higher stage of development, in certain countries and in some areas they could decentralize foreign trade operations. especially exports, to public enterprises in industry and agriculture, but maintained a more concentrated organization for imports and, naturally, the state monopoly of foreign trade was not changed.

Public enterprises in foreign trade were created in many developing countries with similar or identical aims, mostly as a result of increasing state intervention in the economy, and of growing public investments. The origins of public foreign trade enterprises differ: in certain countries state import monopolies were introduced a long time ago in order to increase government revenues. In the majority of the developing countries, however, the foreign trade enterprises in the public sector are results of deliberate policy measures. State foreign trade corporations, other organizations, marketing agencies, etc. were established to help successfully the implementation of national economic development programs in many countries. Often, they are the results of nationalization of existing private trade firms. Public enterprises in foreign trade accumulated substantial experiences in many developing countries, in different international markets and in difficult conditions.*

In the struggle for the new international economic order, these institutions might play a very useful role. They could be more efficient tools than the individual public enterprises which have in many countries direct export or import rights.

Public enterprises in foreign trade operations are an especially important help in eliminating the disadvantages deriving from the competition of several thousand producers of a given product in international markets. Such institutions as the State Timber Board in Burma or the Trade Promotion Institute in Argentine which is engaged in the export of agricultural products are helping in the solution of these tasks.

*It is very difficult to quantify the proportion of trade of the developing countries going through public trade enterprises. Only sporadic information is available. These indicate, however, that

1. There are very few developing countries where public trade enterprises are equally important in both exports and imports and their proportion is high (90–100 percent) at the same time in total trade. (Algeria, Egypt, Burma, and some African countries with socialist orientation).

2. In the majority of the developing countries the share of public state enterprises is between 30–50 percent of the total foreign trade.

3. The proportion of public trade enterprises in exports is generally higher than in imports, at least in those 20–25 countries where comparative estimates are available. (Based on different GATT publications.)

Public foreign trade enterprises may be important instruments of national and international efforts for the stabilization of export prices, in reducing or eliminating the intermediary role of transnational corporations and/or their national agencies in developing countries. This in itself may increase the income of the developing countries.

A very important case for this type of activities is the state trade in oil. The history of the state-owned petroleum companies in the developing countries is quite a long one. It was basically the process of struggle against the colonial concession regimes which survived after independence. In the case of the new producers the main question was how to avoid a repetition of colonial practices. The most important example (after the Russian Revolution, of course) was the nationalization of foreign concessions in 1938 in Mexico. This process was a consequence of the activities of foreign oil companies which refused to renegotiate the unequal terms of concessions and give up some of their privileges. The state company Petroleos Mexicanos (PEMEX) was the most important instrument of the government in this field. The other Latin-American state-owned companies established earlier (the Y.P.F. in Argentina 1922) or later (Petroleo Brasiliano) played also important roles in fighting for national interests, but not until the establishment of the OPEC did the system actually change. All OPEC countries, with the exception of Gabon, have their state petroleum companies occupying an increasing weight in production and exports. By the end of 1977 about 80 state owned enterprises were operating in the petroleum industries of the developing countries. The proportion of public enterprises in rather low in marketing, (about 20–23 percent).

Public enterprises in the developing countries in extracting and raw material processing industries can substantially increase efficiency through central coordination of different elements in a vertically integrated process (mining, processing, domestic consumption and foreign trade).

Also the efforts at stabilizing export earnings resulted in a substantial increase in the role of public enterprises and state marketing boards in respect of such commodities as wheat, sugar, cotton, wool, cocoa, tin, copper etc. Public enterprises are useful instruments in export expanson. They are often exploring new export markets for traditional products and thus they may diversify the geographical distribution of exports and reduce dependence on tradítional (mostly metropolitan) importers. (This was a primary task for example of the State Trading Corporation in Tanzania) An other important task of public trade companies is to help in diversifying the commodity pattern of foreign trade and to facilitate for the given developing country to enter the foreign markets with new products. This role is especially important in those cases when the costs of the pioneer export are very high.*

*This does not mean that governments should subsidize export through public trade enterprises. This would not only expose these corporations to dumping and "market disruption" charges but would lead to losses of national income through exports as well. Just the opposite is true. As soon as the products of a given developing country attained an adequate share abroad, subsidies or export promotion expenditures can be eliminated more easily than in the case of direct government assistance given to private exporters.

With the help of the public foreign trade enterprises countries could fulfill also their international long-term obligations more easily. This task is especially important in trade relations with socialist countries. Public enterprises serve as direct instruments in creating a better link between the international obligations undertaken by the governments in multilateral commodity agreements, bilateral trade agreements and regional integration schemes and the actual ability of the given governments to fulfil their obligations.

Public enterprises are also playing an important role in import operations where their specific tasks may also differ. In many developing countries (for example in Tanzania, Kenya and Uganda) import of foodstuffs and their domestic distribution was organized by public enterprises in order to eliminate the middlemen and to supply consumers at a lower price. Public enterprises played a similar role also in many Asian countries.

In the process of trade promotion, exports and imports, new joint venture operations were also established with the participation of several developing countries. One of such examples is the COMUNBANA, a joint state-owned enterprise of banana exporters.

The countries of the Central American Isthmus (Panama, Costa Rica, Honduras, Guatemala), from the beginning with the support of Colombia and for some months of Ecuador and Nicaragua, and later on also with the support of the Dominican Republic, decided to set up the Union of Banana Exporting Countries (UBEC) and to establish a tax per box of bananas exported, which would enable them to retain a portion of the price paid by the consumer. For the first time, the governments of those countries decided to take fundamental measures in regard to an important, and in many cases vital, activity for their economies.

UBEC was not conceived nor created as a cartel, it works with too soft a product to be able to claim such a goal. It is an inter-governmental body, registered with the United Nations, whose purpose is to expand markets for banans, boost consumption, try to strike a balance between supply and demand, seek remunerative and stable prices for the fruit, and promote the exchange of information between the member countries. This is, then, a typical instrument of technical and economic cooperation between developing countries seeking a rational use of the available national resources and a more equitable treatment for them in international trade.

State-owned foreign trade enterprises could be also strategically important in helping the implementation of a technological policy corresponding to national interests, by importing the technology required in a given field of economic activity into the country. It is well known that the direct costs of technology for the developing countries are very high. (6–10 percent of fixed capital formation annually, according to UNCTAD estimates). There are also additional indirect costs partly because of delayed or inadequate transfer. Inappropriate choice of technology deriving from high-pressure salesmanship from developed countries is also an important element of indirect costs. Public trade enterprises could be especially instrumental in the elimination of losses from these latter costs, if they have the necassary expertise and the ability to choose. These

conditions are, however, not always present. Case studies have proven that great reserves are still to be found in this area.

It is, of course, also evident that the role of public foreign trade enterprises in the developing countries does not differ from the over-all role and motivation of the public sector of the given gountry.

The involvement of the public sector in foreign trade is broader than the activities of state owned foreign trade enterprises. Two important additional questions are emerging in this context, directly related to the balance of payments:

– to what extent are public productive enterprises helping exports, and

– what are the important requirements of the public sector in general, and what priorities are public enterprises given in imports?

The macro-economic aspect of these questions is: to what extent is the public sector helping the establishment or strengthening of external equilibrium in the developing countries?

The previous discussion on public enterprises in raw material production, processing and trade has already shown that the public enterprises in this sector represent the most important or sometimes the only sources for exports, and the majority of export earnings in developing countries originates in these sectors and enterprises. They are of course at the same time major importers of machinery, equipment and services. In the first half of the seventies, which includes already a period after a more extensive nationalization of petroleum and other mineral exporting industries, the "retained value" was 60–70 percent of the export value; 50–75 percent of it represented taxes and other payments to the local governments. Domestic purchases of machinery and equipment were about 5–10 percent of the retained value in specific countries.[1]

In manufacturing industries the situation is more complex. Some experts who often accept the role of public enterprises in extracting industries, represent a different view concerning manufacturing. Their arguments against public enterprises in manufacturing are based mostly on such statements that export-orientated industries require more initiative, greater flexibility, more contacts with foreign capital etc. in order to be able to export.[2]

There is no question about the special need in export markets for flexibility, initiatives etc. In principle, there is nothing in the public sector that would exclude more or the same flexibility than in other sectors of an economy. The basic question is proper management on enterprise and macro-economic level. There are, however, great advantages of the public sector in manufacturing. Public enterprises can much better integrate export industries into a domestic economy or into national development programs, while in the case of private industries the danger of creating enclaves is greater. Public enterprises in manufacturing can more easily connect exports with the use and development of local resources and thus reduce undue dependence on imports in export industries. Public enterprises may be also more easily created in the framework of regional cooperation and integration programs of the developing countries. There are great advantages also for the control of export earnings in the public sector.

Even in those cases when the involvement of a foreign partner becomes necessary in manufacturing in the framework of joint ventures, public sector partners are often in a much better bargaining position. The realization of these general possibilities is not an automatic process. Deliberate policy measures have to be elaborated in the framework of a consistent development program, where the public sector is given not only the above tasks but also the necessary resources for their solution.

It is impossible to document statistically the import requirements of public enterprises. The policy issues concerning the imports of the public sector are not well elaborated in most of the countries either. Since in the implementation of the New International Economic Order the public sector could play a strategic role, imports should be concentrated on these purposes. According to estimates based on the role of public investments in the total and the import content of investments in some developing countries, about 20–22 percent of the total imports are connected with public investments. This figure does not include the imports of productive input elements, for which no estimates can be made because of lack of information. In some countries public enterprises receive preferential treatment in imports, regardless of the branches in which they operate. This was the case for example in Egypt after the changes in 1961. In those developing countries where the public sector occupies a central role in a well elaborated development strategy, the priorities received by the public sector are expressing also national priorities.

It is also easier to rank enterprises according to national priorities within the framework of the public sector and to satisfy import needs along this line in case of difficulties.

It must also be added, that in those countries or cases when and where the public sector is inefficient or serves only or mostly private interests, the large imports of the public sector enterprises may also be inefficient and they may waste the scarce foreign resources by not helping national economic aims.

Indebtedness, capital inflows and the public sector

It is impossible to single out the role of the public sector in the indebtedness of the developing countries considered as an aggregate. Relatively little research has been done even in individual countries on this subject. There are certain indications for selected countries.

From these indications it is evident that a substantial part of the external debt originates in the public sector. The reasons are manifold and different by countries or groups of countries. One of the reasons is in the inability to control public expenditures. The explanation is often found on the revenue side: taxes and other government revenues are more often than not lagging behind the targets. In most of the cases, however, the nature of public enterprises and public investment programs require external financing. The size of investments or the low rate of return does not permit the use of internal

sources either because they are not available or because they are not sufficiently profitable. Large public investments in many African Sub-Saharan countries in fertilizers, metal products and processing, petroleum refining and chemicals, which are at the same time capital intensive, have contributed heavily to debt increases in the last decade. So have investments in infrastructure.

The governments financed a substantial part of their planned investment programs from external sources (debts). In the first half of the seventies the proportion of external loans in state-financed investments was 74 percent in Upper Volta, 50,5 percent in Uganda, 44,5 percent in Ivory Coast, 24,5 percent in Gabon etc.[3] Most of the debt initiated by the public sector is, however, public debt, borrowed from government agencies or from international organizations. Most of the private sector debt is from private sources.

There are sometimes important overlappings, especially in connection with the role of state-owned financial institutions.

It is indicated by the available data that the role of state-owned financial institutions is very strongly connected with capital inflows and indebtedness. According to estimates based on individual cases, about 30–35 percent of the sources of funds used by these institutions are of foreign origin. These institutions, especially the national development banks, are important channels of foreign loans in almost every developing country. Their policies are, of course, not independent from the socio-political characteristics of the given country. In countries which are developing on socialistic road these institutions serve the establishment and growth of the cooperatives and the public sector from the funds they raise abroad. In those with mixed economies or with a strong private sector, the development banks are also important sources of capital for the private sector, from publicly borrowed funds.

A characteristic example is the Banco National do Desenvolvimento Economico (BNDE), Brazil's national development bank, which sits at the centre of a financial web of more than 20 regional and state development agencies. As a development agency and a bank it channels funds from foreign capital markets and from national sources into projects intended to produce the maximum effect in terms of the declared national strategy. After the oil crisis, when Brazil had a great trade deficit, 80 percent of BNDE funds went to export-oriented and import-substitution projects. When the Brazilian government wanted to strengthen national private capital in relation to public sector and foreign companies, the BNDE helped the financing of private sector projects, some of them very large projects competing directly with the existing public sector.

In several developing countries public enterprises in industry are also direct borrowers. They are receiving loans from multilateral financial institutions (World Bank and IDA) and sometimes issuing bonds directly.

The increase of indebtedness and of the debt servicing problem reflects a whole range of issues:

a) It reflects the increasing difficulties of many developing countries in financing their imports.

b) It expresses the magnitude of the inflow of resources needed or available for supplementing domestic savings.

c) It shows the degree of readiness of the developed market economies, of OPEC countries and of the socialist countries to transfer resources to the developing countries.

d) It indicates the policies of transnational firms to invest in a given region or a given branch of production and services.

e) It is a sign also of the degree to which the developing countries can cover their investment requirements from domestic resources.

f) Among other things, it reveals the bargaining power of the developing countries in international money markets and in connection with the transnational corporations.

g) It might be also a result of domestic mismanagement on the part of individual debtor governments.

The major issue is, of course, the ability of the developing countries to service their debts. While some of the developing countries had a long history of difficulties in debt servicing, in the 1970s the scope and nature of the problem changed substantially. There is a major general concern for a possible chain reaction of defaults and the policy choice of the developing countries has become more limited.

Countries facing serious debt service problems have, of course, certain alternatives:

a) they may take measures to increase exports in order to earn additional foreign exchange for debt servicing,

b) they may cut imports, reduce investments, consumption and growth rates to save foreign exchange for debt servicing,

c) they may look for relief of debt burdens through rescheduling of payments or debt cancellation. This issue has been widely discussed recently and several measures have been suggested in different organizations,

d) they may default on payment obligations.

To what extent could public enterprises help in the solution of the debt servicing problems?

In principle, control over natural resources, exports and imports with the help of public enterprises could be the main instrument. This would give sufficient tools into the hand of the governments to make domestic investments and consumption consistent with the available resources and would also facilitate debt servicing. In practice, however, the tasks are much more complex. One of the main tasks is, of course, to improve export potentials and increase export earnings. An other requirement is the introduction or stimulation of a type of growth, with the help of public sector enterprises, which is much more internally generated and more relying on the mobilization of domestic resources. The strengthening national economic potentials and bargaining position of the given countries in general, and especially in relation to the transnational corporations, are also among the possible ways.

Transnational corporations and the public sector

The socio-economic factors influenced the position of private direct foreign investments in the developing countries to an increasing extent. The reaction of the host countries was for example rather sharp in those cases where foreign investors received all the resource rents and operating profits in primary production. These types of investments were more or less expropriated and now they represent a minority of the total. Since the views of the developing countries and of private investors increasingly diverged in respect of exploiting mineral resources, the foreign mining companies and investors did not commit large funds to mining ventures located in the developing countries, with the exception of those where the political climate was more favourable for them and the risk of a change in the investment climate was smaller. That is why most of the private direct investments by foreigners in minerals has taken place in developed countries in the last decade and not in developing countries.

The costs of direct foreign investments are, in general, rather high for the developing countries in comparison to the benefits which are much more limited for those countries whose bargaining power is smaller.

These costs include:

1. Special concessions by the government that may be necessary to attract the foreign investment but which involve a fiscal cost in the form of tax concessions or greater government expenditure on additional public services, financial assistance or subsidization of inputs.

2. A negative effect on domestic saving, if the foreign investment competes with home investment and reduces profits in domestic industries, or if the foreign investment limits the scope of domestic enterprising.

3. The cost of balance-of-payments adjustment. Unless the inflow of foreign investment continues at an increasing rate, a time will come when the inflow of new capital is insufficient to cover the return outflow of interest, dividends and profits. The recipient country then has to generate a surplus on current account in its balance of payments. To do so, the country may have to incur the costs of deflations, direct control over trade or devaluation.

4. Political and social costs through the possible loss of national autonomy in domestic policy-making, if the foreign enterprise or the foreign investor's government exert undue influence on the host government's policies. The loss of national identity and control may be psychologically and sociologically undesirable. The recipient country may also believe it is excessively dependent on foreign technology, management and capital.[4]

The above mentioned problems explain why direct foreign investment in capital intensive import substituting manufacturing was considered as undesirable in many developing countries. The costs for the developing countries exceeded the benefits. Those countries which created highly monopolistic conditions for the transnational firms through high protection had the highest inflows of private direct investments. The benefits were, however, limited for the host countries.

The relationship between the transnational corporations and the public sector is a rather complex problem. Transnationals are still owners of large estates, mines, industrial firms, banks and other assets in many developing countries. The outflow of funds in the form of amortization, repatriated profits, licence fees etc. is still very high. With the exception of the oil producing countries, about half of the total inflow of capital was offset by the outflow of funds from the developing countries in the last decade. This is, however, not the only problem. Foreign firms, with strong external research, innovation, marketing and capital basis are sometimes competing not only with local private capital but with state-owned enterprises not having similar background. The foreign-owned establishments sometimes attract the best brains of the country not only for their local firms but also into their international system. The possible gains of the host countries from the new technology, products, management, employment, taxes and market facilities – which are often emphasized by the transitional corporations – are substantially curtailed and sometimes disappear completely as a consequence of the adverse effects.

In view of adverse experiences a few developing countries pursue a radical policy towards foreign companies. Most of the new states – of which this radical policy is not typical – have been trying ever since independence to restrict or control the investments of foreign firms in one way or another to ensure that the greater part of gains should remain with them. The restrictions may assume various forms; restriction or prohibition of foreign-owned land estates, regulation of the expolitation of mineral resources by foreign enterprises (tightening of concession conditions), laws specifying in what sectors foreign capital may invest, and stipulating the share of local enterpreneurs in the establishments of foreign capital and demanding that their management be left in the hands of the citizens of the country receiving capital etc.

The public sector might be also an instrument in the hands of the national governments, through which they can establish important strongholds of the national economy against transnationals, through which they can control better the domestic market and get a higher share from the income of raw material sales. They can also increase the degree of processing of domestic raw materials more easily and increase the value of their exports as well.

In the past most of the transnational corporations were actively hostile to the public sector, and in many cases they still are in mining and primary processing; sometimes the change (nationalizations, expropriations) obliged them to accept the public sector as the dominating force, for example in oil production, copper mining etc., and they had to deal with the public enterprises as the only source of raw materials, semi-finished products etc. in many countries.

The relation between the oil companies and the OPEC countries serves as an example for this situation. The experience of the oil producing countries also proved that nationalization in itself is not enough to increase the benefit for the given producing countries. There must be other supporting measures, like internationally organized multilateral cooperation among the major producers, for the solution of such tasks as a

more efficient technology transfer, exchange of experiences in management and training, exchange of information etc. A very important issue is the creation of possibilities for multilateral financing. A further condition is increasing participation by the state petroleum companies in international transport, marketing etc.

The new relationships between the transnationals and the public sector include in many cases joint ventures between the two. For some international firms this is a new form of relations. In certain countries and in some branches of industry, this was the only form which permitted their participation. However, in these joint venture operations, expecially in raw material supplies, the government was quite often a sleeping partner only.

Conclusions

The developing countries will face in international economic relations complex and long-term problems deriving from the structural changes in the world economy and the structural weakness of their economy, foreign trade and because of their position in the world economy as mostly raw material producers and exporters. Their manufacturing exports will also face such problems as increasing competition and protectionism. International debt servicing will create additional difficulties, and the outflow of profits, licence fees etc. will reduce substantially the volume of net transfers. The establishment of an organized and democratic international system as is envisaged in the Declaration and Program of Action of the NIEO will be a slow and very difficult process. They have to strengthen their internal economy in order to improve their international position. In the solution of these tasks public enterprises occupy a decisive position.

The socio-economic attitudes of the given countries towards the public sector in the domestic economy and in international economic relations differ according to the character of the dominating socio-political forces. The public sector is playing a greater and broader role in international economic relations in those developing countries which have strong commitments for an internally generated growth creating the foundations for greater social equality.

The possibilities of the developing countries for improving their international economic position through the use of the public sector is not recognized everywhere. Some governments and experts are considering the public sector as serving basically internal economic policy aims and claim that it is detrimental in international economic relations. This attitude is not supported by facts.

The role of the public sector in international economic relations is quite important already at this stage in many developing countries and in the new international economic situation several factors require that it should be greater, more efficient and strategically better conceived.

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РОЛЬ ГОСУДАРСТВЕННОГО СЕКТОРА РАЗВИВАЮЩИХСЯ СТРАН В УКРЕПЛЕНИИ ИХ МИРОХОЗЯЙСТВЕННЫХ ПОЗИЦИЙ

М. ШИМАИ

Статья базируется на работе автора, подготовленной для ООН, рассматривает роль государственного сектора развивающихся стран в борьбе за новый мировой экономический порядок в широкой перспективе. В борьбе за экономическую деколонизацию тесно сплетаются усилия, направленные на укрепление внутренней экономической базы и международных позиций. Государственные предприятия могут играть ключевую роль в обеих областях в экономической политике развивающихся стран. Реализация этой возможности, естественно, в большой степени зависит от места государственного сектора в системе общественно-экономических отношений данных стран. Государственный сектор может играть важную роль в системе международных экономических связей развивающихся стран, в улучшении внешних условий национального экономического развития, в смягчении последствий односторонней экономической зависимости и в ликвидации ее. Один из ключевых вопросов борьбы за новый экономический порядок – это обеспечение национального контроля над природными ресурсами и ликвидация доминирующей роли международных компаний в этой области. Практический опыт многих развивающихся стран подтверждает, что в этой области наиболее эффективными являются государственные предприятия. Задачей ключевой важности является также эффективное использование поступлений от внешнеэкономических операций, направленное на экономический подъем развивающихся стран.

Деятельность государственных предприятий может быть в равной мере эффективным средством формирования экспортной и импортной политики и ее осуществления. Анализируя роль государственного сектора в образовании международной задолженности, автор отмечает, что в этом отношении еще в меньшей степени, чем в других областях, можно говорить об общих схемах, и что часто задолженность государственного сектора связана с финансированием частных предприятий. Анализируя отношения транснациональных компаний и государственных предприятий, статья освещает особенности происходящего в этой области поворота, для которого все в большей степени становятся характерными компромиссы. Автор указывает также и на то, что во многих развивающихся странах еще не поняли роли государственных предприятий и их возможностей в укреплении международных позиций, и их роль во многих областях понимается слишком узко.

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DUALITY OF THE US TRADE POLICY

A major ingredient of the US trade policy and of the deficit in the trade balance can be found in the field of monetary policy closely linked with oil and energy policy. The United States has durably settled down for big hydrocarbon and chiefly crude oil imports financed through dollar emission. At the same time the inconsistencies having surfaced since the end of the 1960's and manifest in the continual conflicts between free trade and protectionistic trends rooted in the dual character of the American economy, are still present in the US trade policy.

Ever since the Carter administration entered into office the deficit in the US balance of trade has been mounting. The combined deficit of the trade balance (in balance of payments terms) peaked at 75 billion dollars in 1976–78; from this, 65 billion fell on the two first years of the democratic administration and within that 34 billion on the year 1978 alone. Even the surplus of "invisible" items of the current account could reduce this deficit only to its half, 17 billion dollars [1]. It stands to reason that the problems of US trade policy and other world economic factors affecting these record deficits should come to the forefront of interest. The US trade strategy may also claim increasing attention: the authorization of the President, originating from the Trade Act of 1974 to make trade policy concessions at multilateral negotiations held in the framework of the Tokyo round of GATT, will expire at the end of 1979. Considering the time required for getting through the legislation, these negotiations have to produce some results already in the first half of the year.

Desynchronized world growth pattern, asymmetrical monetary policy options

According to GATT Secretariat estimates for 1977 and 1978, there was a considerable slowdown in the growth of world trade during these two years relative to the initial 1976 stage of upswing; in real terms the growth rate fell from 11 percent in 1976 to 4 percent in 1977, and 1978 did not bring any major acceleration either (the growth rate was 5 percent [2]. This new significant drop in the rate of world trade growth – not long after the 1974–75 recession – is in itself unfavourable from the aspect of further liberalization. But it has been a source of further disagreements among the advanced capitalist countries that their domestic growth rates, hence the development of their imports and trade balances, became remarkably desynchronized in 1977–78. While the US economy and imports dynamically expanded in these two years, those of the others grew only at a slow rate or even stagnated.

The big differences in the import patterns made the asymmetrical opportunities of the US and the other advanced capitalist countries in financing their imports with the known high oil prices in the world market more and more evident. The source of the asymmetry is the world money function of the dollar. Namely, American oil imports from OPEC countries showed a steep, 20 percent growth in real terms in 1977, and have remained on a high level even after the boosting of production in Alaska: the crude oil imports of the United States, not quite 8 billion dollars in 1973, cost 42 billion in 1978. On the other hand, the imports of Japan and most West European countries, which are much more dependent on oil imports but do not have key currencies, decreased or only slightly increased after 1973. This was the requirement both of the anti-inflationary economic policy and of restoring the balance of foreign trade in these countries. Therefore, the free lance financing with dollars the enhanced American oil imports has been in itself a source of significant disagreements between the US and its main commercial rivals. In 1977–78, the conflict still derived from overproduction on the world oil market, as the high OPEC cartel price was only tenable with the given volume of American oil imports (which reached 50 percent of domestic oil consumption). Under the influence of the dynamism of American oil imports e.g. the total imports of the advanced capitalist countries from the OPEC countries did not decrease but, on the contrary, increased by one percent or two in 1977. Under the tighter oil market conditions following the Iranian revolution both the size of American oil imports and the expansionist, inflationary domestic economic policy, the US's "inadaptability" of stabilization have only naturally become even more striking.

Thus, the direct causes of the yearly deficits the American trade balance has shown since 1976 are rather different from the equilibrium problems of the late 1960's and the early 1970's which were far smaller in absolute terms too. At that time, the oil deficit was still a negligible entry and, at the same time, America was considerably handicapped by the growth in unit wage costs, only made worse by the overvaluation of the dollar. The dynamism of the leading competitor economies, especially of Japan, was higher than that of the US. But in the recessionary period before the Carter era – in 1974–76 – the growth in unit wage costs was below the American rate only in the Federal Republic of Germany.[3] Since the floating rate of exchange was introduced (1973) the rate of the dollar has generally been favourable for exports. Basically, all that was made possible by the abolition of the convertibility of the dollar into gold. So was the evolving new American energy policy based on high international and domestic oil prices. An economic growth accompanied by wasting of energy, and even a certain reduction of unemployment, has been made possible by the unrestricted domestic and international dollar financing, true, only with a relatively high and steady rate of domestic inflation and with growing energy (and other) imports.

A study of export performances makes the above mentioned asymmetry even more striking.

Paying the oil bill and servicing the debt incurred are pushing for export efforts all over the world. The results were certainly spectacular in 1978. While the current account

balance of the USA showed a record deficit, *all* of the advanced capitalist countries increased the value of their exports to other economic regions of the world by 20 percent and their imports by 15 percent according to GATT estimations. Their combined balance of payments reached a $ 25 billion surplus as against a $ 8 billion deficit in 1977, while the combined surplus of the OPEC region dropped from 35 billion dollars to an estimated 11 billion or even less that that.

Beside the OPEC states, the USA was the most dynamic import market in 1977–78. This is particularly true for the trade between America and Japan. According to the US Secretary of Commerce *Mrs. Kreps,* alone the deficit in the trade with Japan was $ 20 billion in 1977–78, and not less than 12 billion of this fell to the last year. (In 1978, Japan's *total* surplus was $ 25 billion.) The Secretary expressed the opinion that by 1978 Japan's surplus became the main factor of disequilibria in the world economy, far outrunning as such the OPEC area. However, the given magnitude of the disequilibrium could not have really developed without the 6 percent increase in US industrial output the same year, (leaving behind the 5 percent of Japan and Canada, and the average 2 percent of West European industrial production growth) nor, in addition, without the devaluation of the dollar against the yen involving an artificial increase of the dollar value of Japanese products invoiced in yen.

So one of the most important components of the US trade policy can be found above all in the closely interrelated spheres of monetary policy, and the oil and energy policies. Unequivocal preference for the interests of the US domestic economy and American world economic strategy vs. the requirements of world economy and world trade equilibrium, i.e., a high degree of "America-centeredness" are typical of both.

Specific problems of the US export pattern

The factors outlined above, however, explain only incompletely the well known tendency that over a longer period – from 1968 to 1977 – world trade increased five fold while American merchandise exports increased only four fold, and the share of the US in world exports fell from 19 percent to 13 percent according to IMF and Department of Commerce records.

The relatively slow growth of American exports is partly directly related to the commodity pattern of the latter exports. Agriculture is an important surplus-producing component of the American trade balance, agroexports have scored record series in the last nine years, and can now boast of a surplus of about 13 to 15 billion dollars per annum. If raw material exports – including raw (land) products for industrial and alimentation purposes as well as fossile primary energy (coal) and other materials – are counted together, the share of raw materials reaches as much as 30 percent of total exports.

Thus many factors causing the moderate growth of American export receipts are the same which cause export problems to developing countries: strong fluctuations in raw material prices and even more the yearly fluctuations in world agricultural production

involving yearly fluctuations in the demand for American agricultural products. Thus e.g. in 1977 the saturation of the world grain market played an important role in the stagnation of American exports, while in 1978 the trade deficit could have come near to $ 50 billion without the dynamic growth of agroexports of about 24 percent. This explains the downright aggressivity of the American trade policy in every problem concerning world agricultural trade, as well as its endeavours to explore new markets which promise big volumes of exports also in the long run like China, or the European socialist countries. The Soviet–American grain purchase agreement of 1975 clearly showed the strong concern of the American agrarian lobby for establishing contracted long-term relations in safe sales markets. At the same time, a protectionistic quota system prevails on a considerable part of animal products and also on some other land products (sugar) in order to control import competition.

The weak points of foreign trade in manufactured products

Even so, the increasing inconsistency of the American trade policy is rooted, first of all, in the sphere of foreign trade in industrial products. Namely, the dual nature of the American economy which was revealed also by J. K. *Galbraith,* asserts itself sharply in manufacturing industry: beside sectors controlled by big, mostly transnational corporations, in many branches of industry there are characteristically less or not at all monopolized sectors and companies.

There are considerable implications of this duality to both the import and the export sides. Namely, the ever increasing propensity to manufactured *imports* cannot be explained solely by the domestic boom between 1976 and 1978. A structural shift is taking place now in world economy and within this framework certain manufacturing branches have developed also in the LDC's or have been transferred thereto from the advanced countries. But the newly generated industrial exports overflow mainly the markets of the advanced countries, among them the US one. The American industrial branches concerned usually do not belong to the scope of the transnationals, although in some instances (e.g. in the steel industry) they are strongly monopolized. But other typically anti-import branches and sectors, such as the textile and garment industries, toy production, the ceramics industry, the manufacturers of hand tools, sewing needles, industrial nuts and bolts, silverware, the watchmaking industry, and to a smaller extent the leather and shoe industries as well, are owned by middle sized producers, they are relatively labour-intensive and, consequently, particularly sensitive to importers enjoying lower wages or other competitive advantages. (Lately even some manufacturers of colour TV sets have come into this category.) It was mostly the interested business quarters and the trade unions representing workers of the affected branches who backed the protectionist pressure in Congress which has been strengthening ever since the late sixties and recently again, also because of the record trade deficits.

They can do that all the easier as they have very little interest in exports. True, according to the estimates made by Assistant Secretary of Commerce *Weil* in 1978, now

some 20.000 American companies are engaged in exports, but a group similarly comprising 20.000 companies could be engaged as well, if it were not satisfied with supplying the domestic market which is enormous itself. What is more, in the United States 85 percent of total merchandise export are realized by 1 percent of the companies (about 250 companies). Besides, according to estimates, a growing share (25 to 50 percent) of exports consists of the intercompany supplies of materials, spare parts, components and finished products of the transnationals.

Although the impacts on the trade balance of the transnational corporations and capitalist groups have been for a long time contradictory and in several cases clearly disadvantageous for the US's positions as merchandise exporter, with the exception of some special cases as the automobile and chemical industries, the upswing of the *imports* of industrial finished products has originated in and still derives decisively from the boom of traditional labour intensive industrial branches abroad and from their growing import competition in the US's case. This has next to nothing to do with the transnationals' activities. On the other hand, the really export diverting role of the transnationals consists mainly of supplying foreign markets almost exclusively from foreign production units (the US-originated exports of General Motors is hardly more than 4 percent of domestic business turnover, and in the case of Ford it is even less), and in the meanwhile the foreign, mainly Japanese car imports enter the US market ever more dynamically. Nevertheless, the top American merchandise exporters are mostly the transnational corporations.

It is partly because of this special and spontaneous "division of labour" within the US foreign trade that the downward floating dollar rate has not acted powerfully enough against the trade deficit. The already mentioned intercompany transactions of the transnationals are not much influenced by the exchange rate movements, although these movements took place mostly between the US and W. Europe, and the intercompany turnover of the transnationals is also mostly "transatlantic". On the other hand, the rates of exchange of developing countries exporting industrial products were moving mostly parallel with the dollar and thus the American market remained "undefended" against them. Consequently here the "voluntary" export restrictions, and the various American import control measures, such as narrowing the range of preferences offered to the developing countries at the beginning of 1979 emerged by necessity. Both weapons were deployed against Japan – herself especially aggressive and protectionistic – even if so far with moderate vigour and hence with little success.

The following computations, originating from the US Secretary of Commerce, illustrate the duality of foreign trade in industrial goods: between 1976 and 1978 the *volume* of total US manufacturing exports grew only slightly. Between 1976 and 1978, the $ 12-billion export surplus of the manufacturing industry turned into a 6-billion deficit. At the same time, the export surplus on capital goods embodying the most advanced technology amounted to 27 billion dollars in 1978, or to about twice as much as that of agroexports. The comparative advantages of the US economy described thirty years ago with the "Leontief paradoxon" have presented themselves with a force never seen before.

Direct export encouragement or import protectionism?

Under the influence of the deficit in the balance of trade the Carter administration, while tolerating the sinking exchange rate, has made initiatives for enhancing the competitivity of enterprises interested in exports. From these steps the most important ones are those providing for the reinforcement of the Export-Import Bank. The Bank management has simultaneously reduced the interest rates on Eximbank credits and increased the earlier credit ratio, rather below 40 percent, to 85 percent of the value of the export on which the credit is granted. The Hungaro–American trade agreement approved by Congress in 1978 is also related to the activation of the Eximbank, and it is unanimously qualified by business quarters interested in exports as the removal of one of the artificial obstacles of political nature from the way of American merchandise exports. In the broader East-West trade too, first of all the mitigation or, still preferably, the abolition of the still existing political restrictions on Soviet–American and on Sino–American export credit transactions (to wit the so-called Jackson-Vanick amendment) might give significant encouragement to American *industrial merchandise* exports. This is the explanation for the statements and endeavours of officials of the Carter administration to this effect.

It thus seems that under the effect of the record deficits of recent years not only those advocating protectionism but also those adhering to furthering the world economic opening, the transnational corporations, and the Carter administration representing them are on the attack. But the major match between these two main trade policy lines of the United States is yet to be held and the final score will be measurable only in the light of the results of the Tokyo round, and of the Congressional reception of these GATT agreements.

The special significance of the approval of the thick package of documents emerging from the more than five-year-long negotiations reflecting the manifold interests of the world's countries in a more or less compromising way lies in the fact that similar talks are not likely to be held for at least 20–25 years. At the same time, unlike the way domestic legislation works Congress has to approve (or discard) it in unchanged form without amendments. The victory of the strongly organizing protectionist forces would therefore unleash the gravest crisis of confidence in thirty years of world trade history.

American trade policy and the GATT negotiations

Maintaining an open world economy is namely a top issue for the Carter administration interested in the preservation and even more in the expansion of liberalized world trade. So the US concessions to the most important trade partners are also significant, but exactly these might impair the interests of capitalist groups and manufacturing branches which are counter-interested or not interested enough in a new opening. The same is true

for those of the trade unions that try to maintain or rather to increase employment. (It is known for example that the American textile industry is even now one of the strongest pillars of industrial employment.) In possession of preliminary informations the American concessions may be summarized as follows:

The negotiating parties adopted the so-called Swiss formula as the principal platform of industrial tariff reduction: in eight years customs duties would be reduced by about 30 percent on the average. In view of the known wide dispersion of the U. S. tariff rates it is an important trade policy concession that higher duties were reduced more than the low ones. Here the American Selling Price (ASP) tariff system affecting a broad range of chemicals is of special importance. It caused serious difficulties already at the negotiations of the Kennedy round, and at that time the formal American commitment for its aboliton was turned down by Congress. The essence of the system is that the duty levied on the items belonging to this commodity group is charged not according to the real invoiced value of the import but on basis of a higher American local market price. Instead of this and also in order to avoid a chaos in setting duties in general, a draft code was elaborated at the GATT talks which sets the goal of a "just, unified and neutral" valuation of the dutiable goods.

In assessing the tariff policy concessions of the American administration we should not fail to consider that the significance of the still (or already) existing tariff constraints on world trade are in fact dwarfed by the exchange rate movements, or by other non-tariff barriers. So the true problem of the GATT round talks was not the reduction of customs duties but these non-tariff barriers; the protectionist clauses, the subventions and compensation customs duties, as well as the trade in the main agricultural products. A further issue was added which the GATT had not treated before, namely, the multilaterally regulated opening of the market of government procurements to foreign suppliers. The 1974 US Trade Act, in the framework of the new global economic strategy of the Nixon era, lays great stress upon this, and had the American negotiating party failed to achieve considerable results in this field at the Tokyo round, the negative attitude of Congress could have been taken for granted; let alone the numerous opportunities created by the 1974 Trade Act for the assertion of the influence of protectionist forces. (It will be sufficient to refer e.g. to the fact that the President was vested with the power not only to reduce but also to raise customs duties.)

Thus, in the sphere of the non-tariff barriers the so-called draft codes of conduct on the trade of industrial and *agricultural* finished products (not raw material type commodities), on the trade barriers of technological type, on subventions, on import licensing systems and, first of all, on the rules of the mutual opening of government procurements markets must absolutely be regarded as the US Administration's conceptual victory. This latter draft code seems to prescribe a clearcut regulation, under nondiscriminative *international control,* of the markets of government procurements, and does not allow for laws, regulations, procedural rules on national level protecting the indigeneous (national) producers, nor for the confidential treatment of tenders, etc. [4] The American (transnational) business groups interested in furthering open world economy have here

undoubtedly achieved an extremely important conceptual breakthrough of trade policy and, in its implications, even of world policy against Western Europe and especially Japan. However, as it will be seen, the trade policy conflicts emanating from the objective realities of the dual American economy, and, thus congressional opposition to the outcomes of the "Tokyo round" is not a bit mitigated but might even be increased by this victory.

It may be of even graver consequence that negotiations held with a view to signing a new and more comprehensive international wheat agreement were frustrated at the beginning of 1979. Prolongation of the existing agreement can hardly conceal that this fiasco jeopardizes the negotiations of the GATT round even now, in their present advanced stage: the American party is in principle still of the position that in lack of agricultural agreements the GATT talks are doomed to fail, while the fiasco of the wheat conference seems to hamper the resolution of the agrarian issues. Also it already seems to be certain that the United States have not reached their original goal, namely, the *institutionalized* "loosening" of the West European agricultural common market in the framework of the GATT negotiations. It is another point that the sharpening internal inconsistencies of the agrarian common market might result after a while in a situation which would create a more advantageous position for the American wheat exporters than at present. However, such arguments will hardly be enough to convince the opposition to the GATT agreements in Congress.

The predictable impact of the Tokyo round on the US economy

Until recently the assessment in the US of the foreseeable outcome of the GATT talks has moved partly on theoretical level (namely, the Administration was stressing the importance of enhanced liberalization and the harmfulness of protectionism), partly it manifested itself in the sometimes extremely onesided protectionistic action of some interest groups. A report of the Congressional Budget Office elaborated in Spring 1979, prepared already as a background paper for the forthcoming ratification process by Congress, was the first attempt at assessing the impact of the outcomes of the GATT talks on the American economy "without bias" and impartially.[5]

The picture emerging from the report is however not too likely to make things easier for the Administration because it might expose the dual interests of the American economy even more clearly: while the GATT round results *on the whole* in "substantial advantages" for the American economy, the authors of the report state, in the traditionally industrial north-eastern states – first of all in New England and in the Central West – it results in a loss of jobs. The advantages are manifest partly in general; namely in relieving the inflatory pressure, in a more efficient way of production and in widening export markets. Partly they would also consist of increasing employment in the southern, western and centralwestern states – but in the latter agriculture would benefit from employment advantages while the manufacturing industries would suffer. Especially the

trained workers of the particularly labour intensive textile, shoe, leather, hardware, radio, TV and jewellery industries would loose their jobs.

Beside the agricultural and food industry branches the main beneficiaries of the GATT round would be the industries using and manufacturing the most advanced and up-to-date technology: those producing semiconductors, computers, bureau machines, measuring instruments, electronic components, aircraft and aircraft equipment. Again it is the Leontieff paradoxon . . .

These expectable effects of the GATT round are, on the other hand, related to a significant extent precisely to the new code which may be regarded as the biggest formal American success, i.e., the one that provides for the mutual opening of the markets of government procurements. Namely, according to the federal administration's directives valid till Spring 1979, in the market of government procurements worth about 90 billion dollars purchases had to be made from US companies in every case when the price offer of foreign companies was not more favourable by 6 percent in the case of big companies supplying civilian goods, by 12 percent in the case of smaller enterprises delivering the same goods, and by fifty percent (!) in case of enterprises delivering military goods. According to the provisions a definite quota of the government purchases had to be obtained from small enterprises, moreover, from enterprises owned by ethnic minorities or other groups of the population; at the end of the 1970's the share of small enterprises amounted to 20 percent of total government purchases, or about 18 billion dollars.

In mid-March 1979 the Carter administration, not even waiting for the conclusion of the GATT negotiations, undertook to discontinue the old practice. According to estimates the new GATT-conform practice of the American government procurements permits West European and Japanese suppliers to compete for government orders worth about $ 10 billion; but this stands against a market of altogether 25 billion dollars of West European government orders where American exporters are given the opportunity to compete, while the American government – at the time of taking the said decision – was pushing for the liberalization of the Japanese government market which is worth $ 7 and a half billion (Japan offered 4 billion).[6] However, for the American dual economy the main point is that while it reckons with a sharp expanison of the markets of the corporate export sector, an estimated appr. 50 percent of the 18-billion government market of small enterprises which used to enjoy protectionism till now might become the prey of highly capitalized foreign exporters.

GATT-conform discrimination?

Naturally, in each of the newly elaborated GATT codes significant exceptions are also contained. Thus for example the commitments to eliminate different technical-technological specifications, parameters as factors which restrict trade, do not apply to certain merchandise groups (so-called security and governmental goods, public health items); similar exceptions can be made in the sphere of government procurements and tenders currently to be liberalized. The above mentioned offer of the American administ-

ration, concerning the liberalization of the "Buy American" rules, forecasts a rather flexible interpretation of the exceptions. I.e., the principle "Buy American" would be maintained in case of footwear, textiles and garments, steelware etc. purchases of Tennessee Valley Authority or the Pentagon.

With this type of concessions the Carter administration hopes to disarm the resistance of the textile lobby in the course of ratification, and it seems that for the sake of the success of the painfully elaborated GATT package even some of the foreign exporter countries are ready to swallow this import discrimination. The case is similar with the high import duties on industrial nuts and bolts introduced at the end of 1978, the threshold prices applied on steel imports, etc. According to Secretary of the Treasury Blumenthal the American import restrictions effective at the beginning of 1979 burden the consumers with at least 20–30 billion dollars extra spending a year.[7] Considering, however, that the so-called dumping control duties have not yet been collected by the Treasury back to 1971 (!) Congress can pass strongly protectionistic special acts to control dumping even if the GATT package agreement were ratified, and this might direct the events towards worsening world trade conflicts.[8]

For the same reason the growing identification of the American and the Common Market standpoints with respect to the amendment of the GATT article XIX, decisively at the expense of Japan and the now industrializing far-eastern developing states is dangerous and dubious from the aspect of further dismantling the trade barriers. This article is of paramount importance for nondiscriminative multilateral trade because it states that provisional import restrictions may be applied in a given country only with general force, without discrimination of GATT member countries. Though the original American propositions never meant to amend article XIX, the platform of negotiations tabled by the Common Market in January 1978 insisted on this important amendment. This would namely legalize "provisional" selective import restrictions from given GATT member countries (e.g. by compensation customs duties) depending on the given market situation, irrespectively of whether the import qualifies as dumping or not. It is at any rate striking and a further evidence of the activation of the protectionistic forces in the US that such a substantial change in the American principles of free trade declared thirty years ago has not met strong US resistance. It will depend on the power of the developing countries' resistance whether the final GATT package will reject this amendment or not.

But this is not all: any further, however partial, success of American protectionism cannot but aggravate the relations also with the ever more confident group of the developing states. And this at a time when the American administration has got a long-term interest in maintaining and increasing the export revenues of these countries in order to thus expand the markets of the American export sector, to facilitate the servicing and repayment of the big debts of these countries to American banks and, in general, to enhance open foreign economic relations of the economies of these countries, the safety of the transnational corporations and, finally, the gradual enshrinement of the manufacturing industries of these countries into the network of capitalist world economic relations.

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ДВУЛИКОСТЬ ТОРГОВОЙ ПОЛИТИКИ США

Д. БЕЧКИ

С приходом к власти администрации *Картера* дефицит американского торгового баланса стал быстро возрастать. В период 1976–1978 гг. суммированный дефицит товарно-валютного баланса возрос до 75 миллиардов текущих долларов; из этой суммы 65 миллиардов приходится на первые два года правления демократической партии и при этом 34 миллиарда только на 1978 г. Излишки по „невидимым" позициям текущего платежного баланса всего лишь на половину могли умерить этот дефицит, т. е. на 17 миллиардов долларов.

Один из наиболее важных компонентов американской торговой политики и балансового дефицита можно найти в сфере валютной политики, а также и в сфере политики, касающейся нефти и энергии. Начиная с 1976 года Соединенные Штаты проводят экспансивную экономическую политику, их импорт динамичен и, наряду с этим, они исходят из того, что импорт энергоносителей – главным образом нефти – будет значительным и будет продолжаться долгое время. Все это финансируется за счет эмиссии доллара посредством бюджетного дефицита и, в особенности, дефицита текущего платежного баланса.

Таким образом, непосредственные причины дефицита американского торгового баланса, имеющего место с 1976 г., в значительной степени отличаются от проблем дефицита, существовавшего в конце шестидесятых и в начале семидесятых годов, абсолютная величина которого была значительно меньшей. В то время нефтяной дефицит был незначителен, но на торговом балансе очень неблагоприятно сказывались относительно высокий уровень удельных затрат на заработную плату, который лишь усиливался из-за завышенного курса доллара. Однако курс доллара со времени введения системы плавающего курса (1973 г.) в целом благоприятствовал экспорту.

В то же время в американской торговой политике сохранились также и противоречия, появившиеся уже в конце шестидесятых годов и выражающиеся в постоянном столкновении тенденций свободы торговли и протекционизма. Эти столкновения коренятся в двойственном характере американской экономики: в то время как крупные транснациональные предприятия чаще всего заинтересованы во все большей открытости экономики, т. к. – с учетом взаимности – на базе этого они рассчитывают на расширение своих внешних рынков, другие, более традиционные секторы американской экономики и общества требуют защиты от импорта, чтобы уравновесить более низкую заработную плату других стран и весьма сильный японский маркетинг. На протекционистские стремления американское правительство реагирует двояко. С одной стороны, оно в большей мере прибегает к арсеналу либерализации, к средствам государственного стимулирования экспорта и проявляется готовность к снятию политических барьеров, которые стоят на пути экспорта и являются, зачастую, искусственными. Но, с другой стороны, оно идет на все новые и новые уступки группам, настаивающим на большей защите от импорта иностранных товаров.

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REVIEWS

N. CSERES

ROLE OF THE HUNGARIAN VEGETABLE AND FRUIT SECTOR IN THE CMEA

Vegetable production and consumption

The biggest volume of vegetables is produced in the Soviet Union from among the European CMEA countries: in 1976 the Soviet Union gave two-thirds of the combined output of seven countries. Poland scores second with a 10,1 percent share. The rest are ranking as follows: Romania with 9,6 percent, Bulgaria and Hungary with a share around 4 percent, the German Democratic Republic with 2,5 percent and Czechoslovakia with 2,5 percent.

The 1974 data cast a sharp light on the differences in regional and climatical conditions among countries. In most of the European CMEA countries under study the best vegetable crop of the first half of the decade was harvested in 1974, while in the GDR, Poland and Czechoslovakia less vegetable was produced than in 1970 (see Table 1). This remark emphasizing the conditions of production does not imply an underestimation of the importance of other economic factors. It is namely indisputable that nowadays when the intensity of vegetable production must be increased more and more, this cannot be realized without a proper coordination of the chain of production, processing and marketing.

Concerning per capita production, the most vegetable is produced by Bulgaria (181 kgs) While Romania (168 kgs) and Hungary (153 kgs) come close to it. The other studied countries produce less than 100 kgs per capita (see Table 2).

What is the meaning of the per capita production indicator for domestic consumption, use and export?

In 1975 the per capita vegetable consumption in the countries under study differed in volume, and the difference in quality, i.e., the pattern of consumption, would show probably even bigger variations as it depends not only on the conditions of production and on its attained level but is also shaped and modified by the eating habits and specialities of the countries in question. But since comparable data on the vegetable consumption patterns of the CMEA countries are not available we have to rely only on the average indicators.

Table 1
Vegetable production in the European CMEA countries*
(100 tons)

Country	1970	1974	1975	1976	Growth (+) and decrease (−), relative to 1970	
					in 1975	in 1976
Bulgaria	1500	1748	1375	1587	−125	+87
Czechoslovakia	1141	1082	1113	829	−28	−352
Poland	4180	3484	4121	3779	−59	−40
Hungary	1390	1750	1467	1617	+77	+227
German Democratic Republic	1240	1145	984	934	−256	−297
Romania	2004	2955	2518	3593	+514	+1589
Soviet Union	21212	24808	23351	25008	+2139	+18704

*incl. melons, excl. potatoes.
Source: [5]

Table 2
Per capita vegetable production and consumption in the European CMEA countries

Country	Production			Consumption	
	1970	1975	1976	1975	1980
Bulgaria	177	158	181	99	101
Czechoslovakia	80	75	56	101	109
Poland	129	121	110	120	132
Hungary	135	139	153	92	97
German Democratic Republic	73	58	56	86	93
Romania	99	119	168	70	75
Soviet Union	87	92	97	82	89

Sources: [5] and [1].

In lack of comparable data on pattern it may be stated merely on the basis of experiences and production data that the so-called ordinary types of vegetables – namely, cabbage, carrot, onion, parsley – represent a considerable share in the pattern of

vegetable consumption in the CMEA countries. This proportion varies widely by seasons*, countries and even regions though by now, even if slowly, it is declining and is gradually substituted by the delicate and semidelicate vegetable types. The demand for healthy food presses for a bigger variety of vegetable consumption richer in vitamines and mineral salts. Asparagus and mushrooms and e.g. pumpkin and melon differ greatly in nutritive value, thus a simple addition of the different kinds of vegetables or fruits cannot but give a rough information about the pattern of production and consumption. It must be nevertheless noted in favour of the ordinary kinds of vegetables that they have the great advantage of growing on arable land cheaply and in large quantities, and their dietary role is not neglibible either. For example cabbage is consumed in many forms in the countries studied, and pickled cabbage is one of the best winter sources of vitamine. Carrot and parsley are indispensable not only where beaf consumption is considerable but, in short of a better thing, they are also traditional food.

In Hungary tomato and cabbage consumption are the highest, amounting to 17–18 and 15–16 percent, resp., of the yearly vegetable consumption. Also green paprika (11–13 percent), onion (9–10 percent), cucumber (7–8 percent), carrot (6–7 percent) and green peas (4–7 percent) represent high percentages. The pattern of consumption has not changed since the beginning of the 1960s but there is a marked growth in cucumber, green peas and carrot consumption, while that of paprika has considerably decreased.[14]

In Czechoslovakia a yearly total of 12 kgs cabbage, 8,5 kgs of cauliflower, 4 kgs of turnip cabbage (kohlrabi), 9 kgs of tomatoes, 4 kgs of paprika and a total of 29 kgs of other fresh vegetables is recommended by the model of rational vegetable consumption. The pattern of vegetable consumption is more diversified than that in Bulgaria and Poland as in these countries big quantities of delicate and semi-delicate vegetable types are produced and exported.

It is clearly indicated by the data of Table 2 that per capita production is not necessarily the highest in the countries producing the most vegetables: it is the highest in Bulgaria, Romania and Hungary, while the most is consumed in Poland, Czechoslovakia and Bulgaria. With respect to exports Poland, Bulgaria and Romania are outstanding.

According to the comparison of vegetable production and consumption and bearing exports in mind, on the basis of self-sufficiency the CMEA countries can be classified in three groups:

1. Poland, Romania
2. Bulgaria, Hungary
3. Soviet Union, Czechoslovakia, the German Democratic Republic.

In Poland and Romania, the conditions are given for satisfying domestic needs for vegetables. However, at present a considerable part of their output is exported and domestic consumption is consequently on a low level. This is true mainly for Romania

*The seasonality of vegetable consumption is one of the alimentation problems waiting for urgent solution in the CMEA countries.

where per capita vegetable consumption is around 70 kgs a year. Since 1970 Romania has regularly exported annually 150.000–160.000 tons of tomatoes and 40–50.000 tons of onions whereas Hungarian exports of these vegetables are in the range of 5–10.000 and 5.000 tons, respectively. From these vegetables, exported in big quantities, the domestic markets in Romania are not always supplied adequately.

The agricultures of the Soviet Union, Czechoslovakia and the German Democratic Republic struggle with difficult production conditions (e.g. unfavourable climatic conditions, labour shortage), thus they may be expected to remain vegetable importers for a long time although a steadily growing part of the needs is satisfied from domestic production.

Hungary and Bulgaria are real and potential vegetable exporters. Hungary's future role in the vegetable production of the CMEA countries is a matter worth of analysis.

The field type vegetables occupied in Hungary in the years 1971–1975 2,5 percent of the sown area on the average. Looking fifteen years back their proportion was higher than at present only between 1966 and 1970, but even then very slightly, by 0,1 percent. That is, field vegetable production has maintained and has not changed its position in plant production over the past one and a half decade. In 1976, vegetable was produced on 115.000 hectares as against 101.000 hectares in 1960 and 120.000 hectares in 1970 (see Table 3). At present green peas have the biggest area (30.000 hectares) which is two and a half times of the area fifteen years ago. Tomatoes come next (14.000 hectares), their area

Table 3
Development of field vegetable production in Hungary

Specification	Harvested area (1000 ha)		Crop (1000 tons)		Average yield (100 kgs/ha)	
	average of the years 1971 to 1975	in 1976	average of the years 1971 to 1975	in 1976	average of the years 1971 to 1975	in 1976
Cabbage	6.7	6.0	123.6	114.5	184.2	189.7
Onion	8.9	5.9	119.0	82.3	147.2	139.7
Green peas	28.5	29.8	168.7	185.4	59.2	62.3
Tomatoes	14.9	13.9	336.1	347.7	224.8	250.4
Green paprika	11.3	8.9	124.0	81.1	109.7	91.2
Spice paprika	8.3	9.4	53.2	62.2	64.2	66.1
Melon	1.5*	1.0*	12.0**	7.0	67.1**	60.7
Water melon	12.5*	7.0*	74.1**	76.0	105.3**	103.6

*Sown area
**1970 data

has not changed except for little fluctuations. During the last one and a half decade the sown area of green paprika has increased considerably despite a decline in 1976 relative to the average of the years from 1970 to 1975. Relative to the average of the same years also the area of melon, water melon and onion lands decreased in 1976 but the rest remained substantially unchanged.

As to the crop, marked fluctuations have been recorded during the last years, which has been due first of all to the fluctuations in average yields and to the important effects of the weather. The other main reasons of the stagnation and uncertainty of production have been the delay in and the considerable input requirements of the introduction of adequate up-to-date technology.

Although among the countries studied Hungary has the best indicators after Bulgaria with respect to vegetable production and consumption, her situation still cannot be unambigously regarded as favourable. The current situation is, namely, not a stage in a dynamical stepping-up cycle but still a state of instability.

It is characteristic of the Hungarian vegetable production that, under the effect of fluctuations in average yields and in the area sown, the yearly quantity of production shows big differences. According to long-range trend studies the actual crop is dispersed around the expectable crop by ±7 percent, and thus the vegetable supply level of a given year and, consequently, the export possibilities can be estimated only with quite big uncertainty.

In the Research Institute for Agricultural Economics computations were made about the predictable development of vegetable production till 1980 [3]. Its data for the more important kinds of vegetables are presented in Table 4.

Table 4
Hungary's expectable vegetable production in 1980

Specification	Average yield	Total crop
	in percentage of that in 1975	
Cabbage	104	105
Tomatoes	118	114
Cucumber	120	109
Onion	111	106
Green beans	111	120
Green peas	126	134
Green paprika	98	102
Spice paprika	109	112

These research results also justify enhanced efforts at the development of vegetable production. These are requirements of domestic consumption and are also warranted by export considerations.

In view of the predictable vegetable shortage of the other countries the vegetable exporter position of Hungary can be maintained among the European CMEA countries. These countries will continuously demand most of the Hungarian vegetable types but only if the always more exacting demands of the partner countries can be met with respect to both quality and assortment and in every season, since a continuous adaptation is necessitated also by the development of the division of labour in the field under study.

According to projected data of the previous years the predictable shortages in the CMEA countries can be estimated at 1,4–1,5 million tons in 1980 and at about 1 million tons in 1985. The present importers and exporters will retain their positions, Romania's significance as an exporter might increase provided that the imposed tasks will be fulfilled.

Fruit production and consumption

In 1976 Hungary's fruit production was near to 1,5 million tons. According to my own computations relying on the data of [5], this quantity is somewhat less than a tenth of the total fruit production of the analysed CMEA countries.

Distribution of fruit production in the CMEA countries in 1976

	per cent
Bulgaria	6.2
Czechoslovakia	2.8
Poland	11.2
Hungary	8.9
German Democratic Republic	3.7
Romania	8.1
Soviet Union	59.1
Total	100.0

A big part, nearly 60 per cent, of the fruit production of the European CMEA countries was supplied by the Soviet Union with a total of about 15 million tons.

Fruit production in Hungary in 1976 was higher than the average of the years 1971 to 1975 by 104.000 tons, and has shown a slightly upward tendency. In Hungary the most important fruit with respect to quantity and the value of output is apple. Its production increased by 224.000 tons in the said period and its share in the total has further increased during the last five years. The crops of the other fruits, except for almond and chestnut which are of little importance, have strongly decreased.

The position of apple is extremely important both for domestic consumption and exports. The per capita apple consumption of the population amounts to 35 kgs. That is, a significant part of fruit requirements is satisfied from apple, and nearly all the year round.

Hungary is the first apple exporter among the CMEA countries, in 1976 foreign sales were 400.000 tons. Bulgaria and Poland also export large quantities of apples but they are still under one-tenth of Hungary's exports. Romania exports 12–13.000 tons of apples. Hungary is thus the most important apple producer and exporter of Central and Eastern Europe. None of the CMEA countries export fruit in quantities similar to Hungarian apple exports, not even in total, although the grape exports of Bulgaria and Romania are considerable. In 1976 Bulgaria exported 93.000 tons of grapes and in the said year also Romania's grape exports reached 44.000 tons.

Berries and early drupulets play very important roles in the production, consumption and foreign trade of the countries studied. In Poland it is contemplated to increase the 1975 horticultural area, 70.000 hectares, to 108.000 hectares by 1980, and from this 48.000 hectares will be used for the production of berry fruits. Poland is among the world's first strawberry producers and exporters, and her cherry, sour cherry, currant, raspberry and gooseberry production is also significant.

Table 5
Fruit production in the European CMEA contries

Country	(thousand tons)			
	1970	1974	1975	1976
Bulgaria	2328	2003	1999	2233
Czechoslovakia	726	460	616	671
Poland	1189	1139	1381	1864
Hungary	2051	2162	2168	2224
German Democratic Republic	546	432	643	516
Romania	1934	2171	2283	2886
Soviet Union	11690	12435	14235	15252
of which: grape				
Bulgaria	1040	885	885	1207
Czechoslovakia	138		209	209
Hungary	743		813	742
Romania	760		1182	1536
Soviet Union	4011		5400	5435

Source: [5]

Table 6
Development of fruit production in Hungary

Specification	average of 1971 to 1975	in 1976	Predictable change in percentage of 1971 to 1975	
	1000 tons		1980	1990
Fruit production, total	1331.1	1435.2	125	148
of which:				
Apples	749.6	973.9	134	163
Pears	94.1	76.2	119	105
Quince	5.6	5.4	–	–
Cherry	29.7	25.9	102	101
Sour cherry	39.5	24.9	129	190
Plums	208.4	152.4	93	79
Apricots	66.1	47.9	127	106
Peaches	114.9	103.6	95	103
Almonds	1.7	2.1	–	–
Nuts	18.4	18.4	108	126
Chestnuts	2.6	4.0	95	215
Others	0.5	0.5	–	–
Berry Fruits	47.5	46.8	–	157
Of which:				
Gooseberry	8.2	8.7	83	121
Currants	7.4	9.8	86	108
Raspberry	17.2	11.4	122	126
Strawberry	14.7	16.9	169	154
Total of fruits and berries	1378.6	1482.0	–	–
Grape	821.7	741.9	118	144
From that sold for direct consumption	67.2	58.4	119	149

Note: The 1971–75 and 1976 data are those of the Central Statistical Office, the prognoses for 1980 and 1990 were computed from the data of the Research Institute for Agricultual Economics.

Drupulets are represented mainly by apricot and peaches in Czechoslovakia. Here the most frequently cultivated kinds are strawberry, currant, raspberry and sour cherry.

In the Soviet Union cherry, peaches and strawberry are listed among the favourite fruits. Sour cherry is a leading product as a base material of their fruit products.

It is remarkable that though nut and hazel-nut are traditionally consumed, their production has not developed recently.

According to FAO estimates [1] per capita fruit consumption in the CMEA countries will be foreseeably the highest in Bulgaria (91,4 kgs), Hungary (89,4 kgs) and the German Democratic Republic (80,5 kgs) and will be above 60 kgs in Czechoslovakia and Romania.

If the data of per capita production and consumption are compared, the countries can be classified according to fruit (including grape) self-sufficiency as follows:

Table 7
Development of per capita fruit production and consumption in the CMEA countries
(kilograms)

Country	Production in 1975	Consumption	
		1975	1980
Bulgaria	229	80.7	91.4
Czechoslovakia	42	60.2	68.3
Poland	41	35.7	44.6
Hungary	206	79.2	89.4
German Democratic Republic	38	70.8	80.5
Romania	107	54.2	62.7
Soviet Union	56	28.6	33.0

Note: The data include grapes too; per capita production data are given according to the CMEA nomenclature and consumption data according to the FAO nomenclature.

Source: [5], [1].

1. self-sufficient, or nearly self-sufficient: Romania
2. capable of exporting above self-sufficiency: Bulgaria, Hungary
3. self-sufficiency can be attained only on the long run (or self-sufficiency is even precluded by objective difficulties): Soviet Union, Czechoslovakia, German Democratic Republic, Poland.

According to our estimates a fruit shortage of 7 to 8 million tons can be expected in the European CMEA countries in 1985. The shortage will be the biggest presumably in the Soviet Union, and the other countries which have been importers till now will continue to need imports. A high rate of urbanization and rising living standard enhance demand to such an extent that even with the most successfully implemented fruit production projects only the steady increase of imports is controlled rather than increasing the degree of self-sufficiency appreciably.

Development of Hungarian foreign trade in vegetables and fruits

65 per cent of the Hungarian vegetable exports and 91 per cent of fruit exports were directed to the European CMEA countries in 1976. 79 per cent of the exported processed vegetables and 69 per cent of exported canned fruit was sold in the CMEA countries. Looking back to the situation of five years ago the foreign trade turnover has shown a clearly increasing trend in fresh vegetables and fruits while a downward one in processed commodities. The proportions by countries show strongly varying tendencies.

Table 8

Changes in the pattern of Hungarian exports to the CMEA countries

Country	Vegetables		Canned vegetables		Fruits		Canned fruits	
	1971	1976	1971	1976	1971	1976	1971	1976
Czechoslovakia	33.9	42.6	1.4	0.3	22.5	14.0	1.0	2.3
Poland	3.5	4.1	0.3	0.3	4.1	1.1	4.9	4.8
German Democratic Republic	40.0	36.6	17.8	10.8	27.7	21.3	27.6	35.6
Soviet Union	20.6	16.7	80.5	88.6	45.7	63.6	66.5	57.3
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

In the last five years only the share of Czechoslovakia in vegetable exports and that of the Soviet Union in fruit have increased within exports to the CMEA countries.

In the period under analysis the proportion of canned vegetable exports to the German Democratic Republic and to Czechoslovakia increased.

The Soviet Union is the most important buyer of fresh and processed vegetables and fruits: in terms of volume it imported three times as much as the German Democratic Republic and eight times as much as Czechoslovakia. The Soviet Union imported 63,6 per cent of fresh fruits and 16,7 per cent of fresh vegetables exported to the CMEA countries. In the last five years Soviet fresh fruit imports from Hungary have increased from 128,000 tons to 247.000 tons, while its vegetable imports have decreased from 7000 tons to 6000 tons.

From the exports of processed vegetable and fruit products the Soviet Union has an even bigger share than from the exports of fresh goods: it imported 88,6 per cent of the Hungarian canned vegetable exports and 57,3 per cent of canned fruit exports to the CMEA countries. In the previous five-year plan period the Soviet Union stepped up its canned vegetable imports from Hungary and reduced the imports of canned fruit.

From the vegetables and fruits apple is bought durably and in bulk by the Soviet Union. The quantity of apple bought in the past five years doubled: imports by the USSR increased from 125.000 tons in 1971 to 245.000 tons by 1976.

Table 9
Some important vegetables and fruits exported from Hungary to the Soviet Union
(1000 tons)

Product	1971	1976	Growth (+) or decrease (–)
Apple	124.8	244.9	+120.1
Canned green peas	62.9	64.1	+1.2
Pickles	55.5	58.0	+2.5
Fruit conserves	44.0	29.4	–14.6
Mixed pickles	43.6	28.1	15.5
Dry peas	–	2.9	
Cabbage	3.2	2.9	–0.3
Tomato paste	2.6	2.6	0
Puree and jams	2.8	2.4	–0.4
Canned delicate vegetable garnish	–	1.4	
Canned letcho*	16.6	1.2	–15.4
Peaches		1.0	
Pears	3.0	1.1	–1.9

*Hungarian dish made of stewed onions, tomatoes and paprika

Soviet demand increased considerably only for apple; growth is less marked with respect to canned green peas and pickles. There was a recession in 1976 relative to 1971 in most products. Data on apple production in the Soviet Union are not available, but by data on its apple imports reaching back to a long period a continuing significant and durable demand may be expected on its part. As said, the Soviet Union was the biggest apple importer among the CMEA countries, its demand was in the order of 100.000 tons already at the beginning of the 1960s. Only Hungary is capable of exporting such quantities from among the CMEA countries. Bulgaria's apple export capacity is 30 – 50.000 tons, Romania's 10 – 18.000 tons, and Poland's is around 15 – 22.000 tons.

As to fruits other than apple, also the Soviet imports of Hungarian peaches have increased in recent years and a continuing increase of Soviet demand for this fruit can be expected.

The Soviet Union produces 160 – 170.000 tons of green peas a year, and beyond that it imported for example in 1976, 64.000 tons of it in processed state. On the basis of this quantity and in view of the doubling of green peas production in the Soviet Union in

20 years it may be assumed that it is more and more important in their diet and consequently its imports will predictably keep on increasing. The situation is similarly favourable and promising good opportunities for tomatoes, cucumber and also other kinds of vegetables.

The German Democratic Republic is an important purchaser of Hungarian vegetables and fruits. Apple leads their demand for fruit, in 1976 more than 70.000 tons were imported and the volume of imports has increased significantly in the last five years. The German Democratic Republic has an apple production around 300.000 tons but her production cannot be increased much any more, so the imports of Hungarian apple can be regarded as lasting.

It is indicated also by the data of Table 10 that the German Democratic Republic imports many kinds of vegetables and fruits from Hungary and even if the data of the years 1971 and 1976 recorded decreasing imports of most products the German Democratic Republic is still considered as a market of growing opportunities for the Hungarian vegetable and fruit exports.

From among the European CMEA countries Czechoslovakia is the third biggest vegetable and fruit market of Hungary. Again, apple is the most important export item.

Table 10
Some important vegetables and fruits exported from Hungary to the German Democratic Republic
(1000 tons)

Product	1971	1976	Growth (+) or decrease (–)
Apple	55.4	71.9	+16.5
Fruit conserves	18.1	17.5	–0.6
Canned delicate vegetable garnish		4.4	
Cabbage	2.5	4.3	+1.8
Peache	10.0	4.3	–5.7
Melon	4.3	4.1	–0.2
Canned green peas	7.1	3.4	–3.7
Plum	5.8	2.9	–2.9
Grape	2.7	2.4	–0.3
Tomato	4.6	2.4	–2.2
Deep-frozen vegetables and fruits	5.2	2.1	–3.1
Apricot	3.2	1.9	–1.3
Canned letcho	5.8	1.7	–4.1
Pear	2.2	1.6	–0.6
Pastes and jams	0.9	1.7	+0.8
Beans		1.4	
Tomato juice	0.9	1.5	+0.6

Czechoslovakia also buys from Hungary some 200 to 400.000 tons of plum, apricot and strawberry. From vegetables there is considerable demand for cucumber, lettuce, beans. Specialization is carried on in Czechoslovakia in vegetable and fruit production, and a government resolution prescribes enhanced future care for the coordination of production and procurement. The implementation of this task should considerably improve vegetable and fruit supply in Czechoslovakia.

Table 11
Some important vegetables and fruits exported from Hungary to Czechoslovakia
(1000 tons)

Product	1971	1976	Growth (+) or decrease (–)
Apple	54.6	51.0	–3.6
Melon	–	8.2	
Tomato	4.0	2.1	–1.9
Peach	4.2	1.8	–2.4
Cabbage	0.8	1.9	+1.1
Carrot		1.7	
Grape	2.5	1.1	–1.4
Canned fruits	0.3	1.3	+1.0
Pickles	1.6	0.5	–1.1
Canned green peas	1.5	0.4	–1.1

Table 12
Some important vegetables and fruits exported from Hungary to Poland
(1000 tons)

Product	1971	1976	Growth (+) or decrease (–)
Dry peas	–	5.7	+5.7
Apple	5.0	2.5	–2.5
Fruit juices	2.5	1.8	–0.7
Melon	2.8	1.5	–0.7
Peach	4.0	1.4	–2.6
Canned fruits	0.7	0.9	+0.2
Paprika	3.9	0.8	–3.1
Apricot	2.4	0.4	–0.4
Canned green peas	0.6	0.2	–0.4
Tomato	1.5	–	–1.5

Between 1973 and 1977 Poland increased its vegetable and fruit exports to the socialist countries by 17 per cent, and to the capitalist countries by 19 per cent on annual average. The role of this commodity group is expected to further increase between 1978 and 1980 in her exports, especially as far as fruits are concerned. The ratio of deep-frozen and fresh products will increase as against the processed goods. The fresh vegetables and fruits (mainly onion, carrot, apple, strawberry) are bought mainly by socialist countries. The main export items to capitalist countries are: onion, strawberry and red currants. Poland is also an important potato exporting country. In Polish exports the importance of onion is growing the fastest, otherwise in the exports of fresh vegetables and fruits no significant changes in assortment or export may be expected till 1980. The assortment of Polish vegetable and fruit products is considerable. Processed products have been bought till now mainly by the socialist countries, but Poland intends to boost exports till 1980 first of all to the West European countries (the Federal Republic of Germany, Great Britain, Sweden) as well as to Australia. The main importers of Polish semi-products (pulp, grape juice, squash) are also the socialist countries (the German Democratic Republic and Czechoslovakia) but from among the Western countries the Federal Republic of Germany and Sweden also purchase big quantities of these products. The exports of deep frozen products have increased in recent years. After Mexico, Poland is the world's second deep frozen fruit exporter.

There were no regular Bulgarian and Romanian imports of Hungarian vegetables and fruits, fresh or processed either in the more remote past or during the last five year plan period. (In 1976 Romania bought a small quantity of canned fruit and seasonings.)

In Romania it is planned that presumably 4,7 million tons of vegetables will be harvested in 1980, which means an about 30 per cent increase in four years (i.e., relative to 1976) and an annual 7,5 per cent growth. With this yearly per capita vegetable consumption can be increased to 120—140 kilograms. They hope to attain this goal through the expansion of greenhouse vegetable cultivation. In 1968 Romania did not export any greenhouse vegetable but now it ships about 100.000 tons a year abroad to more than fifty countries. Also her exports of fresh fruits develop dynamically, they increased from 25.000 tons in 1970 to 100.000 tons in 1977. Romania exported 40.000 tons of canned vegetables in 1971 and as much as 120.000 tons in 1977. There is a big foreign demand for the Romanian agricultural products.

The indicator of per capita vegetable and fruit production showing the production capacities of the European CMEA countries indicates substantially different levels. In 1976 it was the highest both with respect to vegetable and fruit production in Bulgaria. Hungary is the next one. In the other five CMEA countries either only vegetable production or only fruit production are of adequate volume but the two together are not on a close level in either of the countries. For example per capita production is above 100 kilograms in Poland of vegetables and in Romania of fruits. Per capita production of the other countries are below 100 kilograms as regards both fruits and vegetables. A comparison of these data with those of consumption shows that most European CMEA countries cannot provide the quantity and assortment of fruit required for healthy

nutrition. It is true that the desired quantity cannot be established as a rule since the eating habits are different even inside a country. It is nevertheless indisputable that about 100 kilograms of vegetables and 110 kilograms of fruits might be recommended per person.

The Hungarian vegetable and fruit exports to CMEA countries are growing both in fresh and in processed products, but at a rate usually decreasing by products. This is a warning that the production pattern of the vegetable and fruit sector must be revised bearing both domestic and foreign demand in mind. Increasing foreign demand undoubtedly results in further specialization but the optimum proportions of specialization can be only guaranteed by the pattern of domestic consumption.

The production pattern established on the basis of domestic consumption and export demand is at the same time the basis of the vegetable and fruit processing industry. The latter is highly interested in exports, for example only about a quarter of the canned vegetable output and about 45 per cent of deep-frozen products are sold on the domestic market.

In this field our most important partners in foreign trade are, among the CMEA countries, the Soviet Union, the German Democratic Republic and Czechoslovakia.

The steadily growing and lasting importance of the Soviet market is guaranteed also by a complex agreement valid till 1990. Fresh and canned vegetable and fruit deliveries are important items of this agreement. Our market relations with the German Democratic Republic are fostered by another complex agreement also effective until 1990. The Czechoslovak imports of Hungarian vegetables and canned fruits increased in the past five years while the imports of fresh fruits and canned vegetables decreased. Development opportunities can thus still be found in this field.

Great future efforts must be made at keeping our CMEA markets, as each CMEA country aspires at improving the degree of self-sufficiency also in vegetable and fruit consumption. Even the countries with unfavourable conditions are able to meet the requirements of ordinary vegetables from home production.

In the 1970s measures were taken in the CMEA countries for boosting production in the household plots. In the Soviet Union, household plots give 27 per cent of vegetable production, 42 per cent of fruit production and 62 per cent of potato production. In Bulgaria, where the rôle of household plots is of the smallest significance among the European socialist countries, these farms yield 48 per cent of potatoes, 20 per cent of vegetables and 31 per cent of grapes. In Hungary at present 30 to 32 per cent of all vegetables are produced in household plots and auxiliary farms, and also fruit production is considerable in household plots, especially with respect to the early and labour-intensive types of vegetables and fruits. Even if the importance of the household plots diminshes in the CMEA countries, their production is an indispensable item in the production, consumption and foreign trade of the vegetable and fruit sectors. The household plots must be therefore taken into account in the development of the sector.

It is a very important task that our exports should be regular and steady. This affects production decisively and also has a feedback effect.

Quality requirements are also attaining ever higher importance, calling for the further development of this sector. Starting from sowing seeds through the use of the latest technologies we have to reach to the point of complete coordination between production and processing. Close and precise cooperation is a must between agriculture and the processing industry in order to turn out products which can be sold anywhere in the world (such as deep-frozen potato products, spinach, green peas, Brussels sprouts, carrots, maize, etc.) but this belongs already to the field of market research.

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BOOK REVIEWS

SIMAI, M.: *Kölcsönös függőség és konfliktusok a világgazdaságban* (Mutual dependence and conflicts in world economy.) Budapest, 1978. Közgazdasági és Jogi Könyvkiadó. 314 p.

The external conditions of Hungary's economic development grew markedly worse in the mid-seventies, and we have to reckon with these negative effects permanently as long as the acute problems of the Hungarian export structure will not have been solved. M. *Simai*'s latest work tries to assess practically this new period of economic history with the tools of economics exploring the future if not with those of a monograph in economic history. The international relationships and their presumable medium or long-term tendencies are looked upon not in themselves but are analyzed from the point of view of a definite guiding principle, i.e. the mutual dependence of states, regions, continents and world systems. That is why the book does not depress the reader by its sheer size, despite the general grasp, the interrelations and weight of the problems examined. The content is selected and arranged with a steady hand by the author, so that he has succeeded in presenting the world-wide panorama of mutual dependence on hardly more than 300 pages. After a critical survey in the first part of the questions of internationalization, the category of mutual dependence and its different interpretations, the author proceeds to examine the medium-term prognosis of international relations and the so-called global problems of the world, the defensive and adaptive mechanisms of national economies, the institutionalized international system of interstate relations and – last but not least – the problems of Hungarian foreign trade and the new world economic environment.

In the internationalization process of states or macroeconomies the following main stages are distinguished by M. Simai: *isolated interactions* (e.g. Hungarian–Japanese, Hungarian–Chinese relations), then the period of *intensive interactions,* where "although the elements of mutual dependence have come into being, they are not strong enough to affect the circumstances of existence, the internal and international conditions for the individual states." This is nowadays characteristic of relations between the socialist and the developed capitalist countries of Europe. The relations established among the developed capitalist countries during the past 30 years may be characterized by the category of *interdependence or complex interdependence,* where the life and existence of a state is manysidedly intervowen by the consequences of the life and existence of other states. That is why their aims on both the political and economical fields can only be realized if the existence and effect of the other countries are also taken into account.

According to the author, this category excludes the international relations between the politically oppressed and the oppressors of "empires". Although this statement cannot be argued literally nowadays, the relations among the developed capitalist countries are not entirely free from past or present "imperial" elements. Examples for the above situation are the relations between Great Britain and the erstwhile "white" dominions, which gradually adapted themselves

to the course of multilateralization along with the suppression of the purely bilateral imperial elements. The lessons from the multilateralization of the past 30 years from the introduction of convertibility are of much greater importance: this process was started by the USA with the help of genuine "imperial" means relying on her hegemony achieved in World War II. Later on, essentially by the present decade, she has attained such totally asymmetrical international financial positions that are able to influence decidedly even the capitalist subsystems relying on "complex interdependence" that has come about on a regional basis (Common Market).

The most developed stages of internationalization would be the *economic integration* and the *economic union of states.* Professor Simai – after having surveyed the different definitions formulated at the Budapest World Congress of Economists in 1974 – does not take any definite standpoint as to the notion of economic integration, i.e. he does not make clear what he takes for the basic criteria of economic integration. He seems to agree with the definitions of the economists *Maksimova,* (Soviet) J. *Nyilas* and T. *Palánkai* (Hungarian), but any synthetization of the above definitions fails to come about.

The author is convincing when he says that economic integration has not been reached even by the socialist and capitalist countries belonging to the two most developed integration, the EEC and the CMEA. But he seems to overestimate the possibilities of regional integration in this context too: "For the nearest future the regional approximation on economic or political basis is more realistic than a global attempt at easing the contradiction between the forces of production having outgrown national borders and the narrow markets." (p. 50) The world economic developments during the sixties and especially the seventies show the forging ahead of globalization. The special problem of integration for the developing countries, manysidedly discussed in the book, obtains its real importance only in this context.

In the second part of the book the most important characteristics and predictions of the system of international economic relations are surveyed. This part essentially relies on the medium-range forecast of the Institute for World Economics of the Hungarian Academy of Sciences made in 1976 and recently updated. This prognosis rendered the development of such medium-range trends probable that require a great degree of flexibility and adaptability from the Hungarian economic policy and export structure, particularly in consideration of the expectable development of the world market prices of raw materials and fuels, the great instability of the international credit and monetary system and the significant politicization of world economic relations. Professor Simai's book makes these expectable trends now evident for the broader public.

In the third part of the book some of the long-term world models constructed during the first half of the seventies to deal with the probable development of global problems are presented and evaluated; namely, the two world models made by the Club of Rome and the world economic prognosis worked out for the United Nation's Organization. They are not only separately presented but compared to each other and criticized as well. Simai's book makes at this point some significant "white spots" disappear from the Hungarian economic literature dealing with the questions of world economy. It must be noted, however, that in the judgement of the interactions between environmental protection and growth his criticism appears not to have been able to take into consideration the results – although not yet final – of some recent researches according to which the expenses on environmental protection rather increase employment, technical progress and growth by creating new branches of industry. As to the increased expenditures on the environmental protection of the traditional branches of industry we face the statistical problem that while the excess expenses can be measured, the improvement in the quality of the environment cannot be, for the time being, unambiguously quantified, neither do they appear in such traditional indicators as GNP and its growth or productivity on national economic level.

In the fourth part of the book ("National and international mechanisms for protection and adaptivity") we draw very near to the acute problems

of the Hungarian economy and economic policy. It is basically true that "... a model of economic policy starting alone from national economic conditions... leads necessarily to acute internal and international conflicts in a world of mutual dependence". (p. 230) In connection with this the significance of structural changes and adaptability is analyzed and, in this context government interference, the different fields of old and modern protectionism, relations between the developing countries and transnational companies and, in general, the complex problem of how the developing countries should fit into the world economy are discussed. In the last part of the book M. Simai deals with questions of Hungarian foreign trade strategy in the new world economic situation. The zone of development where Hungary is found – i.e. the upper verge of the medium and the lower limit of high development – is one of the danger zones in the world economy, he stresses (p. 292). So the right export strategy "... must not interpret economic security narrowly, in a defensive manner and the elements of risk and uncertainty must also be reckoned with." (p. 290) The main direction for the modernization of the economy is indicated – properly – in the modernization of the technological basis and not in the forced and mostly irrealistic restriction of imports of raw materials: the main problem of the economy in the last resort is not the great and even growing dependence on import materials but the low efficiency and quality in the production of finished goods, as M. Simai points out. (p. 293) From the point of view of accomplishing these tasks the increase of the CMEA collaboration and, at the same time, the expansion of multilateral, global world economic relations have the foremost importance.

GY. BECSKY

HOCH, R.: *Consumption and price.* Alphen ann den Rijn – Budapest, 1979. Sijthoff and Noordhoff – Akadémiai Kiadó, 480 p.

The book "Consumption and price" by Robert *Hoch,* published in Hungarian in 1972, was already reviewed in Acta Oeconomica Vol. 11 No. 4. Since then it has been published also in English in 1979. For the English edition the author inserted a new chapter based on his current research, containing the critique of indifference surfaces (Critique of the doctrine of indifference surfaces, op.cit. Chapter VII. pp. 187–223.) This chapter will be reviewed hereunder. The main objective of the critique is to show that the modern subjective theory of demand does not differ in substance from the 'classical' theory of marginal utility.

The indifference theory is described with two complexes of ideas. The first one arrives at the statement that every set of goods represents sums of utilities which can be characterized at least by judgements 'equal to', 'more than', or 'smaller than', and whose volumes depend on the quantity and relative share of the goods of which the stock is composed, assuming that the subjective scale of needs of the individual is given. The consumer's behaviour, or more exactly his demand, is determined by the endeavour to maximize utility.

The second complex of ideas is concentrated on substitution postulating the homogeneity of needs and that they can be summed into a homogeneous total. While the first approach is found both in the classical and the modern theory, the second one is specific to the modern theory. The author shows the conceptual congeniality up to the degree of identity between the ordinalist approaches. On the one hand, the theory of additive preferences is virtually a return to the cardinalist concept and, on the other hand, the assumption of the cardinalist measurability of utility is necessary for welfare economics too, when the individual indifference surfaces are to be aggregated into social indifference surfaces.

The author judges the concept of consumer choice maximizing utility to be irrelevant even in its praxeological form which tries to approximate reality as much as possible. What is the use of rationality when rationality does not have objective contents? "Rationality here is of a subjective sense. What does the consumer feel better and best? What, then, is the practical advice to the consumer? The consumer should choose what he likes best." (p. 200) Then he goes on to state: "On the one hand, the system of this theory" (utility theory, É. R.) "is

becoming more and more monumental. On the other hand the more monumental it is, the less it has to say." (p. 201)

The author subjects two basic assumptions of the indifference theory to his criticism:

1. maximization of total consumer utility in the framework of purchasing power, and

2. the idea of general substitutability.

The author proves that consumer utility is a vector quantity and therefore the notion of 'smaller than', 'more than' or 'equal to' concerning the relations between two utilities cannot always be interpreted. Therefore the indifference theory is strongly contestable already from the mathematical point of view, and its inconsistencies are still greater with respect to the social aspect. There exist consumers' preferences but they are socially determined and by no means independent from income and price conditions. Besides, the author notes, it is rather doubtful whether the individual preferences assert themselves in purchases. It is at least as justified to speak about family preferences, moreover, the members of society also influence each others' needs.

The author interprets the consumer's preference scale which he feels to be realistic not irrespectively of prices but on the price plane and substitutes the state of equilibrium for maximization of utility. In his opinion those points of consumption (combinations of goods) are indifferent which the consumer feels proportional and balanced under the given price and income conditions. It follows that with given prices and incomes the optimum is, from the consumer's point of view, not a point denoting a combination of goods but a vaguely outlined patch denoting a set of combinations of goods. The interpretation of consumer preference determines the interpretation of substitutability too. Since the preference scale depends on relative prices, substitution is determined again by relative prices, that is, the proportions of substitution are directly identical with the relative price proportions. However, substitutability is not general at all. The author thoroughly and painstakingly analyses the nature of needs and their substitutive and complementary nature, and proves the limited validity of substitutability. As a very plastic illustration he contrasts food with industrial products.

Three circumstances contributed to the author's thorough critique of the indifference theory, namely, his deep knowledge of the literature and his mastery of Marxist theory and of planning practice.

É. RADNÓTI

KORÁN, I.: *Gazdasági prognosztika* (Economic forecasting.) Budapest, 1978. Tankönyvkiadó. 263 p.

BESENYEI, L.–GIDAI, E.–NOVÁKY, E.: *Jövőkutatás, előrejelzés a gyakorlatban. Módszertani kézikönyv* (Futures research and forecasting in practice. A methodological handbook.) Budapest, 1977. Közgazdasági és Jogi Könyvkiadó. 290 p.

BORLIK, K.–SIPOS, B.: *Iparvállalati prognózis-készítés matematikai, statisztikai módszerekkel* (Forecasting for industrial enterprises with methods of mathematical statistics.) Budapest, 1977. Közgazdasági és Jogi Könyvkiadó. 254 p.

Futures research in Hungary – especially futurology, but forecasting as well – has caught up relatively late with the countries more developed in this field, only in the late 1960s. From the 1970s on an increasing number of studies, articles and publications dealing with or relating to the subject of forecasting has been published in journals and the publication of such books has begun as well. A significant part of these publications is aimed at laying the theoretical foundations of this science and practice, to a certain degree novel in Hungary, and at answering essential questions relating to the terminological, philosophical, ideological and planning aspects of this descipline. In this stage of development methodological, practical and educational works played an important role.

The last two years saw the publication of books on forecasting in Hungary, which not only give a true picture of the well-known methods and concepts, but also provide information about the concrete practical application of the methods in Hungary and about their results as well.

Imre Korán's *Economic forecasting* is meant to be a matter of fact text-book but it intends not only to familiarize with and teach the forecasting methods. In the first part of the book entitled *Principles* a theoretical and didactic basis

is laid. The second part, entitled *Methodology* deals with the forecasting methods themselves, with the partly traditional classification of and gives an expert introduction to the methods. The third part of the book, entitled *Application* presents examples of forecasting selected with educational purposes in view.

There is no doubt that the first part of the book covers the greatest amount of most up-to-date information about the theory of futures research. Futures research is brought into relation with the acceleration of economic changes and it is described as a new scientific discipline aimed at exploring the accelerated economic and social development with several variables. Focusing on one of the basic questions of forecasting the author examines what kind of methods can be applied for setting the time horizon of economic forecasting for different subjects to be prognosticated. When making models for the spatial fluctuation of economic growth he differentiates the one-dimensional 'level-raising', the two-dimensional diffusing, and the three-dimensional resultant movements and determines the methods most suited to their properties. He gives an interesting interpretation of economic moving powers, scopes of movement, systems of powers, the potential attracting and repelling powers exerted by markets and the scientific-technological revolution as a lifting power, while drawing attention to the forces restraining progress and delaying development as well. He stresses the necessity of the systems approach in forecasting and explores the eligible types of systems, systems-technical methods, systems models, the position and role of the economic sub-system in the complex system of the world, he outlines an eight-level economic systems hierarchy, and enumerates the principles and methods of systems approach. In this general part the forecasting aspects of the international division of labour, especially foreign trade, and within it, price levels on foreign markets, price structures, relative prices, price factors and their influences are examined as well.

The second part of the book deals with the particular problems of the forecasting methods. After a review of the development of the methods the author classifies the methods into six categories and describes them according to this classification. These categories, that is, methods are: analytical extrapolation of time-series; procedures relying on expert opinion and surveys (where the Delphi-method, scenario-writing and morphological methods are put in the same group); the application of historical, geographical, technical, biological analogies; summarizing modelling methods (like, for example, linear programming, input-output analysis and other modelling); procedures applying the normative principle (for instance, hierarchical decision patterns, functional network-modelling, (PERT, CPM, etc.) systems analysis); finally – described in detail in an appreciative manner – the feedback methods, cybernetic models, first of all the industrial and systems dynamic method according to Forrester. The understanding of the methods is facilitated by the frequently applied schematic representation, illustrations, graphs and references to literature and practice.

The relatively shorter third part on application is not a collection of case studies but rather an outline of and introduction to methods for solving certain concrete research problems. This part includes, for example, the problem of the interrelation between market demands and technological development through the example of forecasting the demand for *incandescent lamps + tubes, the question of starting the innovation procedures at the enterprises by including the element of the value of production licences* forecasting of the main development trends of *iron products and ferrous metallurgy*, thoroughly utilizing the rich experiences of the author. International cooperation in forecasting and the problem of prognoses comprising the world economy (world models) and in this context the regionalized multi-level world model of Mesarović-Pestel are presented in the last chapter of the book.

The book contains a carefully and thoroughly selected bibliography that greatly helps a further study of the problems of economic forecasting.

To evaluate the book it is sufficient to say that the book is rich in up-to-date information and with its clear interpretation it is not only an excellent text-book and a guide to forecasting but a monography as well suited for stimulating forecasting research with its subjects, thoughts, and ideas.

As it is indicated by its sub-title, Besenyei–Gidai–Nováky's *Futures research and forecasting in practice* is explicitly and more typically a methodological handbook. This book also consists of three parts. The first part entitled *The system and characteristic features of futures research activity* clarifies the fundamental concepts of futures research then the relationship between futures research and planning, and the emergence of futures research, together with its international literature are outlined. Among the features – or rather requirements – of futures research it enumerates the probability character, heuristics, systems approach, and quantifiability appearing on several levels and the reduction of uncertainty which is considered the most important task of futures research. After this the order of the general procedure of forecasting is introduced which is also observed later as well when describing the different methods.

The second part entitled *Futures research methods* deals with the major forecasting methods. After a review of the known kinds of classification, the authors themselves divide the methods into three groups.

The first group involves the forecasting methods based on mathematical statistical procedures, the forecasting methods relying on time-series and those made on the basis of the projection of stochastic relationships. The introduction of the methods deriving from statistics is illustrated with practical charts and numerical examples. (This chapter was written by Lajos Besenyei.)

The second group includes methods based on expert opinion (oral and written), like for instance, brainstorming, Philipps 66, brainwriting, impersonal collective interview of experts, without and with feedback (Delphi, SEER). The introduction of the combinations and possible classifications of methods based on expert opinion and the evaluation of the critical points in practical application are remarkable. Each method introduced is illustrated with some interesting examples, thus, for instance, the questionnary elaborated on the basis of brainstorming organized for a television broadcast and relating to the prospective *way of life in 2000* in Hungary; the Delphi method applied by the Hungarian Academy of Sciences relating to the development of *solid state physics;* the collective expert opinion method to forecast the development of the *light and textile industries,* combined with a mathematical-statistical procedure and with checking on the experts' competence yielded more reliable results then the single method forecasting. (The surveys were led by the author of the chapter, Erzsébet Gidai.)

The third group covers the modelling and systems analysis methods, such as the use of analogies, writing scenarios, morphological analyisis, the PATTERN and CPE systems, methods based on mutual effects as the input-output analysis and the cross-impact method. The introduction of the different methods is preceded by the analysis of the characteristics of futures modelling. When describing the cross-impact method, the book introduces the version developed by the author, Erzsébet Nováky, of this chapter in cooperation with Károly Lóránt. The essence of the method is an algorithm determining the probability of the occurrence of the different events considering the interrelations in a defined system of events; the definition of the value of probability and the forecasting of not easily quantifiable factors represent an improvement on former similar methods as to the future occurence of events.

The book deals relatively briefly with the examination of the reliability of forecasting and emphasizes first of all the importance of the reliability of basic information and of the choice of the method used. Several methods are presented for the examination of reliability.

The third part of the book includes forecasting studies, mainly to illustrate the methods introduced in the second part. The subjects of the studies: for illustrating the application of trend-extrapolation and regression analysis to a pharmaceutical product and to the forecasting of clothing expenses on the basis of 20 families chosen randomly; trend-extrapolation and regression computations with two or several variables, and complex forecasting of the future development of the textile industry in Hungary and the GDR with a two-stage enquiry into expert opinion; finally the forecasting on national economic level of long term *economic growth* in Hungary up to 1990 applying the improved method of cross-input analysis.

The book is complemented by a bibliography enumerating about a hundred and fifty basic works from Hungary, other socialist and Western countries.

An unquestionable merit of the authors of the book is, in addition to the professional review of the models, their instructive presentation of the preparation of forecasts and the prognoses themselves on certain important themes (objects of forecasting) and also the improvement in several cases of the methods demonstrated through combination or other methodological development. The forecasting studies presented in the last part of the book are also interesting. All these more than compensate for the sketchiness of the theoretical introduction.

Borli-Sipos's *Forecasting for industrial enterprises with methods of mathematical statistics* is intended for practical use by industrial enterprises. Having outlined the role of forecasting in the planning of industrial enterprises, the first part introduces mainly the methods based on the study of time-series – as applied in statistics – then the linear programming with regard to production. The second part deals with the forecasting of the labour processes of the industrial enterprises, generally aiming at a review of the numerical methods. In this part the examination of the complex problem of labour forecasting based on the region of attraction of the enterprise is especially interesting.

The collection of methods by the authors may serve with its functions, graphs, tables, illustrations and examples as a useful practical hand-book for forecasting in certain fields of activity of industrial enterprises.

From the above three forecasting-methodological books it is apparent that:

– all the important forecasting methods known from the international literature and forecasting practice have become known and applied in Hungary. This process has been accompanied not only by the choice of the most suitable methods but by the improvement of certain methods, the elaboration and practical testing of new versions of methods and combinations of methods as well. These developments have undoubtedly contributed to an enrichment of the methodology of forecasting.

– in spite of the development certain methodological questions are still waiting for more satisfactory answers. The problem of the scientific classification of the forecasting methods has not yet been settled; the question still waits for further examination whether there are any typical methods of futures research that include some extra features and characteristics with regard to the future over the methods that are but adaptable to futures research.

– in Hungary, in addition to the examination and development of the methods for futures research, there is an important development in their application in the interest of the planned economy. The large-scale forecasting work for the foundation of the recent long-term planning in Hungary is of especially great importance. Several methods mentioned in the above review are taken into consideration and applied in the course of this work.

Á. SCHMIDT

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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.

AUTHORS

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Rezső NYERS, See Vol. 20, Nos 1–2

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TO BE PUBLISHED IN OUR NEXT ISSUE

ZS. DÁNIEL: Reflections on the Development and Composition of the National Wealth of Hungary
R. HOCH: Further Reflections on the Development and Composition of the National Wealth of Hungary
T. LAKY: Enterprises in Bargaining Position
L. HÉTHY: Selection of Enterprise Executives in Hungary: a Case-Study
A. HEGEDÜS–M. MÁRKUS: The Small Enterpreneur and Socialism
R. I. GÁBOR: The Second (Secondary) Economy
Z. ROMÁN: Selection of Indicators for Comparison of Productivity Levels
G. CSAHÓK–GY. SZILÁGYI: Measuring Scales for International Comparisons
F. CSÁGOLY–E. MURAKÖZI: Fundamental Economic Interrelations Underlying the Development of the World Market Prices of Primary Energy
M. HEGEDÜS: Interdependencies between Energy Economy and Sectoral Structure

REVIEWS

A. NYILAS–A. RÁBA: Some Features of the Hungarian Economy in the Late 1970s
E. KOMLÓSY–J. NYERS: International Comparison of the Technological Level of Industry

BOOK REVIEWS

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REVUE TIERS-MONDE

Tome XX, n° 78, avril-juin 1979

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Allocution d'ouverture, par Jean COULOMB

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Michel RODOT. — Energie solaire et développement.

Yaroslav de KOUCHKOVSKY. — Possibilités et limites d'utilisation de la photosynthèse.

Pierre MATARASSO. — Les utilisations énergétiques des végétaux.

Maurice FONTAINE. — La méthodologie des recherches d'écophysiologie fondamentale et appliquée au service du Tiers-Monde.

Baudouin JURDANT. — Créativité et formation des scientifiques.

Michel GLEIZES. — La conception française de la recherche scientifique en coopération avec les pays en voie de développement.

Théodore MONOD. — Plaidoyer pour la diversité.

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II. — Besoins exprimés par les pays en voie de développement

Maheshvar DAYAL. — La Science et la Recherche au service d'un nouveau modèle de développement.

Pierre SPITZ. — La recherche agronomique au service des paysans pauvres du Tiers-Monde.

Luiz PEREIRA da SILVA. — Science, Technologie et Tiers-Monde.

Juan LEITE LOPES. — Transfert de technologie et rôle de la recherche dans le Tiers-Monde.

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Débats: N'Sougan AGBLEMAGNON, Touafik BEN MENA, Souleimane NIANG, Georges SICAULT, Charles MORAZE.

III. — La Coopération scientifique et technique actuelle

Lord Philip NOEL BAKER. — Nécessité de la Recherche scientifique pour l'Aide due au Tiers-Monde.

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Alfred KASTLER. — Le Centre International de Physique Théorique de TRIESTE-MIRAMARE.

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NGUYEN MINH TUONG. — L'Agence de Coopération culturelle et technique dans la problématique du développement.

Hossein NASR. — Quel développement?

Nicolas SKROTZKY. — Information scientifique et développement.

Débats: N'Sougan AGBLEMAGNON, Abdul-Razzak KADDOURA, Pierre AUGER, Louis GROS, Jean COULOMB, Amir JAHANBEGLOO, Luiz PEREIRA da SILVA, PERONE de LA SELVA, Maria-Jose GARCIA WEREBE, Alfred Alfred KASTLER, Guy DENIELOU, Juan LEITE LOPES.

IV. — Synthéses et conclusion

Joâo Frank da COSTA. — Science et Technologie au service du développement.

Kinhide MUSHAKOJI. — La restructration de la recherche et du Développement scientifique et technologique au service du Tiers-Monde.

Charles MORAZÉ. — Perspectives.

Paul-Marc HENRY. — Synthèse.

Jean ROCHE. — Allocution de clôture.

Documentation

Giovanni RUFO. — Science et technique pour le développement: l'expérience des pays industrialisés.

Chronique Internationale

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REVUE TIERS-MONDE

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AUDIO-VISUEL ET DEVELOPPEMENT
sous la direction de Yvonne MIGNOT-LEFEBVRE

Yvonne MIGNOT-LEFEBVRE Présentation générale du numéro.

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II. — NOUVELLES FORMES DE COMMUNICATION

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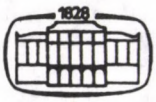

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ZS. DÁNIEL

REFLECTIONS ON THE DEVELOPMENT AND COMPOSITION OF THE NATIONAL WEALTH OF HUNGARY*

The article examines the characteristic structural features of growth between 1960 and 1975, relying on a joint analysis of flow and stock indicators. The analysis is centred on the question, whether reproducible national wealth and its structure justify the present and expectable requirements of growth; whether they promote or hinder development.

When analysing the growth of the Hungarian economy our attention is centred, as a rule, on the proper choice of the proportions of production and utilization of national income (or net national product), or, of consumption and accumulation. In this approach stress is laid upon national income, i.e. upon flow indicators and the development of national wealth, i.e. of stock indicators is neglected. It is a proof, and also a consequence, of the predominance of the flow approach that we have detailed, long and comparable time-series of the flow-indicators compiled at short intervals – computations of national income and of input-output tables –, but the balance of national wealth was drawn up only in the late 1960s. Since then a detailed assessment of national wealth and of the stock of fixed assets has been performed for the years 1960–1973, also at the comparable price level of 1968. [1, 10] The detailed balance of national wealth provides a new possibility for analysing the conditions, factors and efficiency of growth.

National income, i.e. the flow approach provides a one-sided picture of growth and leaves a great many important interdependencies unrevealed. The proportions formed in the course of growth are not to be judged solely by the development of production, distribution and utilization. For the judgement of development it must be examined: what actual increase in national wealth has resulted from the national income spent on accumulation; to what extent current incomes are spent on the maintenance and preservation of the existing national wealth; what the allocation of accumulation is like, and in what the increasing national wealth is embodied; what is the level of utilization of national wealth; how the increase and structure of national wealth react on flow processes, i.e. what growth they induce.

*The present article and the paper "Further reflections on the development and composition of national wealth" by Róbert *Hoch* – though differing in genre, in the handling of problems and in some instances in general approach – analyse the same group of phenomena, covering also the same period. The authors carry on their analyses relying upon the same computations (the computation method was worked out by Zs. *Dániel* and the computations were carried out with this method), and apply identical classification in their articles (notations were made uniform by R. Hoch).

Separation of capitals serving production and consumption*

In the period between 1960 and 1970 the average yearly growth rate of the value added (GDP) amounted to 5.3 per cent and between 1970 and 1975 to 6.3 per cent. Accumulation grew by yearly 7.2 per cent in the latter period, while consumption grew by 4.7 and 5.2 per cent resp. (The rate of gross accumulation changed from 26.8 per cent in 1960 to 32.1 per cent by 1970, and to 30.1 per cent by 1975.)

The growth of the reproducible national wealth during the same period is shown in *Table 1.*

In the following we shall examine the changing composition of the accumulated capital and within it we shall lay stress upon the indicator of fixed capital measured by gross value.** We shall depart from the usual division according to sectors or that using the distinction of "productive and non-productive spheres", or "material production and infrastructural service". In our breakdown it *is output or capital serving production and output or capital serving consumption that are distinguished.*

Marx divides the gross output into two departments; he draws the line between them according to what has been used for productive consumption and what in individual consumption. (*Ex post* it can always be told, which set of goods comes under *Department I,* and which under *Department II.*) Marx divides social capital into two departments in conformity with the division of commodity capital: depending on what part of the total capital releases goods belonging to *Department I* and what part those belonging to *Department II.* [15] We shall also adopt this method in the following, when we divide the gross output of the current year (X) and the total capital (K) into two Departments: output for production and capital serving production, (X_I, K_I); production of consumer goods and capital serving consumption (X_{II}, K_{II}).

$$X = X_I + X_{II}$$
$$K = K_I + K_{II}.$$

For our computations we used the data of input-output tables and of the balances of national wealth. Thus we did not set out from products but from factors distinguished by activities. In the case of sectors of activities it is often difficult to clearly state the destination of the output. There are assets clearly intended for production, such as the assets of mines; and there are assets clearly intended for consumption, such as the fixed and circulating capital of hospitals and of other health institutions; and there are numerous intermediate cases as well. Roads and bridges may serve equally production and

*Attention was called to the topicalness of distinction between capital serving production and consumption, the relative lag of consumption capital behind consumption flow, and the problem of preserving the capital stock by János *Kornai* in his work [3].

**Our computations contain all the possible distortions which are usually mentioned in connexion with the accounting and assessment of fixed capital.

Table 1

Development of the reproducible national wealth between 1960 and 1975

		1960	1970	1975	Yearly average growth rate	
		in thousand million forints, at 1968 prices			1960–1970	1970–1975
Reproducible[a] national wealth	Gross value	1066.1	1720.9	2328.6	5.0	6.2
	Net value	683.6	1136.4	1586.2	5.2	6.9
Of which:						
Accumulated assets[b]	Gross value	955.0	1517.4	2036.8	4.7	5.7
	Net value	610.2	1002.8	1391.2	5.1	6.8
Fixed assets	Gross value	791.0	1210.5	1641.3	4.3	6.3
	Net value	447.1	695.9	995.7	4.5	7.4
Unfinished investments	Gross value	14.6	64.5	95.0	16.0	8.1
	Net value	14.6	64.5	95.0	16.0	8.1
Inventories	Gross value	148.5	242.4	300.5	5.0	4.4
	Net value	148.5	242.4	300.5	5.0	4.4
Durable stocks of households[c]	Gross value	111.1	203.5	291.8	6.3	7.4
	Net value	73.3	133.6	195.0	6.3	7.9

[a]Excluding the value of natural resources.

[b]National wealth deriving from accumulation.

[c]Durable goods owned by the population, suitable for repeated use without considerable deterioration in their physical substance. Their stock can be accounted and valued at any time. Dwelling-houses owned by the population are not included: they are comprised in the value of fixed assets.

consumption, and similarly, the utilization of the assets of commerce, the light or food industry are divided between the two purposes. With these sectors of mixed purpose we carried out the following computations – relying on the above outlined theoretical considerations. On the basis of the input-output table of the year under examination we stated what ratio of the gross output of such a sector is used for consumption, and of what size the remaining ratio is that covers the productive capital needs of current production and of investment. It has been assumed that according to these ratios of *production* purpose also the capital can be divided into capital serving consumption and capital serving production.

The computations were based on the so-called "A"-type of table. The input-output table of type "A" treats the inputs of domestic and foreign origin together, thus, it takes into account the total input. Accordingly, we considered that exports serve as cover for inputs

of imports. Our computations are rather of an illustrative character, thus, this approach seems to be satisfactory. In what follows, when talking about one or another sector, *we shall always mention the output and capital intended for consumption and production in accordance with the division as explained in the preceding.**

Since our classification is to a certain extent similar to the concepts used in statistics, planning, and analysis when discussing the capital of infrastructure, that of the tertiary sector, and accumulation with the direct purpose of raising the living standards – the latter distinguished in Hungary since the early 1970s – it will be useful to say a few words about the different contents of this classification i.e. its distinction justified from the point of view of our message.

Our aim is a twofold one: on the one side, we wish to separate output for consumption serving living standards, and the underlying capacities from those serving production. The standard of living includes the consumption of food, clothes and services, so that the consumption capital cannot be considered identical with the capital stock of either the tertiary, or the infrastructural sectors. It is wider than the latter ones, for it contains the capital serving the output for consumption of the material sectors, and it is smaller, too, for part of the output and capital stock of both the tertiary and the infrastructural sectors serves, beside consumption, also production.

On the other side, we wish to examine jointly "flow" and "stock" growth, i.e. current production and capital stock. We seek an answer to the question, whether the rise in living standards was preceded in time by a due development of the consumption capital; whether the growth of consumption capacities took place parallel with it, or with a delay. In what way did we proceed in production, and what tendencies are found in the flow and stock processes of production during the period under examination.

We emphasize once more that our computations are of an illustrative character, and may comprise some distortions. Yet it is probable that in case the distortion has a definite tendency, our computations will tend to show the consumption capital rather bigger than it is in reality.**

The low growth rate of fixed capital in the early 1960s may be attributed partly to the low rate of growth of capital serving consumption, and partly to the sudden increase in the stock of unfinished investments. The latter has been on the decrease from the early 1970s and the growth of fixed capital serving consumption has accelerated. *Table 3* shows the proportions of the consumption of the population, investments aimed at raising living standards, and total investment in the years 1968–1975.

*In *Table 1* the aggregate national wealth indicators were shown. In the following, we shall select from these indicators the indicator of fixed assets, i.e. fixed capital computed at gross value, and we shall use this indicator in carrying out the computations based upon sectoral division. It would have been justified to carry out the computations relying upon indicators of accumulated capital as well as upon those of fixed capital, but comparable data computed at the 1968 price level and in a sectoral breakdown were available to us only for fixed capital.

**We shall see that in Department I flow grows systematically more slowly in comparison with stock than in Department II – in the whole period as well as in each phase within it.

Table 2

Yearly average growth of capital serving production and consumption measured at gross value between 1960 and 1975 (per cent)

Period	Total capital accumulated	Total of fixed capital	Fixed capital[a]	
			for production	for consumption
			purposes	
1960–1965	4.6	4.1	5.1	3.2
1965–1970	5.0	4.6	6.0	3.2
1970–1975	6.0	6.3	7.6	4.9

[a]The stock of fixed capital for production and consumption was determined according to the following:

$$K_{II} = \sum_{i=1}^{n} \frac{C_i}{X_i} K_i,$$

$$K_I = K - K_{II}$$

where n = number of selectors;
C_i = the part allotted for consumption from the products listed under sector i
X_i = output of sector i.

Table 3

Investments aimed at raising the consumption of the population, and living standards

	1968	1970	1973	1975
Consumption of the population, Ft thousand million	169.9	192.4	221.6	246.8
Total investment put into operation, Ft thousand million	64.2	87.7	104.5	129.4
Investments aimed at raising the living standards put into operation, Ft thousand million	13.1	23.4	26.9	34.5
Investments aimed at raising the living standards in percentage of the consumption of the population	7.7	12.2	12.1	13.9
Investment aimed at raising the living standards in percentage of total investment	20.4	26.7	25.7	26.6

Table 4
Growth of production and fixed capital of Departments I and II in the years 1960–1975 (per cent)

Period	Department I		Department II		Departments I and II	
	Production (flow)	Fixed capital (stock)	Production (flow)	Fixed capital (stock)	Production (flow)	Fixed capital (stock)
1960–1965						
1.	134.9	128.0	120.2	117.2	129.8	122.1
2.	6.2	5.1	3.7	3.2	5.4	4.1
1965–1970						
1.	138.4	134.4	131.9	116.8	136.3	125.1
2.	6.6	6.0	5.7	3.2	6.3	4.6
1970–1975						
1.	137.4	144.0	129.2	126.8	134.8	135.6
2.	6.5	7.6	5.2	4.9	6.2	6.3
1960–1975						
1.	256.5	247.7	204.8	173.5	238.5	207.1
2.	6.5	6.2	4.9	3.8	6.0	5.0

1. Base index.
Yearly average growth rate.

The growing ratio of investments serving consumption* started to improve, from the early 1970s, on the relative growth proportions of flow and stock, i.e. of current consumption and capital for consumption. (See *Table 4* and *Figure 1*) It can be stated, however, that – as a consequence of differences in growth rates – the gap between the development of fixed capital and the growth of current consumption has been further widening even after 1970.

But within *Department I* flow and stock grew parallel with each other, what is more, in the last five-year period the growth rate of fixed capital has surpassed that of current output. The different expansion of the capital serving production and of that serving consumption modified the composition of the fixed capital. The changing proportions are shown in *Figure 2.*

In 1960 still about 55 per cent of fixed capital in operation served consumption. This ratio, however, was decreasing every year, and in 1975 it amounted only to about 46 per cent.

*The separation of investments for consumption, i.e. of those serving the population, from investments serving production was suggested by Hoch–Kovács–Timár in the "MÉB"-alfa" model worked out in the framework of the long-term planning of living standards.

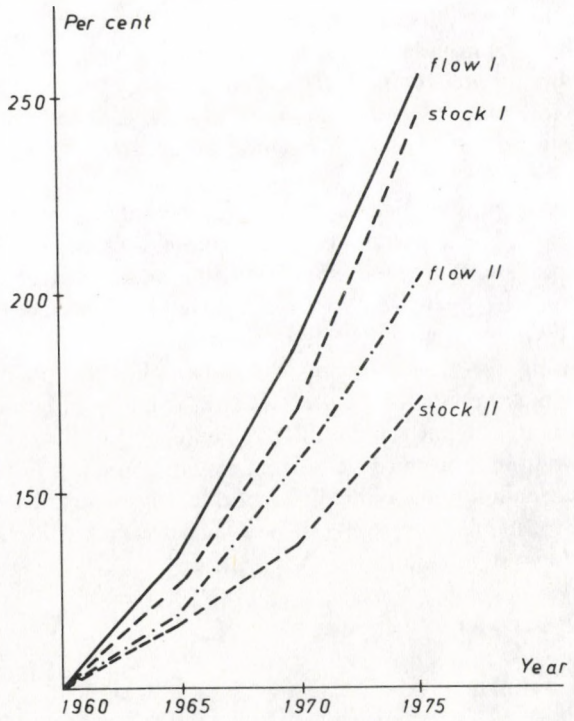

Fig. 1. Growth of production and fixed capital in Departments I and II in the years 1960–1975

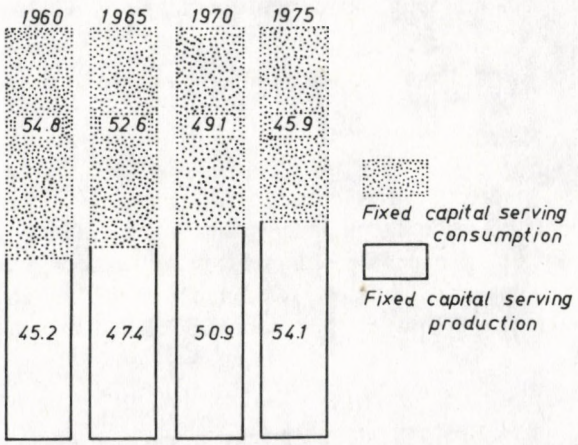

Fig. 2. Division of capital serving consumption and capital serving production in 1960, 1965, 1970 and 1975 in per cent

Summing up the results of the first approximation, the following may be stated:

– In spite of the changes in the last five years of the period under examination, the growth of capital serving production exceeded considerably the growth of capital serving consumption. The former grew on average by yearly 5.6 per cent between 1960–1970, and by 7.6 per cent in 1970–1975, while the latter grew by 3.2 and 4.9 per cent respectively.

– The growth of consumption capital lags much behind current consumption. In the years 1960–1970 consumption grew on average by yearly 4.7 per cent, while capacities serving consumption grew only by a yearly 3.2 per cent. The proportions changed after 1970: the yearly 5.2 per cent growth of current consumption was accompanied by a 4.9 per cent growth of fixed capital.

In the following we shall examine the consequences of the above-mentioned phenomena from the aspects partly of production and partly of consumption. We seek answer to the question, what effect the different extent of capital supply to these two spheres of the economy has on the development of the sphere in question and on that of the whole economy, and also to how the different rates of development of flow and stock should be judged. For finding the answers to these questions it will be expedient to divide both categories into two subdivisions.

The two subdivisions of consumption: material products and services

Consumption and capital serving consumption are divided as follows:*

$$X_{II} = X_{IIa} + X_{IIb}$$
$$K_{II} = K_{IIa} + K_{IIb}$$

In the first subdivision IIa comprising material consumption are included the outputs for consumption of the material sectors (energy sector, food production, light industry, etc.) with the exception of transport, telecommunication and commerce (X_{IIa}), and the capital assigned to them (K_{IIa}). In the second subdivision IIb are included the outputs for

*We shall proceed similarly with the production and capital stock of Department I, in which $X_I = X_{Ia} + X_{Ib}$; $K_I = K_{Ia} + K_{Ib}$; the principle of sectoral classification is identical for both categories.

Table 5
Growth of current consumption and capital stock according to subdivisions, yearly average growth rates

Period	Current consumption (flow)			Capital serving consumption (stock)		
	II	IIa	IIb	II	IIa	IIb
1960–1965	3.7	2.8	6.3	3.2	3.4	3.1
1965–1970	5.7	5.7	5.7	3.2	5.8	2.5
1970–1975	5.2	4.1	5.7	4.9	5.5	4.6
1960–1975	4.9	4.2	5.9	3.8	5.0	3.4

consumption of transport and telecommunication, commerce and the non-material sectors (X_{IIb}), and the capital belonging to them. (K_{IIb}). This distinction of the two subdivisions allows a further analysis of the concumption pattern and the capital stock.

While IIb, i.e. current consumption of service character was growing fast, this was not followed by an adequate growth rate of fixed capital, or capacities. Although no such rate is known from the literature as would theoretically prescribe the extent of growth of the fixed capital of services that must accompany the growth of current consumption of services, we know it from experience that, in a long perspective, the number of hospital beds must grow at least parallel with the number of in-patients, the number of class-rooms with that of pupils, and the shop network must be enlarged to such extent as the commodity consumption of the population.

This empirical rate could be disregarded for a short period, particularly if we had permanently unused fixed capital reserves and free capacities in this field. We think that the relative lag of the growth of fixed capital for services behind consumption is explained by other reasons than these.

In *Figure 3* it can be followed that although the development rate of the capital stock started to accelerate from the 1970s, the rate of growth still did not allow to close the gap in the relative proportions of flow and stock for services, i.e. of the growth of output and capital.

Partly as a consequence of the rising income level of the population – i.e. because the elasticity coefficient of the demand for services with respect to income is usually above 1 –, and partly as a result of deliberate social policy, the ratio of services has been growing fast within current consumption, and will continue to grow. Housing, education, the health service, cultural and sports possibilities, expansion of the commercial network, and improvement of traffic conditions are all deliberately included in the living standards policy, and are conditions of the development of the socialist way of life.

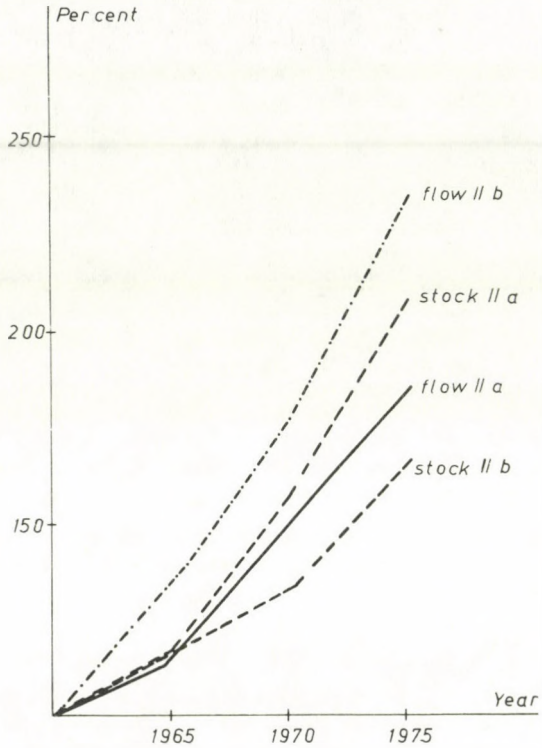

Fig. 3. Percentage growth of production and fixed capital of sub-divisions IIa and IIb in the years 1960–1975

Yet the increasing importance of services bought and used is not duly reflected either in the structural changes of the population's expenses, or in that of the population's consumption pattern as measured in national income computations. The distortion is explained equally by problems of valuation, measurement, and accounting. The measure and direction of the distortion is changing by sectors. The most important problem of these is the valuation principle, which is different for each sector. The system of valuation is summed up in *Table 6.* The products of the sectors of the material sphere are generally valued at the level of "production cost plus profit" (with the exception of government-subsidized products), while the output value of services is accounted in national income computations usually at the level of "production cost" or "production cost corrected by subsidies." The population's expenses are also affected in different ways by the products of different sectors. The difference depends on whether the product or service gets to the consumer through the market or not, and whether the selling takes place at real or nominal price, or a free service is availed of.

Table 6
Summary of the valuation system by sectors

	In national income computations	In the consumer's expenses
Subdivision IIa		
Market selling		
Industry	production cost + profit	at real price
Agriculture	production cost + profit	at real price
Building industry	production cost + profit	at real price
Subdivision IIb		
Market selling		
Transport	production cost + profit	at real and
Telecommunication	– subsidy	nominal price
Commerce	production cost + profit	at real price
Individual and business services	production cost + profit – subsidy	at real price
Private housing	price covers production cost, profit content is not clear	at real price
Non-market realization		
State housing	production cost – subsidy	at nominal price
Education	production cost	free
Health service	production cost	free
Administration	production cost	free

A further distortion is caused by improvement or deterioration in quality which is expressed in the price in some sectors, but is not expressed in others. Let us take quality improvement first. The improved quality of food and clothing articles will be expressed, with some probability, in the prices of the products, but the improvement of public transport conditions (e.g. the putting into operation of new underground lines) does not appear in changes of the public transport expenses of the population, and the change in the output value of the transport sector does not express the extent of improvement, either. Introduction of the second channel of television and of colour programmes, the better quality of radio broadcasting covering the whole country do not or hardly appear in flow indicators, since they do not affect subscription rates and thus the consumer's consumption appearing in the national income computations is affected by them only through a slight growth of current inputs (additional energy utilization).

As regards *deterioration* in quality, it is more or less reflected in the prices of products of the material sectors, but in the output value of services the damages and discomfort suffered by the consumer do not get expressed. The insufficient expansion of the commercial shop network and parallel with it the possible worsening of commercial

service, the increasingly crammed outpatient clinics and hospitals, or the deteriorating state of dwelling-houses do not appear in either kind of accounting.

Deterioration or improvement are less dependent on current inputs, and much more on the expansion of the fixed capital to serve services. *The use of services does not hit income constraints on the part of users, but mainly capacity constraints.* Expansion of the public transport network, better hospital care, reduction of the overcrowdedness of classrooms in primary and secondary schools depend mainly on the changes in expenses earmarked for such purposes. From this follows the assumption that the consumption capital of services ought to be growing generally at a higher rate than the current consumption of services, which holds particularly for the sphere where the ratio of benefits allocated at nominal prices or free is considerable.

Returning now to the results of *Table 5* and *Figure 3* we can emphatically state that in the service sectors IIb the expansion of capacities lags considerably behind the growth of current consumption.

A further question: how should we judge the lagging growth of the subdivision *b* of the consumption capital behind the growth of current consumption belonging to the subdivision is question? Can we interpret this phenomenon so that the existing capital is turned to better use in this sphere of the economy than elsewhere? Can we say that the degree of utilization of capacities is higher than in the productive sphere, or that the indicator of capital efficiency in regard of the consumption capital improves from year to year? Should we evaluate it as a desirable and natural concomitant of growth, and as an achievement of our economy, or, on the contrary, should we realize that we are faced here with a worrying symptom?

Before appreciating the phenomenon we wish to illustrate the contents and method of the "improvement of capital efficiency" by two passages quoted from the series of reports: "Touched by the smoke of the engine. . ." by György *Moldova,* the first from the chapter "The sick railwayman" and the second from the "Slow sign":

"I am looking at the data: the MÁV (Hungarian State Railways) Hospital and Clinic had started with 52 beds in 1927, and had no more than 500 beds before the war, it is thus remarkable that now 1068 beds are registered.

– Has the hospital that much developed? – I asked the head physician.

– Except the casualty after-treatment ward in Szántó Béla street we have got no new establishments.

– How has then the number of beds doubled?

– In the 1950s four beds were put into the two-bed rooms and that was recorded in statistics.

– Now I understand.

– Over one thousand patients are too many for this old building, it would be about seven hundred that we could properly care for.

It is not only social establishments and consulting rooms that are missing, but there are even not enough lavatories."

And the second passage:

"Rails can be neglected for a long time, since rails are not shouting, at least not till something falls off them. As we have seen, even a forty-year lag can be tolerated for a time if a slow-sign is put up and the train passes at 20 km per hour, or the axial pressure is eased by 4 or 5 tons. And then comes the day when the whole rail must be replaced.

– And once more the slogan can be issued: "All out for the Railways!" but that will be a lot more bitter than it was in 1945."*

To the evaluation of the author – and to that of the physician and the railwayman in his interpretation – the economist can only add: the relatively fast increase of current consumption took place in a way not sufficiently grounded by the expansion of fixed capital. *The absolute and relative lag of the consumption capital does not lead to efficiency but to a forced over-utilization of existing capacities.*

Many have analysed already, and from numerous aspects, the consequence of the over-utilization of infrastructural capital. [6, 7, 8, 11, 17] The living standards committee of long-term planning compiled several thousand pages about tensions found or expected in different fields. We have tried to prove with macro-level data that the lagging growth of consumption capital might be the source of economic and social contradictions and tensions. In this respect our conclusions do not differ from the ideas suggested in the above-mentioned analyses, but rather try to support them from a further aspect.

In the final analysis, it may be stated that the exploitation of subdivision IIb of the consumption capital cannot be increased beyond a certain point, and it seems that we have reached its critical value at several points. To push it further would lead not only to stagnation, but also to decline in current consumption.

The exaggerated exploitation of the consumption capital in subdivision b impairs the quality of supply. Sticking to the example quoted above: first only the number of beds placed in the corridors is increasing and together with it the discomfort of patients in want of room and bed, and then also the queue of those waiting for a hospital bed starts growing, the efficiency of hospital treatment may considerably worsen, and hospital harms (such as infections) may increase. All that leads already to a considerable deterioration in the quality of the health service. If the crowdedness of vehicles is growing, we may say that travelling is uncomfortable. If, however, the number of badly kept public roads and railway tracks is growing, it is already the security of transport that is at risk.

The unsatisfactory growth rate of consumption capital in the subdivision in question leads to a deterioration of the state of existing fixed assets and to neglect of maintenance. The consequences are expressed not only in the deteriorating standards of consumption, but also in a fast and premature wear and tear of the national wealth. Everybody who knows Budapest can see that while efforts are concentrated on building new housing estates, hundreds of dwelling-houses of the city go to ruin – in want of maintenance and renovation – before our very eyes. Only the preservation and balanced

*Slogan mobilising for the restoration of railways in Hungary after the Second World War.

expansion of the consumption capital can lead to a continuous increase of current consumption. Several experts are worried because of the backward state of capital serving education and, in this context, because of the unsatisfactory standards of education. This neglect may become a direct brake on raising the living standards of several generations, and, what is even more important, on the changes in their way of life.

Relying upon what has been said we can assert that the lag of subdivision b of the consumption capital behind the increase of current consumption may become, beyond a certain point, an impediment to growth and a source of irremediable damages.

In subdivision a of consumption (output of material production for consumption) the situation is the reverse: the growth rate of fixed capital is faster than that of current consumption. But it is exactly in this subdivision where it *could be expected* that capital efficiency should improve as a result of technological development (e.g. reconstruction of the light industry). Yet actual development has been the reverse: not only in the average of the period, but practically in each five-year phase.

Since the sum of the growth of total current consumption and total consumption capital (flow grows faster than stock) was determined by development of the subdivision b, we evaluate the "improvement in capital efficiency" as a negative phenomenon, and that is also why we have come to the conclusion that the growth of consumption capital was not satisfactory in the period under examination.

In this article we have not dealt with the causes. We only wished to present facts and to confirm against the background of figures that in Hungary the present structure of national wealth and, within it, the level of consumption capital and its growth rate do not seem to be in harmony with the national targets of raising the living standards. Utilization of the consumption capital and of circulating funds is already laden with problems and may lead to further and increasing tensions.

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О РАЗВИТИИ И СОСТАВЕ НАЦИОНАЛЬНОГО БОГАТСТВА ВЕНГРИИ

Ж. ДАНИЭЛЬ

В статье на основе анализа показателей flow и stock анализируются характерные структурные черты экономического роста в период 1960–1975 гг. В центре анализа стоит вопрос, соответствует ли воспроизводимое национальное богатство и его структура настоящим и ожидаемым требованиям роста, способствует или замедляет развитие.

Принципиальную основу метода анализа составляет теория воспроизводства Маркса, в соответствии с которой выпуск продукции и капитал, служащий выпуску продукции, можно разбить на два подразделения. Расчеты показывают, что в двух сферах экономики, производстве средств производства и производстве предметов потребления, показатели flow и stock складываются поразному: рост капитала, затрачиваемого на производство средств производства, значительно превышает рост капитала, затрачиваемого на производство предметов потребления, причем последний в анализируемый период рост медленнее, чем текущее потребление. Внутри капитала, служащего целям потребления значительно отстает доля, направляемая на расширение сферы услуг, хотя потребление услуг постоянно возростало. В заключение автор подчеркивает, что разрыв в поцессах flow и stock ставит под угрозу сбалансированность развития.

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R. HOCH

FURTHER REFLECTIONS ON THE DEVELOPMENT AND COMPOSITION OF THE NATIONAL WEALTH OF HUNGARY

Earlier we paid little attention to the nation level accounting of "stock" and to the analysis of its development – as is pointed out in Zsuzsa *Dániel's* article.* This deficiency may be explained by a certain misbelief, which at least may be its main cause. It has been long believed – and still is to some extent – that the most favourable thing from the aspect of socio-economic development is if the fixed capital of the national economy grows as fast as possible, or, if accumulation is the largest possible. This idea seems to be self-evident particularly in regard of the capital and accumulation of the sectors of material production.

According to this conception consumption is a factor constraining accumulation and the growth of capital and thus also economic growth and social development.

The scarcity of productive capital on the basis of a relative abundance

This conception seems to be reflected in the growth of and structural changes in national wealth. In Zs. Dániel's article we have already seen** that from 1960 to 1975 K_I was growing much faster than K_{II} (and in the said article the problems of the development of K_{IIb} were analysed in detail). It will be useful to examine the 15-year development of the four subdivisions – as introduced in the above-mentioned article – together. Data will be presented for the whole of the period 1960–1975, and within it broken down into three five-year phases. And, though the events of any of the five-year phases may incidentally differ from the 15-year tendencies, the latter will still be seen quite clearly. Table 1 shows the changes in flows and stocks. Table 2 shows – computed on the basis of Table 1 – the ratios of flow indices i.e. some kinds of indices of changes in capital efficiency. Finally, Table 3 shows – computed on the basis of Tables 1 and 2 – the rank of the indices of flow, stock and "change in capital efficiency" according to departments and subdivisions.

The "growth rank" of reproducible national wealth according to subdivisions in the past 15 years: it is fastest in subdivision I_a (7.7 per cent on a yearly average), the second one is subdivision II_a (5 per cent on a yearly average), the third one is subdivision I_b (4.2 per cent), and the last one is subdivision II_b (3.4 per cent). The growth of capital in subdivisions

*See p. 193 of the present issue.

**Repeating the notations: I = means of production; II = consumer articles; a = subdivision of material production; b = subdivision of services; K = stock.

Table 1

Growth indices of changes flow and stock by departments and subdivisions at 1968 prices

Departments, subdivisions	1960–1965		1965–1970		1970–1975		1960–1975	
	flow	stock	flow	stock	flow	stock	flow	stock
I+II. 1. Base index	129.8	122.1	136.3	125.1	134.8	135.6	238.5	207.1
2. Yearly average growth	5.4	4.1	6.3	4.6	6.2	6.3	6.0	5.0
I 1. Base index	134.9	128.0	138.4	134.4	137.4	144.0	256.5	247.7
II 2. Yearly average growth	6.2	5.1	6.6	6.0	6.5	7.6	6.5	6.2
II 1. Base index	120.2	117.2	131.9	116.8	129.2	126.8	204.8	173.5
2. Yearly average growth	3.7	3.2	5.7	3.2	5.2	4.9	4.9	3.8
Ia 1. Base index	128.2	138.6	136.0	138.8	137.1	158.3	238.9	304.4
2. Yearly average index	5.1	6.7	6.3	6.8	6.5	9.6	6.0	7.7
Ib 1. Base index	152.8	116.2	151.4	128.6	136.8	123.5	316.4	184.5
2. Yearly average index	8.8	3.0	8.6	5.2	6.5	4.3	8.0	4.2
IIa 1. Base index	115.2	117.8	132.0	133.2	122.4	132.4	186.0	207.7
2. Yearly average index	2.8	3.4	5.7	5.8	4.1	5.7	4.2	5.0
IIb 1. Base index	136.1	117.1	131.7	113.2	131.5	125.3	235.6	166.0
2. Yearly average index	6.3	3.1	5.7	2.5	5.7	4.6	5.9	3.4

I_a and II_a takes the same position in each five-year phase as in the average of the 15 years, so that in this respect there has been no change of tendency. Yet the order of growth in the stocks of subdivisions I_b and II_b alternates between the 3rd and 4th position in each five-year phase. The phenomenon is explained by the fact that while in the phases 1960–1965 and 1970–1975 there was no significant difference between the growth rates of K_I and K_{II}, in the phase 1965–1970 the growth of K_{Ib} accelerated (5.2 per cent on a yearly average), while the growth of K_{IIb} slowed down (2.5 per cent). That is how those five years became determinant for the ranks of the 15 years. Thus, the considerably increased growth rate of K_{IIb} (4.6 per cent) exceeding somewhat that of K_{Ib} (4.3 per cent) could not change the order of the 15 years.

The order of the growth rates of output by subdivisions deviates considerably from that of stocks, what is more, within the same department the "growth ranks" of stock and flow show a negative correlation in the course of the 15 years. Flow grows fastest in

Table 2
Indices of changes in capital efficiency in the individual departments and subdivisions*

Departments, subdivisions	1960–1965	1965–1970	1970–1975	1960–1975
I+II 1.	106.3	108.9	99.4	115.2
2.	1.23	1.72	−0.12	0.9
I 1.	105.4	103.0	95.4	103.6
2.	1.06	0.60	−0.94	0.24
II 1.	102.6	112.9	101.9	118.0
2.	0.51	2.5	3.37	1.1
Ia 1.	92.5	98.0	86.6	78.5
2.	−1.55	−0.40	−2.75	−1.55
Ib 1.	131.5	117.7	110.8	171.5
2.	5.7	3.4	2.1	3.7
IIa 1.	97.8	99.1	92.5	89.6
2.	−0.43	−0.18	−1.55	−0.72
IIb 1.	116.2	116.3	105.0	141.9
2.	3.0	3.0	0.98	2.4

1. Base index
2. Yearly average growth
* $\frac{\text{Index of flow}}{\text{Index of stock}} \cdot 100$

subdivision I_b (yearly average: 8 per cent, the second place is held by I_a (6 per cent), the third by II_b (5.9 per cent), and the last one is II_a (4.2 per cent). It is in this relation that the picture is most changeable in each five-year phase. I_a came up from the 3rd place to the 1st (5, 1, 6.3, 6.5 per cent); II_b fell from the 2nd place to the 4th and then to the 3rd. The extremely fast growth of I_b, however, stands out clearly. In the decade of the 1960s it was 8.8–8.6 per cent on a yearly average, which went down but a little in 1970–1975. It also stands out clearly that the growth of II_a is at the end of the list, though in the phase 1966–1975 it was considerably higher (5.7 and 4.1 per cent resp.) than in 1961–1965 (2.8 per cent).

The change in "capital efficiency" i.e. the order of the relative changes in flow and stock comes from the preceding. In this respect the picture is entirely uniform in the subdivisions, whether the whole 15 years, or separately each five-year phase are examined. And this with the particularity that there are not solely differences in the order of positive growth rates, but also the *signs* of the changes are opposite. In subdivision I_b the quotients of the flow/stock indices grow by a yearly 3.7 per cent in the average of the 15 years, in subdivision II_b they grow by 2.4 per cent; while in subdivision II_a "capital

Table 3
Growth rank of departments and subdivisions

Departments, subdivisions	1960–1965			1965–1970		
	flow	stock	"capital efficiency"	flow	stock	"capital efficiency"
I.	1	1	1	1	1	2
II.	2	2	2	2	2	1
Ia.	3	1	4	2	1	4
Ib.	1	4	1	1	3	1
IIa.	4	2	3	3	2	3
IIb.	2	3	2	4	4	2

Departments, subdivisions	1970–1975			1960–1975		
	flow	stock	"capital efficiency"	flow	stock	"capital efficiency"
I.	1	1	2	1	1	2
II.	2	2	1	2	2	1
Ia.	1	1	4	2	1	4
Ib.	2	4	1	1	3	1
IIa.	4	2	3	4	2	3
IIb.	3	3	2	3	4	2

efficiency" fell by 0.72 per cent on a yearly average, and in subdivision I_a by 1.55 per cent. (In 1970–1975 there was no change of tendency, but in subdivisions I_b and II_b the "improvement of efficiency" was lowest at that time, and in subdivisions II_a and I_a the deterioration was highest among the three five-year phases.)

It might be expected that application of the new techniques may increase capital efficiency in the productive subdivisions I_a and II_a. Yet what we see is that the indicator deteriorates exactly in these subdivisions. It seems rather obvious that it is not technological development that is responsible for the deterioration in efficiency. And it would not be surprising if in the infrastructural sectors "capital efficiency" deteriorated. It is quite obvious, too, that the growth of the flow/stock indices of I_b and II_b was not attained by improvement of efficiency, but rather by the exaggerated exploitation of existing and not properly developed fixed capital (overcrowdedness in public transport, commerce, hospitals, etc.). In subdivision I_b – services for production – not even a genuine possibility of decision-making is given in respect of the growth of flow: the growth of material production elicits the growth of I_b (railway transport, water utilization of industry, etc.) in most part automatically. Decision – and a right one – is needed

in order that the growth of fixed capital should allow the growth of flow in adequate quantity and quality. The growth of II_b is also partly automatic. (E.g expansion of the social insurance system led to an increased utilization of the health service network in the period under examination.) At the same time, it seems that in the subdivisions of material production – and especially in subdivision I_a – one of the fundamental causes of deteriorating efficiency was that fixed capital grew relatively too fast in a special sense. It is exactly this "special sense" that the article will discuss in the following.

As a matter of fact, we ought to concentrate on the development of the most critical K_{Ia}. But the problems of this subdivision cannot be separated from those of K_{IIa}. In the so-called material production problems arise in a similar manner in both departments, their sources being practically identical. Figures do not make it clear what causes underly the phenomena reflected by them. In the following I wish to point out these causes.

Oversized state in a special sense of productive capital

It is beyond doubt that the basic condition of every kind of economic growth and social development is an adequate rate of growth of the national economic assets and within them of the fixed capital in material productive sectors. Yet the stress is laid now on the word "adequate".

Today it is rather generally recognized that there exists such a value (in the mathematical sense, not in the political economic one), or rather such a domain of the mass of accumulation and within it of that of investments which is able, *ceteris paribus,* to produce the largest increase of national income. If investment is less than that, the growth of national income – and finally that of consumption – will not reach the possible rate. If, on the other side, this limit is surpassed, additional investment will no longer add to but rather consume national income. *"Ceteris paribus"* is used here to indicate that the value or domain of investments optimum from the aspect of creating additional national income *is not given once and for all*; along with the rising technical, management, organizational, etc. level *also the investment-"absorptive" or "digestive" capacity* of the economy is growing. In this article we examine, among other things, exactly *how the investment-absorptive capacity of the national economy depends on the structure of investments,* and how it can be increased by changing the structure. It has also been pointed out that the *growth rate of investments* has an optimum value (zone), too, from the viewpoint of the growth rate of national income. [1]

Yet the analysis of the same interrelation in respect of the *productive capital* of the material sectors has not been accepted in the same way. And yet investment – partly also replacement, but net investment in its entirety – is additional fixed capital, and problems concerned with investments indicate but marginally the general problems of the whole. Therefore, in this article I seek answer to the question, whether *productive fixed capital* is oversized; and if so, in what sense; and not to the question, whether

either net or gross investments are exaggerated. I appreciate productive investments from the aspect whether they add to or diminish the disproportionateness of productive capital, be the amount of these investments high or low.

In the last resort, the function of the fixed capital of productive sectors is to release products (services) for final uses. They are expanded with a view to increasing also the output of final products. From the aspect of the efficient functioning of the national economy the volume of final products (and services) achievable with a given size of productive capital is an interrelation of decisive and even increasing importance; and so is the way in which this output capacity changes; as well as the relation between the growth rate of productive capital and that of output.

We must ask the question, whether –with given conditions– there is such a value (domain, or zone) of the volume and growth rate of productive capital (and let us add: of all assets accumulated), below which the volume and growth rate of national income does not reach the possible extent, but above which the growth of production becomes an end in itself, consuming itself. In the latter case a part of the national income – and possibly its growing part – feeds in a sterile way the productive capital disproportionate to the absorptive capacity of the national economy.

In my opinion, *the volume and growth of productive capital (and of total accumulated assets) also have their optimum, as well as a limit to their absorptive capacity, from the viewpoint of capacity to create national income.** Under the given conditions several problems of our development – to be discussed in the following – are rooted in the fact that the volume and growth of productive capital regularly surpass that of value. Development, therefore, stays below the most favourable path possible both quantitatively and qualitatively. At this point I wish to emphasize particularly that *it is determined by the given conditions* what size of stock the national economy is able to operate efficiently; and what the optimum of accumulation is, and what the absorptive capacity of the national economy. *In this context I attribute an outstanding importance to structure – considered from various aspects.*** I consider the volume and growth of fixed capital in the material sectors oversized owing to their structure, and not in the sense as if the volume of production of material goods – or, within it, industrial production – were too large. (Later on it will be seen that by structure I no not mean primarily sectoral structure.) On the contrary! Therefore, I believe to find also the way of eliminating disproportionateness in structural changes –

*It may not be unnecessary to emphasize: the volume of productive capital considered from the point of view of absorptive capacity is not to be examined as a size of value, but according to its parameters of use-value character, such as the needs of the workplace.

**In this article I deal with such structural problems as were characteristic of the Hungarian economy in the period from 1960 to 1975; that is, I do not examine difficulties that have recently arisen from Hungary's running into debts, or from efforts made at restoring equilibrium, such as differences between the growth rates of national income produced and that disposable at home. Yet these latter problems appear with particular sharpness exactly if we do not dissolve the contradictions that have become already "traditional" in the Hungarian economy.

of varying directions. But we also know that structure can be changed only slowly, gradually and with great circumspection.

In examining the productive capital I do not construct any kind of mathematical formula for the definition of the optimum considered from the above-mentioned aspect. I point out well-known phenomena whose gathering into a "bunch" verifies, in my opinion, that the productive fixed capital oversized in a special sense and that the Hungarian depreciation and development policies do not reduce but rather maintain the disproportionateness. Relying upon these facts I hold the deviation from the optimum to be of such extent that today it is still enough to indicate the *direction* of the deviation.

One of the central dilemmas of the Hungarian national economy – daily met with and grown chronic – is that labour shortage and capital shortage exist side by side. Labour shortage demands that live labour should be replaced by embodied labour. And capital shortage demands that embodied labour should be replaced by live labour. A *simultaneous* satisfaction of both demands is obviously mutually exclusive.

The above-mentioned phenomenon and the resulting contradiction are usually explained by the fact that labour resources have become practically exhausted. And we resign to the assumption that this situation will determine also the further way of development. First, is the exhaustion of labour resources really an explanation? I think that it is not. The fact that employment is practically stagnating is no explanation for the chronic shortage of capital; and in itself it is no explanation for labour shortage, either. Second, is the simultaneous and chronic shortage of capital and labour an externally given condition for Hungarian development policy? Is it a natural disaster which we have to suffer from in the coming decades (or to the end of times)? My answer to the question is a definite no.

In my opinion the fundamental (and, of course, not exclusive) cause of the simultaneous and chronic shortage of labour and capital lies with the very mode of development.* The double shortage is a consequence constantly reproduced by the Hungarian development policy, and this consequence has been only sharpened by the fact that development policy has not duly considered the changes taking place in the labour situation. This double chronic shortage can and must be eliminated by an adequate development policy, and on this basis it must be guaranteed that we can maintain, operate and enlarge our productive capital economically. This demand is all the more timely as we run in fact into a number of such – for us objective – internal and external factors as exert their effect towards deterioration of efficiency (the necessity of mechanizing materials handling, the unfavourable changes in the terms of foreign trade, etc.). Under such circumstances it is even more important to eliminate the sources of losses caused by ourselves.

I see the validity of the statement about the oversized state of productive capital verified by the existence of the group of phenomena following hereunder:

*Similar conclusions have been reached by J. *Kovács* [2].

– The range of production according to sectors and subsectors is too wide. Countries with larger population and economically more advanced than Hungary cannot profitably operate a production machinery – and in it an industrial base – diversified to such extent. A larger export capacity providing a basis for more imports would be necessary.

We are unable to maintain adequate standards and develop quite a considerable part of the existing productive capital. This phenomenon and its consequences were pointed out in Zs. Dániel's article in regard of the non-productive fixed capital. In the case of productive capital it is a further grave consequence of the problem that (among other things for the reason discussed), the *gradual* technical development that is so much important is not carried out. A considerable part of depreciation allowance does not serve the development of the existing fixed capital but is spent on further expansion. And gross investments often do not entail the discarding of the old, but old and new technologies continue a "peaceful" coexistence within the same factory. (E.g. in the clothing industry.) In a few sectors (e.g. the food industry) no substantial development of technology is effected for a long time, and not even their standards are properly maintained.

– It is an important symptom of "disproportionateness" that the number of shifts is unfavourable in several important industrial sectors, and no tendency shows for an improvement of capacity utilization.* This renders the functioning of the productive capital of these industrial sectors uneconomical from the very outset. The problem becomes more acute with development. As a rule, the expensive new technology can be operated profitably only with higher utilization of capacity (with an output of higher value). If capacity utilization stays at the previous level, efficiency will deteriorate. New capacities introduced often cannot be operated at all, or with a lower degree of utilization than before. The Tables 4 and 5 on p. 218 give an indication (in respect of employment) of the disadvantageous features of capacity utilization.** The statement must be underlined that the "optimum utilization of capacity" does not depend merely on the number of shifts (time utilization), but also on other factors affecting the value of output.

It is said about a considerable part of investments that it releases labour. Yet, e.g. as a consequence of the above-mentioned contradictory technical "coexistence", labour is not actually released.*** It is partly here that we can spot the oversized state

*If the daily number of shifts is raised in a way that capacity utilization is not improved (e.g. it gets worse in the morning shift), the situation will not change for the better but rather for the worse.

**Security of existence is an important feature of the Hungarian social system. Yet is has never been undertaken by socialism to employ the whole male population in the morning shift. Because, paradoxically, in the industrial sectors with typically female labour the number of shifts is high, even if it has somewhat fallen lately.

***The question was asked at a consultation: news are read regularly, according to which a new machine has been installed which replaced, say, the work of 30 people – where are the 29 men released? I answered the following: the problem usually is, where the *one* man is to be found who could operate at all the new machine, and even more: where the second man is to ensure the use of the new and expensive equipment in the second shift.

of productive fixed capital and the reproduction of labour shortage. What is more, coexistence of the old and the new technologies within the same factory raises new problems, e.g. in wage payment. [3]

And all that is not an individual phenomenon – enterprises and in some cases whole industrial sectors have been reconstructed in this way.

The above-said holds – *mutatis mutandis* – for investments as well. Investments are growing more expensive, the investment process is prolonged, new capacities are introduced with a delay and, not infrequently, when already technically outdated, and the stock of unfinished investments rises steadily. And the loss of production owing to delayed inauguration is usually not even taken into account among losses. (As for the investments of the non-material sectors – such as dwelling-houses, schools, public roads, etc. inaugurated with delay – the statement of opportunity cost does not even come into consideration.) The accompanying phenomenon of all this is the cyclical movement of investments (and within it the fluctuation of the ratio of finished to unfinished investments), which further increases losses.

– Investment efficiency develops unfavourably, and capital efficiency deteriorates already on that account. The productive capital of material sectors grows faster than the total fixed capital and national income (and also than net national product). Even the maintenance of an unchanged (what is more, of a somewhat lower) growth rate of the national income infers a further fast rise in the investments of the material sectors. We are trapped in a vicious circle: the oversize fixed assets of the material sectors necessitate further fast accumulation; and the inadequate structure of investments maintains or increases the disproportionateness of the productive capital in this special sense.

– Application of new technologies renders production more expensive not exceptionally and temporarily, but almost generally and permanently. This phenomenon – that might be and should be considered as absurd – pushes up the price level regularly.

– The cyclical development of investments presumably further aggravates the consequences. If there really exists in every period such value (zone) of the volume of investments that is optimum from the aspect of creating additional national income, or, if you like, that corresponds to the absorptive capacity of the national economy, then, in the period of overheatedness actual investments surpass this value (zone), and in that of restraint stay below it. While the consumption of the population and, what is more, accumulation directly raising the living standards were relatively evenly growing in the years 1971–1975, accumulation of the so-called basic sectors was highly cyclical. Existence of the constraint on the accumulation absorptive capacity of the national economy is directly indicated by the extreme fluctuations in the accumulation of stocks and unfinished investments. (See Table 6 on p. 219).

In the period of over-investment the structure gets distorted; and in the falling section of the investment period not even the minimum of the means necessary for improvement of the structure are available.

Table 4

Shift utilization coefficients of the iron and metal-working machines in the engineering industries by groups of industry

(Daily number of shifts)

	1970	1971	1972
Manufacturing of machines and equipments	1.14	1.11	1.11
Manufacturing of vehicles	1.20	1.19	1.17
Manufacturing of electrical machines and appliances	1.18	1.15	1.02
Telecommunication and vacuum-technical industry	1.24	1.21	1.16
Precision engineering	1.20	1.20	1.15
Metalware industry	1.15	1.11	1.06

Table 5

Number of daily shifts in the textile industry

Denomination	1966	1970	1971	1972
Average number of spindle shifts				
Cotton spinneries	2.83	2.77	2.76	2.74
Worsted wool spinneries	2.65	2.65	2.58	2.61
Flax spinneries	2.83	2.80	2.78	2.67
Carded wool spinneries	2.77	2.66	2.60	2.62
Average daily number of machine shifts				
Cotton-weaving mills	2.83	2.80	2.74	2.71
Flax- and hemp weaving mills	2.64	2.58	2.61	2.59
Wool-weaving mills	2.75	2.71	2.76	2.69
Silk weaving mills	2.80	2.90	2.90	2.90

Source: Statisztikai Időszaki Közlemények, Ipari adatok (Periodical Statistical Publications, Industrial data) 1973. pp. 216–217.

It is justly assumed that in case of a relatively smooth growth of investments the absorptive capacity of the national economy would be larger.

– On the market sellers have almost without exception the upper hand over buyers (including productive users). In the production sphere regular shortages (incl. chronic labour shortage) hinder, and often prevent, a reasonable combination of productive resources. In such a situation, of course, neither technological nor labour discipline can

Table 6
*Accumulation in the basic sectors** (1970 = 100)

	1971	1972	1973	1974	1975
Net accumulation of fixed assets	113.2	109.6	121.9	106.6	153.3
Accumulation of stocks and unfinished investments	197.5	49.2	15.8	172.5	14.2
Total	135.6	93.5	93.8	124.1	116.3

**Anyagi ágazatok, a bolti kiskereskedelem, a vendéglátás és kereskedelmi szolgáltatások, továbbá a városi villamos és autóbusz, taxi és helyi közlekedés nélkül.* (Material sectors excluding shop retail trade, catering and commercial services, city tramway and bus transport, taxi and local transport.) In: Népgazdasági mérlegek 1975. (National economic accounts, 1975.). Budapest, 1976. Központi Statisztikai Hivatal. p. 28.

be ensured. And in the consumption sphere material incentive is weakened, beside other negative effects. All that is demoralizing economically as well as politically.

The phenomena accompanying, and the figures demonstrating, the development of the two departments and of the four subdivisions reflect that the fixed assets of the productive sectors are disproportionate in a special sense and primarily for structural reasons. And, though the economy and the population badly need the additional output of these sectors, the expansion of productive capital to an extent exceeding the absorptive capacity of the national economy leads to deterioration in the efficiency of capital i.e. only to a relatively modest growth of output. A further consequence of all that is an insufficient increase of the fixed capital of subdivisions I_b and II_b. (Capital is partly identical for the services connected to the two subdivisions, e.g. the railways.) Disproportionateness further hinders the increase of output of subdivisions I_a and II_a, so that it is a further factor in the deterioration of capital efficiency. This negative effect hinders – indirectly because of the insufficient development of K_{IIb} (e.g. insufficient development of the educational system), and directly because of the insufficient development of K_{Ib} (e.g. transport) – the increase of output of producing sectors and the improvement of their capital efficiency.

I wish to mention it at this point that the building industry is usually not classified as infrastructure, and in our computations it does not figure in subdivisions I_b or II_b, either. And yet the development of the building industry (and also that of the building materials industry) belongs at least as much to the system of conditions of the investment absorptive capacity, as that of the infrastructure directly serving production. The building industry is a constant bottleneck of the growth of productive capital and, generally, of reproducible national wealth.

Conclusions drawn from the analysis of productive fixed capital

It becomes clear, from the above-said, first, that long-term economic development plans cannot be based upon our putting up with the existence of the phenomena and with their consequences enumerated above; second, that the labour shortage upon which attention is centred is basically a *consequence* of the disproportionate growth of capital in a special sense in the material sectors.

It follows that, though playing an important role, labour management cannot in any way get at the root of the problem. Administrative labour management measures are even less suitable for the purpose. Third: also capital shortage is a result of the oversize capital. (Here is to be found the main source of capital shortage in infrastructural sectors, too.) But it is also clear from what has been said that this oversized state is of a special sense. As I have already pointed out, what I want to say is by no means that the production volume of material goods, or industrial production in it is too large. Production of material goods, and within it industrial production, are low in comparison to the engaged and accumulated capital; *the growth of the former is slow as compared with that of the latter.*

This oversized state shows mainly in two dimensions. First: *the range of output of material goods is too wide* and goes on widening. Second: *new technology settles on the old one and does not drive it out* at the necessary rate. The same refers to the development of material production sectors i.e. to investments. Oversized investment does not consist in that the amount of either the gross or the net investments were too high. This oversized state further increases if the growth rate or maybe the volume of accumulation diminishes, while the structure of the fixed capital continues to deteriorate. It may well be that in the average of several years (e.g. a five-year period) a much larger part of national income should be spent on the development of material production sectors. The trouble is that whether a smaller or a larger part is spent on investments, they will systematically reproduce the oversized state, in the above explained sense.

It follows from the preceding that the two-directional oversized state could be eliminated through a concentration – *in the proper sense* – of the fixed capital of material production, and the same purpose ought to be served also by investments.

I see one direction of concentration in the proper sense in *that the new technology adopted should drive out old technology at a much faster rate.* But enterprises are also interested in the maintenance of the coexistence of old and new technology under the conditions of the given control and regulation system. Application of the new technology makes production more expensive; enterprises use it not because it is profitable for them, but because they are forced by labour shortage to do so, since that is the only way for them to carry out their increased production programmes which, however, are too much expressive of a quantitative growth. It is a serious contradiction that in respect of profitability numerous enterprises "live on" the old technology, i.e. they use it to support also the functioning of the new technology. This

situation hinders the spreading of the new technology and the discarding of the outdated one.*

If we do not make a change, the simultaneous shortage of capital and labour will be increasing, and preservation of the old technology beside the new one will remain a fundamental form of appearance of oversize capital. (In the maintenance of this "coexistence" a serious role is played by the survival of the so-called quantity approach.)

The other direction of concentration in the proper sense would be *a definite narrowing of the range of production.* The implementation of this trend raises, however, several theoretical and practical problems.

In recent years various decisions have been made in Hungary to stop production which is uneconomical on national level. Certain results have been achieved. But we know that they are not satisfactory.

Successful changes are perhaps hindered exactly by the fact that the purpose set is *not* primarily to narrow the range, but to stop uneconomical production. What is the difference between the two approaches? If we start from the aim of stopping uneconomical production, and set it as our primary aim, it is difficult to find an objective measure by which it can be judged, which production is economical and which is not. What is more, the profitability defined by the price system is by far not identical with economical production in the national economic sense. The problem is not only that the valid price system shows profitability with a "distortion". No price system – not even a calculative price system – is able to provide unambiguous information on macro-economic efficiency. (What is more, we receive other results if internal conditions are considered, and again other ones if an international measure is used.) And, our measure being uncertain, we cannot be resolute in making decisions. Yet the basic cause of uneconomical production is not that there are unprofitable subsectors, enterprises and products, but that the production range is too wide. If we delay narrowing down the range as long as we can find an objective measure for uneconomical production, we may never seriously set about concentration is this sense. Therefore, I think that we ought to start from the point that, with a view to making production economical, the primary task is to narrow the range of production. Let us suppress what is relatively the least economical. But, under the given conditions, the efficiency of productive capital cannot be improved without narrowing down the sphere of productive activities. To illustrate this, let me use a simile that may be not entirely inappropriate. If the gardener dares not prune his fruit-tree, because he cannot decide which branches would be the least productive, the tree will spread and grow green, but it will bring small and stunted fruit.

The lack of criteria is, of course, not absolute. We can draw up such a list of sectors, subsectors and products which will make it clear, which are leading from the

*Changing of the principles of setting producer prices may mitigate the contradiction but does not eliminate it.

aspect of economical production (yield in the national economic sense), which make up the main body of the army, and which are at the rear. Obviously, it is the last group that wants "pruning", even if we cannot set up an order *within* the group, since we have really no adequate criteria for it. This necessitates, of course, the carrying out of these analyses.

It may be suggested that the subsectoral structure of production needs no changes: what has to be done is to change the product-mix. I cannot agree with this extremist standpoint. Doubtlessly, for improving economic efficiency it is of great importance if enterprises are forced by their economic environment to transform and narrow down their product-mix. Yet the change in product-mix within enterprises cannot solve perfectly the above discussed problems if the distribution of fixed capital and labour by subsectors and even by sectors remains the same; what is more, maybe even new sectors and subsectors are developed through central decisions. Changes in the microstructure under such conditions would not eliminate, what is more, would not even mitigate the chronic capital and labour shortage. (If an enterprise switches over from the manufacturing of one product to another one, that will not stop low capacity utilization, the small number of shifts, labour shortage, etc.) The development of technology makes it inevitable, of course, to introduce new subsectors. If that process takes place in a way that the new always settles on the practically unchanged old, and the range of products is thereby further widened, instead of concentration a continuous deconcentration will take place in the structure of production.

It may not be unnecessary to remark that the narrowing down of the production range does not mean that a certain production structure ought to be fixed in this country for ever. On the contrary! It would be one condition of the so much desired flexibility that, by amending internal and external economic (and not only economic) conditions: the production structure should be able to change within a reasonably short time.

Last, but not least: I am almost ashamed of saying it, since it has been heard already so many times: only so many investments should be started at the same time, as we are able to finish and put into operation within the shortest time with the given standards. To put it more simply: resources earmarked for investment should be used in a way that the gestation period of investments should be essentially shortened and that the stock of unfinished investments should not grow but rather diminish, if possible. And all that should be a lasting tendency, with no periodical fluctuations. In this context the aggregate of all investments is meant, that is to say, the aggregate of central and decentralized, productive and infrastructural investments. Although all that is commonplace, the real situation is different. Economic policy practice also conflicts with this important requirement. As a matter of fact, it was one of the important aims of the reform of the Hungarian economic mechanism to create a balanced "market" also in the sphere of investments, i.e. solvency should constrain investment demands according to possibility. Well, this is perhaps the target of the reform which has been

the least realized. (It requires a more thorough examination, to what extent this target was realistic and what conclusions should be drawn from the results.)

I have emphasized all along that concentration must be interpreted correctly, since it is the key to the elimination of the oversized state. With regard to correct interpretation, I call attention to two interdependencies which I consider important.

There is a tendency observable in Hungary that small plants are liquidated and labour is "redirected" to large-scale plants, what is more, this tendency has recently become general. Such change undoubtedly reduces the oversized state and enables a higher capacity utilization of the productive capital. Yet for this concentration we pay more than what we have won. One of the basic conditions of the efficient operation of productive capital, and generally of resources is, namely, the flexibility which cannot be provided for without a sound structure of production – and within it, of industry – according to plant size. It is well-known that in the Hungarian economy the number of medium and small-scale enterprises has already unhealthily shrunk. Therefore, *concentration must not be effected through liquidation of small-scale enterprises necessary for a sound production organization,* but – again – by driving out part of the subsectors (and by changing the product-mix within the enterprises); even if such subsectors are involved in which large-scale enterprises are functioning.

The cutting of the range obviously infers a deliberate structural policy on the part of the state. Assertion of the latter also requires adequate centralized means and, since every cut raises demand for foreign trade, the tendencies of foreign trade structure must also be well selected and then developed.

If the ratio of centralized investment funds is too low, the oversized state discussed cannot be eliminated. But the reverse of this is also true. Concentration efforts must not lead to repression of enterprise development funds relative to central funds. In that case, we would lose in improvement of efficiency as compared with achievable results. In regard of the interdependencies under examination it is enough to point out that substitution at a faster rate of new technology for the old one, and the changing of the product-mix of enterprises both infer substantial enterprise funds, their free disposal, and an adequate system of incentives. In connexion exactly with the latter, I must point out a further circumstance. I have said before that by concentration I do not mean the liquidation of small-scale enterprises. At the same time, I think that the existence and even the possibility of growth of weak enterprises – independently of their size – "feeds" deconcentration. Hungarian enterprises are doomed to growth. Into the mechanism of the enterprise (into both the pre-reform and the post-reform ones) the founding socialist state places such a programme that it should strive for survival and growth with all its forces and under all circumstances. (The recent law on enterprises prescribes the same!) And, if the economic environment of the enterprise – the market and the control system together – allow it, it will indeed do so. The enterprise has no possibility to decide on reduction. Market conditions should be changed so that the conditions of existence of weak enterprises should narrow down. But it is exactly the general shortage based on the chronic capital and labour shortage that enable their

survival from the side of market conditions. In this respect no quick change may be expected, either. Therefore, such further development of the control system is of an increased importance, as would narrow down the possibility that weak enterprises should easily survive and even grow only because we treat the rate of economic growth as an aim overruling in importance every ordering principle.

Finally, it must also be pointed out that a correctly interpreted narrowing of the range of production will meet with *numerous practical difficulties.* As regards our internal conditions, production is over-specialized. Foreign relations are not simply characterized by the openness of the Hungarian economy, but also by the fact that the ties with the international division of labour are rather rigid, – in both exports and imports – for different reasons in respect of each country. Even if it is a change in the product-mix within the enterprise that is involved, the cutting of the range of products may cause disturbances in home production and in supply to the population (and does so, quite frequently), and it may or does cause trouble in earning foreign exchange and in the fulfilment of export obligations* What follows from all this is, however, only that the cutting of the range of products can and must be implemented with great care, and gradually, that is to say, according to a plan. Further, it also follows that the properly interpreted concentration (in both dimensions) should not be treated as a campaign, but development policy must continuously secure that the productive capital of the material sectors should be of a size near the optimum.

The ways and means of improving economic efficiency are sundry. From among them we have selected the elimination of disproportionateness of productive capital in the material sectors (as well as elimination of the capital shortage of infrastructural sectors). We have indicated the changing of structures as the fundamental way – examined from several aspects. Besides, however, there are several other important phenomena (a part of which we have touched upon) that hinder the successful operation of the national economy and are sources of losses. In almost everything that has been written on the question in Hungary attention is called to the problems that the efficiency of central control must be improved, the incentive and regulation system, the level of management and organization must be perfected at all levels, the work of enterprises must be improved, material incentive and work morale must be strengthened. Let us add that it depends to a large extent on the state of these factors, what volume of productive capital can be operated, at what rate they can be increased efficiently, and what is the accumulation absorptive ability of the national economy. In our opinion, however, we can have access to the larger part of these "reserves" only

*An excessive cut of the range of products may render the national economy sensitive to changes on the foreign market to an extent jeopardizing stability. The Hungarian economy is still dependent on foreign economic relations. From this, however, no such conclusion must be drawn that we should not further develop our relations to the international division of labour and should strive for autarky instead. Yet in determining the rate and directions of our increased joining the international division of labour we must observe even more our possibilities delimited by international relations and the demands of domestic supply with means of production and consumer articles.

if we eliminate the disproportionateness – in the special sense discussed – of productive capital, and the resulting chronic shortage of both capital and labour. This is also the condition of bringing about right proportions between the growth rates of capital serving production and that serving consumption, and within the latter, for the development of the capital (and labour supply) of non-material sectors. In my opinion that is the point at which we can and must break out of the vicious circle.

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ЕЩЕ РАЗ О РАЗВИТИИ И СОСТАВЕ НАЦИОНАЛЬНОГО БОГАТСТВА

Р. ХОХ

Что является причиной одновременного дефицита капитала и рабочей силы в венгерской экономике? Автор видит причину в основном в чрезмерно раздутых производственных фондах, в том, что они расширяются в большей степени, чем возрастает способность народного хозяйства в их освоении. Производственные капиталовложения – независимо от того, высоки они или низки – постоянно воспроизводят чрезмерные размеры производственных фондов. Это, по сути дела, проявляется в том, что по сравнению с объемом и ростом производственных фондов, недостаточен объем и рост выпуска продукции.

Чрезмерные размеры производственных фондов проявляются не в их абсолютных размерах, а в их структуре в специальном смысле. Слишком широк спектр выпускаемых материальных благ; кроме того, новая техника накладывается на старую, а не вытесняет ее. С точки зрения этого двойственного структурного аспекта необходимо, в частности, сократить путем соответствующего развития производственных фондов (включая и тщательно проведенное их постепенное свертывание), а в дальнейшем – покончить с этим чрезмерным – в специальном смысле развитием.

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ENTERPRISES IN BARGAINING POSITION

The article treats "bargaining" as the process of reconciling interests between enterprises and central control organs. The objects of the bargain are the resources, advantages and favours necessary for enterprise operations that are at the disposal of the central control organs. Under the socio-conomic conditions of Hungary the bargaining usually takes place peacefully, in the form of negotiations. If, however, enterprises do not attain the wanted result, they activate their allies, first of all the sectoral ministry which is equally interested in acquiring the central resources, and they may use also more effective means in the bargain. As a consequence, resources are often allocated not to the desired objectives and not in the desired proportions. The precondition of changing the situation is to increase enterprise independence (autonomy).

The word "bargaining" – as a characteristic expression for the process of reconciling interests between enterprises and control organs has been in use in Hungary for a long time among those dealing with questions of national economic control, first of all among economists. The first expression used was still in the period of the most rigid plan directives – the very apt words: "plan bargain". By now the use of the word "bargaining" has become completely general, indicating that every instruction, desire, and distribution of resources coming from the control sphere may be an object of bargaining between central organs and enterprises.* There is bargaining about the extent of "expectations", the support and preferences available under various titles, the size of credits, the way of repayment, the lifting of import restrictions, that is to say, about everything in which the interests represented by the central organs may be different from that of the enterprise.

In everyday usage, and even in several economic studies, the word "bargaining" has often a pejorative connotation in Hungary. In the international literature, however, it is used as a simple technical term: to indicate the concept of the process of *reconciling interests*. Accordingly, bargaining takes place between two partners with different or conflicting interests if each of the partners is able to have his own interests accepted, i.e. he is in such a position and in possession of such instruments as enable him to move the other partner to take steps or accept compromises in accordance with his own interests. In this sense bargaining is involved also if it takes place in the most peaceful manner in

*For illustration one has only to look into the economic periodicals: Andrea *Deák* writes about bargaining for support of investments [1], Gábor *Révész* makes mention of a "regulation bargain" referring to regulation of earnings [2], and Mihály *Laki* [3] deals expressly with the bargaining instruments of state authorities. From a certain point of view my article completes Mihály Laki's study by presenting the situation and possibilities of the enterprise, that is, the other partner in the bargaining procedure, and by outlining the socio-economic bases of the factors that bring about the bargaining between the two partners.

the form of negotiations, as well as if the compromise reached as a final outcome corrects the wrong ideas of planners and thus leads to a solution more desirable for the national economy. I myself use the word in this sense.

Sociologists consider bargaining or the reconciling of interests as an objective social process. Since there necessarily exist in society and economy differing and conflicting interests, also their reconciliation is a permanent process, which takes place amid historically developed rules of the game (forms and instruments to be used). The *existence* of this process cannot be qualified by ethical norms; it is not good or bad, useful or harmful. It is only its forms and instruments, as well as the consequences of the compromises that can be qualified as having socially desirable or undesirable effects.

In the following, relying partly on my own experience * and partly on phenomena described by others, I shall attempt to analyse *from a sociological aspect* the socio-economic circumstances that determine *the reconciliation of interests in the economic sphere* between central organs and enterprises – in this sense a *social* phenomenon. (This is only one of the possible aspects and does not replace analyses from other aspects.) It follows from the nature of the subject that I do not deal with such cases in which national economic and enterprise interests are in harmony without any particular reconciliation. Further, I shall not deal with the *economic* consequences and economically measurable results of the questions of the bargaining, nor with whether the result may be qualified as good or bad according to some *economic* norm.

How does an enterprise get into a position to compel central organs into negotiations and reconciliation of interests, to lay down conditions and to assert its interests? As a matter of fact, the partners are not equal, one of them – the economic control organs of the state – wield power: they possess manifold instruments for rewarding and sanctioning by means of which they can enforce their will even against the other partner.** The other partner: the enterprise is in a subordinate and dependent position; it is obliged to comply with the written and unwritten rules and instructions of the superior authorities. How can

*My own experience supplied plenty of information about the "investment bargain" when I examined the decision-making on enterprises investment actions. In 1973–1975 I examined the history of twenty-four investment decisions in eight enterprises, with special regard to the interest-background of decisions and the possibilities of asserting enterprise interests. Partial results of this investigation were published in the studies [4] and [5].

**The word "power" – again differing from everyday usage – has no political content. The above formulation is based upon Max *Weber's* definition, according to which "by power is meant the possibility of one or several individuals to enforce his or their will in some common action even in spite of the resistance of other partners". [6] *Héthy* and *Makó* [7] stress it, too, that they use the word "power" as a technical term, "by no means in a political but in a much wider socio-economic sense". What I consider power positions are those whose holders have at their disposal, in a socially legalized manner, the means – equally legalized – of rewarding and sanctioning, which ensure that they can put their will into effect. Those not disposing of power instruments may get at the most into a bargaining position. (It is a different question that enterprise managers, in a bargaining position with central organs, enjoy a power position within their own organisation, and it is they who hold the means apt to carry out their will – and thus also their interests – more advantageously in opposition to the members of the organization.)

it then get into the position of a partner able to force the other one into bargaining and reconciliation of interests? As experience shows it, the different enterprises do not have equal chances. Some enterprises have never been yet in a position to induce control organs to negotiate, while others continually and intensively influence the intentions of central organs according to their own interests. What gives them this ability? *

In this article the most important factors of getting into a bargaining position will be treated, as well as the instruments and actors of the bargaining, and, throughout, the interrelations underlying the phenomena: what has brought about and what maintains the bargains about the reconciliation of interests between the two partners by far not in an equal position.

Within the general phenomena, the illustrations are taken mainly from my own research experience, which means that one of the special cases: the investment bargain will be given greater emphasis. This will present a limit, however, only to a more detailed explanation, but will not weaken the validity of the message.

Determinant factors in the organization system

Paradoxically enough, the enterprises' getting into a bargaining position is an "irrational" product of the entire control system and the related management organization system planned to function rationally.

I begin the explanation of the preceding statement with an axiom of organization-sociology. According to it, every formalized organization** has, from the moment of its establishment, its *own* group interests different from those of other organizations and sometimes conflicting with them. The particular group interest – partial in comparison with the whole of the socio-economic environment – originates in the necessity that the organization must ensure, from the moment of its birth, the conditions necessary for its existence, such as financial resources, labour, and customers for its products (or services). Conditions are provided by the socio-economic environment, and in a given period in a given – sufficient or scarce – quantity. Every organization strives – in accordance with its vital interest – after ensuring its own functioning. Therefore, existence of the independent organizational interest is at the same time the carrier of differences and conflicts of interests.

*Héthy and Makó call it "assertion ability".

**In sociology generally two large types of organization are discerned: the so-called "social" or "spontaneous", and the formal organizations. In the sphere of organizations founded according to a plan, prescribing exactly the organizational actions of the members, "imperatively coordinating" their cooperation, and functioning strictly according to rules (and therefore described by the word "formal" taken from Latin, or "bureaucratic" using Max Weber's expression) are listed industrial enterprises and, beside economic organizations, also government offices, hospitals, schools, the army, etc.

Applying the preceding, rather abstract statements to the given situation: under Hungarian conditions (and exactly with the establishment of the organizational system) the resources concentrated in the hands of control organs have become the determinant elements of the socio-economic *environment* of the enterprise.

Historically, this situation has developed through the exaggeration of the necessary and possible extent of the planned economy and through the establishment of an organizational system serving direct control. At this point I wish to touch upon only one aspect of this wide sphere of problems.

The existing hierarchical economic organization system of Hungary can be divided – with great simplification – into three different levels. In this approximative schema the uppermost level is represented by the top party and government organizations functioning in the form of bodies and committees (Central Committee, the Council of ministers), and their executive machinery. The second level is represented – though not equal in "rank" – by the National Planning Office, the functional and sectoral ministries, and other superior organizations with national authority. The third and lowest level of the organizational hierarchy is represented by the enterprises. (The schema could be further refined in many different ways, yet it seems sufficient, from the aspect of our subject, to use only a rough outline of the hierarchy.)

This organizational system was intended to satisfy the needs of a strictly centralized control.* The system following in its organizational principles the army (the type of organization most consistently carrying out strict regulations) promised to be suited for the central control conceived to comprise every economic process and to go into details. As I explained more extensively in the above-mentioned article of the periodical "Gazdaság": the hierarchical organizational system corresponded to the demand that the instructions directed downwards from the centre should reach the enterprises through clearly defined channels, and possible reactions (signals) should progress upwards. In the functioning of the organizational system the primary demand was that instructions from above should be strictly executed; independent and local actions could get only a very limited space.

This direct form of control requires in fact such an organizational system in which there are not too many small units – thus difficult to "keep in hand" – even at the lowest level. And, though separation of lines of production activities, amalgamation of small enterprises and foundation of large enterprise units were stimulated also by the expected economic advantages as well as by numerous other factors, it is beyond doubt that one of the most important reasons was the requirement of easy controllability. The effort that the smallest number of steps of direct control should be created and that simple and clear channels should reach the smallest possible number of organizational units led in Hungary in the control sphere to the foundation of industrial directorates in

*The essential marks of the organizational system, as a "model" of the economic mechanism based on plan directives, in which enterprise activities are determined by vertical relations, i.e. those of sub- and superordination were first presented by János *Kornai* in [8].

command of a certain limited number of enterprises and then to the fast reduction of the number of enterprises. (In 1950 there were still 1427 enterprises. By 1965, that is in fifteen years, their number was reduced to 840; parallel with repeated reorganizations of the control levels, such as the elimination of industrial directorates.)

The 1968 reform of economic control brought a fundamental change in the functioning of the Hungarian organizational system; elimination of plan directives led to the elimination also of the directive relationship between sub- and superordinate units. Yet the organizational system remained intact, though the necessity of its changing had arisen at a time. Finally, for several reasons, and in the hope that the reform of control may be successful even without changing the organizational system, no essential changes have been effected. This partly accounts for the fact that relationships of dependence – even though in a modified form – have revived within the organizational system, first of all between sectoral ministries and the supervised enterprises.*

To the several well-known undesirable consequences of this situation (such as the lack of flexibility in too large units, their more difficult adjustability, etc.) we can add also the "monopolistic position" of a few enterprises. The latter is undesirable because these enterprises originally founded with a view to specialization and organizational concentration and carrying on certain economic activities with exclusive right, are of large size and have a key role on account of their position: "on the seller's market", they can exert a considerable influence on the functioning of the economy.**

That is to say, it is exactly because of the rational control needs of the organizational system that certain enterprises have obtained such position and got hold of such an important role in the functioning of the economy that, in the case of conflicting interests, they are capable of forcing to negotiate and of influencing the decisions of the control organs and thus also of asserting their own interests – partial as compared with those of the national economy.***

The primary and natural objects of conflicting interests are the resources, advantages and favours of which control organs dispose. And, though the sphere of centralized resources and advantages changes from time to time, several conditions of the functioning of enterprises are still ensured through the superior control organs.

And, since sharing in the resources and advantages, as well as improving the conditions of functioning are a fundamental and objective group interest, enterprises try,

*Besides – though now for other reasons – the processes of enterprise centralization are going on. The number of enterprises does not stop diminishing, even if at a much lower yearly rate than before: state industry had 812 enterprises in 1970, and 712 in 1977. Source: Statisztikai Évkönyv, 1977. (Statistical Yearbook 1977.) Budapest, 1978. Központi Statisztikai Hivatal p. 133.

**The "monopolistic character" in socialist conditions was analysed by György *Varga* [9] and Annamária *Inzelt* [10].

***This question – though from somewhat different aspects – has been treated by several authors. (See for example [11].) It is about this situation that Lajos *Zelkó* wrote the following: "The power of large-scale enterprises and the fact that they largely concentrate the most highly developed forces of production of the country render them able to assert their interests through the central organs and to a certain extent also at the expense of home consumers." [12]

as far as they can, to acquire as much for themselves as possible. (Improvement of the conditions of functioning is *an identical but not a common interest* of enterprises. Every enterprise competes for the same resources, while making efforts to assert its own interests. By acting thus, enterprise managers at the same time fulfil social expectations: it is their duty to care for improving the conditions of functioning for the enterprise in their charge.)

Among the enterprises, however, it is exactly the largest ones or those considered to be of key importance or enjoying a monopoly – even if they are smaller – that are really in a position to have a larger share in resources and to influence the decisions of superior authorities, since *the basis of the bargaining position is the place of the enterprise taken in the national economy.* (As the economic director of a large-scale enterprise said of their own situation: "Even the ministry is careful with an enterprise in which 15 thousand men work and two priority programmes of special importance are on their way – you must not fail here, and the ministry is well aware of it.")

As a consequence of the changing needs of the economy a great number of enterprises may get into a position in which, transitorily at least, the demand for their products grows unexpectedly, and their role becomes more important within the overall functioning of the national economy. (For example, its products are needed for a certain large investment.) Therefore, temporarily, several enterprises can acquire a bargaining position, when those disposing of resources are obliged to take their demands into account. A permanent and firm bargaining position comprising various interests of the enterprise is rooted, however, typically in a permanent monopoly, particularly if it is coupled also with large size, as is typical in Hungary.

The bargaining position of the enterprise may be strengthened also by some other factors. Such are, for example, outstanding economic results, especially those attained on the western markets. The hope to keep these results prompts superior authorities to accept a wide variety of enterprise interests; the enterprise may enjoy special rewards for its market results. The bargaining position may be further strengthened by the person of the manager, that is, his direct personal relationship with the superior control organs and the ministry. (The higher the level of the relationship, and the more direct it is, the better the position of the enterprise in which it can negotiate with other superior authorities.*)

*A similar conclusion was reached by Tamás *Földvári* in his analysis of the position of enterprise and cooperative executives: the managers of small- and medium-scale units (and thus in most cases of cooperatives) have much smaller influence on the decisions affecting the general and permanent conditions of the economy than have the managers of large state enterprises. [13] We can find such conclusions in a great number of studies. In the Institute of Philosophy of the Hungarian Academy of Sciences case studies were made of six medium-scale engineering enterprises of Budapest. In the summary the authors described their situation among other things by saying' "Between large-scale enterprises in Budapest and the sectoral ministries a very close relationship has evolved. As opposed to this, between the medium-scale engineering enterprises and the Ministry of Metallurgy and Engineering loose and incidental contacts are to be observed . . . the latter enterprises are less able to influence decisions of superior authorities than the above-mentioned large-scale enterprises."

And the enterprises do make efforts at achieving a good or better bargaining position. A well-proved way to this is *extensive development* either through enlargement of the technological bases, or by increasing the staff; though under the Hungarian conditions the two are still usually concomitant. Investments can help to expand capacities, and increased production attainable with the higher capacities helps to increase the role played in the economy. Growth may help small enterprises also to get into a "higher" category, for enterprises of "special importance": those in categories "A" and "B" are first of all delimited by the size of the value of output. In today's labour shortage situation the characteristic way of growth is amalgamation of small auxiliary – sub-contractor – enterprises into large-scale ones. Enterprise centralization, still going on in Hungary, is partly explained by this fact. In this instance it is not stimulated by the central organs, but initiated mostly by the large-scale enterprises. The economic argument is usually prevention of troubles in cooperation, and rendering secure production in the large enterprise; yet the enterprise is stimulated also by the possibility of growth.*

One of the consequences of the slow but continuous centralization process is that a relatively large number of the enterprises – ever less in number but of constantly increasing dimensions – acquire a permanent and firm bargaining position; it is the partial interests of these enterprises that may deflect central intentions from the plan. One of the most obvious examples to illustrate this is the yearly repeated transgression of investment estimates. Against government intentions Hungarian enterprises have always got considerably more investment resources than would be allowed by the equilibrium and development of the economy, and the investments "above" the plan have been the cause of disproportions and tensions in the economy for years. Another example is the growing sphere of enterprises exempted from the general rules, judged individually and enjoying various exceptions and benefits.

In the given situation the primary problem is not that enterprises influence central organs: this might as well serve a more harmonic functioning of the economy. Yet, influencing itself is of an uncertain outcome, for in the given organizational system – at the higher levels of which there also exist separate organizational communities with particular interests – the enterprise interest may be asserted also in an uncontrollable way, for example in the transfigured form of a higher-level, ministrial interest. The real problem is that, as a consequence of the inherent laws of motion of this organizational system, it is the dependence relations that strengthen instead of the desirable enterprise independence. The key question is thus the *extent* of central control: how much the central authorities wish to keep in hand from the conditions of enterprise functioning; how much profit they tax away from enterprises, and to what detail they prescribe the

*Annamária *Inzelt* publishes the data of ten large enterprises she has observed: between 1969 and 1976 nineteen small enterprises were amalgamated; while only one enterprise separated and became independent. According to the data of the 1977 Statistical Yearbook there were 280 enterprises supervised by councils in 1970, and only 168 in 1977, that is, one-third of these enterprises were amalgamated during the period. [15]

enterprise on what it may spend the part left to it, and what result it is to achieve each year. No optimum proportion between central control and enterprise independence could be found so far; and increased dependence in the given organizational system renders the reconciliation of interests between enterprises and central authorities permanent and extends it over a growing number of areas.

The internal relationships of the organizational system

In order to understand the course of the bargaining process between enterprises and control authorities, as well as its special conditions, we have first of all to examine a few characteristics of the relationships within the organizational system.

The once conceived rational, so-to-say "military", hierarchical system of relations became unintentionally transformed during the past decades: along the lines of formalized and prescribed relationships personal or informal relationships have strengthened.

Looking at it only from the enterprise point of view: the enterprise has, among its various relationships with its environment, formalized and prescribed relations with the control authorities and different organs of national or regional scope of activity (e.g. the bank, regional administrative, social and political organs). There are persons with definite functions within the enterprise obliged to handle these relations within prescribed or expected forms. (Such relationship is maintained by the enterprise director with the regional party organization, the deputy minister, the head of department of the ministry, by the major departments of the enterprise with the corresponding departments of the ministry, and by the economic director with the bank, etc.) Participation in the occasional or permanent work committees – such as the corresponding development committees of the ministry and the National Technological Development Board – can be considered as part of the formalized relationships, even if somebody is drawn into the work not as a representative of the enterprise, but as an acknowledged specialist.

These relations of dependence and work are at the same time, in a broad sense, those of information: it is along the lines of formalized relationships that pieces of "information", instructions, and suggestions basically determining enterprise activity are flowing.

Along these strictly defined and regulated lines of formalized relationships, however, human beings are in contact with each other. Therefore, along these lines, and closely intertwined with (partly, however, independent of) them, *informal relations based on personal acquaintance necessarily develop.*

Informal relationships intertwined with official ones have been in existence for long and in a wide sphere at almost every level of the hierarchy of enterprises and central organs. (Between the managing director and ministry directors, between heads of major departments and heads of departments, with every executive of the enterprise officially entitled to maintain external relations.) The general and comprehensive character of these relations is not independent of the relatively small size of the country, as well as of the

origin and career of those working in economic control organizations, and of the permanent cooperation – now often over several decades – between enterprise managers and those working in control authorities.

My own experience agrees with the observations of various approaches in the Hungarian organization-sociological researches, proving the important role of informal relations: as everywhere in the world where enterprise managers expect certain advantages from their wide social and work relations, also in Hungarian enterprises we find clearly an effort at strengthening the personal character within the formalized relations. "Because circumstances are very uncertain and changeable, personal and subjective judgement receives by all means a great importance in decisions. Therefore, we try, even instinctively, to develop good personal relations with those in the superior authorities, and to give a favourable picture of the enterprise, since this might increase the changes of the enterprise in getting its share from the various resources and grants." – an enterprise manager said.

Under the previous economic control system in Hungary, among other things exactly because of closer dependence, the direction of the informal relationships of enterprises was also more concentrated: mainly on the ministry, the National Planning Office and certain party organizations; by now, because of a more divided allocation of resources and advantages, the widening of relationships has become more important. As one of the enterprise directors put it: "I might say that we organize relationships with the various institutions purposefully." And new acquaintances resulting from the purposefully organized relationships contain at the same time new possibilities for establishing closer personal relations: by recognizing similar efforts and views, as well as advantages that can be granted mutually.

Closer personal relations do not necessarily involve friendship outside the working relations, in fact, they are in most cases limited to the latter. Nor are they based on any illegal advantages, though enterprises are ready to grant "favours", subject only to moral condemnation, e.g. they make available certain products not yet on sale or out of stock in the shops; sell at factor prices certain products not for sale in shops; perform services out of turn; exchange goods under guarantee without making difficulties, etc. Yet even without these favours a personal touch will be given to official relationships among one-time university colleagues, or those coming from the same county, or from the same workplace, and among those working within the same committee, etc. These relationships are carefully watched everywhere: "A great number of present-day leaders went from here, social organisations as well as the trade took them. The minister was an engineer here, the head of department X of the ministry used to work here, and there are a lot of others in the ministry who were working here previously." (Secretary of a trade union committee.) These are the people upon whom enterprises first of all rely.

One of the most important advantages of such relationships for the enterprises is information about future possibilities. The reason is that potential actions and available financial resources are only partly explored through the official and institutional external relations of the enterprises. Those having good relations may know, even before the

announcement of tenders and programmes, which superior organ has money and for what project, what will be the terms of the tender etc. Further, it is by using these channels also that the enterprise starts its own initiatives. (Fragment of an interview from the history of a dvelopment action: "How did you know that this action should be started exactly now? – Those who have good friends in the ministry will be told confidentially – since these are mostly not brand new and unknown things – to submit the proposal as soon as possible." – a head of section.) The relationships of the enterprise connecting it with its environment and the more personal ones intertwined with the former are not of the same value. Although there may be exceptions, the information coming from a higher level of the control hierarchy is generally more valuable – because more reliable; for example information given by the responsible leader in the ministry to the enterprise director.

Although the enterprises try to establish good connexions with every organization in the control sphere, they have usually the strongest relations with the sectoral ministry.

Beyond the direct and everyday working and dependence relations, the closer personal ones have been formed and strengthened by several factors. First of all the evidency of common interests. There have always been shared interests to the extent of common dependence on the highest level of the hierarchy: the sectoral ministry responsible for the functioning of the enterprise, and the enterprise under its control were both interested in that the latter should be given tasks that can be securely fulfilled, and with them as much means, investment, wage funds and import purchasing possibilities from the central resources as is possible. And, though after the 1968 reform enterprises tried to act as independently of the ministry as was possible, to the extent as means became recentralized, their common interests have strengthened again.

Besides, for those belonging to the closed community of a certain sector it was this sector that provided a natural scope of movement at the time of important organizational reshuffling; a great number of the ministerial staff used to work in the enterprises, and a great number of the enterprise staff had been formerly employed by control organs, and this fact shaped personal relationships in a natural manner.

Today the nature of the relationship between sectoral ministries and the subordinate enterprises could be perhaps best described by the words "mutual understanding". The interests of the enterprise and the ministry may be different or even conflicting in a number of questions (for example, in the existence of the subordination relationships, or in the methods of control), but their common interests in acquiring central resources and ensuring conditions for development are obvious for both. The enterprise counts on it, and may justly count on it, that the ministry will do its best, as the development and safe functioning of an enterprise involves also the modernization of an industrial branch, and the easier fulfilment of its tasks.* Therefore, even if in other questions it happens that an

*In the opinion of Miklós *Mandel* [16]: "The consequences of the attitude of sectoral control organs can be best demonstrated by their role played in investment decisions. Their attitude in the investment decision process is not motivated by the efforts at equilibrium of the national economy,

enterprise of key importance and with an eminent director by-passes the ministry, in actions initiated for obtaining various resources and advantages usually both parties readily cooperate.

It is the assertion of interests in close alliance with the ministry, practised now for several decades, that has led to today's characteristic "understanding" relationship. To illustrate this relationship, I shall quote two examples – entirely in agreement with my own experience – from the study of Erzsébet *Szalai.* At one of the enterprises under examination the prevailing situation was described as follows: "The ministry does not give orders as a sergeant does to the soldiers, and the enterprise does not wait to be instructed, but goes, by its own will, to meet (expectable wishes)". At another enterprise: "The ministry states its conditions in advance when negotiating with us, and they listen to and observe also our conditions. We ask certain things from each other and try to fulfil requests on both sides. But the money is in their hands, thus, all that is, on their part, just a polite, proper and cultured form of instruction. It would be illusory – even theoretically – to oppose the ministry. Thus, if you like, we have no great independence, yet we are content with the working style of the ministry in our mutual relationship." [17]

The enterprises know that, if they show understanding for the development targets and indicators made obligatory for the ministry and do their share in them, the ministry will also show understanding if the enterprises ask for help, mediation, and a share from the resources allocated to the ministry.

The strong informal system of relations intertwined with the formal ones is the product of objective conditions: the enterprises try to expand and strengthen it to the extent that their functioning depends on the conditions concentrated in the control sphere. And, the stronger the dependence, the more also the *direction* wherefrom the enterprise obtains information gets deformed. In certain cases it becomes, namely, much more important for the enterprise to know, what the intentions of superior authorities are, what new measures and regulations affecting their functioning are on the way, where and for what could money be obtained, than market information: for which new product and where could market be found, etc. That is: enterprise information gathering is much more focussed on the superior authorities determining the conditions of their functioning, than on the real sphere of the market and economic activities.

It depends on the planned changes, the various possibilities, and on the information obtained about the amounts allocated to different organs for development purposes, which of its interests the enterprise will try – if it is able – to assert, and with what means. Within an enterprise it is usually those maintaining the most important external relationships who also make up the centre of the power group of common interests in which the desirable targets "corresponding to enterprise interests" and to be attained are formulated: and it is they who conduct the bargaining on behalf of the enterprise and in accordance with its interests.

nor by efficiency considerations, but by the development needs of the given sector . . . It is their natural purpose that the enterprises working in fields within their sector should develop, and they are interested in acquiring the means of accumulation necessary for development."

Bargaining positions

Now we shall seek answer to the question: what are the *permanent* factors that constantly reproduce bargaining positions?

According to my experience, and the same is proved also by the above-mentioned article of Mihály *Laki,* bargaining positions are brought about by two, sometimes intertwined and mutually amplifying circumstances: dependence of the economy on the activity of some enterprise, and the uncertainty of a great many circumstances of decisions on economic actions. Both are rather well-known from daily experience in Hungary, as well as from the theoretical approaches of a number of scientific disciplines. By mentioning them I wish rather to illustrate how the circumstances of the functioning economy constantly reproduce the possibility of reconciliation of interests and bargaining between enterprises and central organs.

The dependence of the functioning of the economy on the enterprise has been so far best perceivable in two extreme cases: if the enterprise becomes unviable, or, on the contrary, when it achieves exceptional success. In the first case the central organs are obliged to help among other things because in the given conditions the economy cannot dispense with, nor can it substitute, the activities of enterprises, first of all of those with a specialized line of production and working on a large scale. (What is more, unviability may have come about without the enterprise's own fault: it may be the consequence of the rigid price system, disadvantageous interstate commitments, missed investments, etc.) The danger of liquidation brought about in such cases a bargaining position: the central organs were obliged to accept the arguments of the enterprise that had got into trouble and to grant it resources, advantages, and favours. To bring about such a bargaining position an assumed or real danger of getting into trouble was enough – fear from the dependence of the economy prompted central authorities to take steps.

While in the preceding case it is the obligation to ward off troubles and damages in the functioning of the economy that brings about a bargaining position, the real reason is, in fact, the dependence of the economy on one or another large enterprise, even if the national economy can gain advantages through the activities of an enterprise – promising to be successful in a certain economic situation. The criteria of "success' change from time to time. In recent years exporting ability to the capitalist market has become one of the main measures of enterprise success. Therefore, the chance for every new successful business creates a bargaining position between the enterprise and the control organs; and the enterprise asks – against the advantages to be gained – for additional resources and preferences, urging control organs to a reconciliation of interests.

Beyond the above-mentioned cases of the offensive and the defensive type, bargaining positions are continually created by the most often inevitable uncertainty of success of particular actions affecting the central resources, that is, of the ratio of input to output. And in that case it is all the same whether the particular action was initiated by the control organs or the enterprise; or which is the party whose interests were given preference at the beginning.

The uncertainties may be demonstratively illustrated by the investment actions we examined.

Among the twenty-four investment actions there were some that cost several thousand million forints, and others that cost only a few millions, there were large-scale reconstructions and individual purchases of expensive machines. Only four out of the twenty-four did the enterprises finance from their own development funds, the rest were more or less supported with external resources. (Eight of them were fully covered from central financial resources, eleven were covered in most part; and one was covered in a larger part from enterprise resources than from external ones.) It goes without saying that in the case of every action the decision on which is made at levels superior to the enterprise, the financing organ can state its conditions and stipulations. It can clearly define, e.g., *for what* it gives money (that is, it can determine the particular development project); or how much money it will give (thereby delimiting several details of the actual project, such as the size of the capacities to be created); or on what terms of repayment it will give it (in what instalments and for what period, etc.); and enterprises have to comply with the stipulations of the financing organs.

Financing organs set a large number of conditions also in the case of the actions under examination. With all the twenty actions supported from central resources it was stipulated that the attainment of the prescribed indicators of returns had to be proved (verified); in thirteen cases the size of capacities to be created was stipulated; in a few cases – mainly with large-scale reconstructions – the stipulation was concerned with the technological standards; whether the project should be the most up-to-date one or only moderately so; for thirteen actions the market where the technical means had to be purchased was stipulated, etc.

However, it is characteristic of the stipulations that they are not given once and for all, but are subject to changes according to various circumstances. (The causal chain of factors bringing about changes would lead us far – to the functioning of world economy producing unexpected changes, to the development of the international relations of the country, etc.) In addition, a number of changes are co-determined: a change in some stipulation or condition entails changes in several other stipulations and conditions. From this point of view the most important thing is by all means the *size* of the amount to be spent on development: its changes entailed changes in other factors in seventeen cases out of the twenty-four. Changes in the mode of financing (the amount or ratio of central contribution, the amount and terms of credit, etc.) caused changes in other conditions in eighteen actions. Changes in the size of capacities to be created entailed changes in other factors in nine cases, those in the market where equipment had to be bought in eight cases, and the changes in requirements concerning the technological standards caused changes in other factors in seven actions.

What is more, certain stipulations and conditions are changed several times, thus rendering permanent also the uncertainty of other factors. (The amount to be spent on development changed several times in seventeen actions, the mode of financing also in seventeen cases, the size of capacities to be created was modified several times with

fourteen actions, and the requirements concerning the technological standards of development as well as the market where equipment had to be acquired changed several times with seven actions each.)

The enterprises affected viewed it thus: "The investment programme had numerous versions: It had about sixteen or eighteen, the most recent ones we called 'today's current issue'. The reasons for the changes were: "now the investment amount changed, now the credit, or the construction, or the size of our own funds, etc." (An economic director.) At another enterprise: "An investment – a million documents, discussions, recommencements. This is a long and sad story: long because of the bureaucratic process, and sad because we had tried a lot of things before the different conceptions were formed, we made changes; each needed months of revision. . ." (An economic director.)

This changeability – to some extent a necessary concomitant of any functioning economy, a requirement of the adaptivity of the economy to the incessantly changing external and internal conditions – is usually examined only from the economic aspect as a factor of uncertainty and risk. In the sociological sense changeability can be interpreted as a *symptom*: as an indicator of the *possible* success of efforts at asserting interests. Namely, changes initiated by either of the parties and for any reasons will urge them to further reconciliation of interests.

In the new situation establishing itself under the changed conditions earlier compromises lose their validity, and one of the partners starts the bargain anew.

The reconciliation of interests, that is, the necessity of seeking a compromise satisfying both parties is rooted in the fact that the interest of enterprises is to improve the conditions of their own growth and functioning, while that of the organs disposing of the resources is to "invest" to the best effect the amounts put at their disposal, and to select the actions to be preferred and the optimum size of their input accordingly. Yet, selection of the actions judged "the most profitable" takes place under the conditions, needs, momentary and perspective demands of the functioning economy, under its given social conditions and in its human communities. Even seemingly economic actions are not only economic, but are subject to social and political criteria. Therefore, it may be often a stronger and more justified argument than the economic one that some action "cannot be postponed", and a firm that has become unviable "must not be closed down", etc.

It is the *existence* of the systems of criteria – altered necessarily from time to time – of the selection taking place under changing conditions that creates the particular bargaining positions and enables enterprises to influence decisions according to their own interests. And, as it has been said earlier: the more dependence becomes intensified, and the greater the number of resources and conditions necessary for enterprises to function, of rewarding and sanctioning instruments the central organs wish to keep in hand and decide about their use, the more of the factors will be subject to bargaining, that is, there will be a growing number of such about which a bargaining position may develop.

As a result of the inevitable uncertainties, every external need and instruction contrary to enterprise interests may become subject to bargaining. In the course of examining investment decisions we have found that, though the dominating position is

undoubtedly held by those disposing of the resources: they can accept or refuse proposals and dictate conditions, enterprises are not defenceless against events, passively awaiting decisions to come "from above", but they are active participants, having their share in forming events. The enterprises affected are able to assert their own interests even in the case of developments covered fully from central resources. Every stipulation (size of the amount, form of the grant, mode of utilization, etc.) is weighed separately, and compared with their own interests, and they use any means to bargain – or they give way; as dictated by their interests. In the case of investments enterprises usually try to acquire the largest possible amount, but they have also other important considerations: e.g. that they should receive the money at the most favourable terms and according to the best schedule, and that the least possible number of stipulations should be made in regard of utilization, and these in the clearest terms and so on.

How can they achieve this?

Means for the assertation of interests

In the long or short process of bargaining the parties are bound usually by certain "rules of the game", written and unwritten social values and norms, which more or less delimit also the *means* to be used in the course of bargaining to induce the other party to make compromises. These change from time to time, parallel with changes in values and norms. It is not by chance, for example, that to the one-time plan bargain not the picture of an enterprise prompting or forcing the other party to compromise was attached, but rather that of a "pleading" enterprise which tried to reduce somewhat its obligation, and used to "cry" for more resources for the fulfilment of its tasks. Those representing the central will could also use other instruments: insubordinate enterprise executives were amenable to legal action, and such cases did indeed occur. Although we may be certain that the enterprise had even then other means beside pleading (for example it had allies able to efficiently support its request, friends were ready and in a position to intervene on its behalf, and it had even economically forcing means), yet it seems that among the means "crying" was the dominating one.

Bargaining takes place today peacefully, in the form of negotiations. The superior authority does not give orders "as sergeant" to the private and the enterprise is prepared to go to meet desires coming from above, but within the peaceful forms it fights persistently and using various instruments for the assertion of interests.

One of the best possibilities to assert enterprise interest is to participate in the work of committees that formulate national and sectoral development directions. These committees have already been mentioned as one of the scenes for establishing relations. Participation is, however, also a means for the assertion of interests: many enterprise initiatives can be thus made a part of long-term conceptions.

For illustration of the identical efforts of each enterprise let us quote the following examples: "We work together with our superior authorities – the ministry, the

National Technological Development Board and the National Planning Office – at various levels, and take part in working out long- and medium-term conceptions as partners. Personally the technical director, myself as head of the design department, and the head of the development section take part operatively in working out long-term conceptions and we try to shape them according to our interests. At the same time we are able to obtain information at the necessary level." At another enterprise: "At present we participate in the work of three national committees; beside, I prepare proposals for a great number of commissions of the National Technological Development Board. What I am working at now deals for example, not only with our enterprise, but also with the perspectives of the whole subsector. I can say that in this way our enterprise plays a determinant role in the whole industry. I do not say, of course, that we "make the rain", but we do have a say in what will be the development conception of the sector" (a technical director).

The interrelation is simple: if the long-term conception becomes a programme approved at an adequately high level, the enterprise can apply for the necessary support for its innermost ambitions as for an action "of national economic interest".

Among the most widely used instruments of bargaining we find in a peculiar way, the profitability (efficiency) estimates of enterprise plans, undertakings, and investments. Since the enterprise makes these not primarily for its own use, but for its superiors, it is able – if dictated by its interests – to conceal the internal inconsistency and weak points of the plans, as well as its own reserves; and it can thus promise better results, at least on the face of it, in order to increase its chances for obtaining the resources. Merely as a consequence of the often inevitable uncertainties of the initial data of profitability estimates the enterprise is able to manipulate figures within certain limits, and to find the modes of computation that will "produce" exactly the numerical results defined in advance, in some cases laid down as a stipulation. As was put at one of the enterprises: "one can compute in many different ways – everybody knows that". It can be done for example with the aid of an "appropriately" selected world market price, sales directions, indicators corrected this or that way, etc.

And, though a vast number of computations, documents, and drafts are drawn up, and bargaining goes about the figures in them, the organs demanding exact computations as well as the enterprises know that data and computations are always rather uncertain for several reasons, and also because of certain – not economic but social and political – considerations often push even the "best" figures to the background.

Therefore, computations of more or less uncertain value are rarely sufficient in themselves; for a successful bargaining several, parallelly applied means are needed.

Such is to make use of personal connexions. The enterprise not only widens its relationships purposefully, but it contacts, whenever necessary, those prepared to help with information, advice, and intervention. That is how decisions can be influenced the most efficiently, and in this way human connexions within the organizational system become important factors in selections and thereby also in the actual shaping of economic processes.

Another means is to mobilize allied organizations and institutions. Beside the sectoral ministry as number one ally in certain problems, the enterprise has its natural allies usually in the *regional* administrative and social organs. The development efforts of an enterprise are very often expressive also of local regional interests (for example, enlargement of local employment possibilities, industrialization of the area, raising the living standards of the local population, etc.). Therefore, the member of parliament, the council and other social organs are ready to represent the development efforts of the enterprise as *local* interests.

Enterprise executives provide their allies also with the arguments which each can use in their own line. Among the arguments formulated for the allies in the first place are those that prove the national economic importance of the action, particularly if the enterprise wishes to raise some of its own conceptions to the rank of "national economic interest". Another form of mobilizing the allies and providing them with arguments remains "crying". Even if there is a little self-mockery in what an enterprise manager said about their own role and the relationship between the enterprise and its allies, it is not far from truth: "When the enterprise is told what its obligations will be for exports to socialist and capitalist countries, and how much basic material it has to produce, that is to say, when the production plan is thus laid down, the enterprise starts crying that it has not enough labour and machinery, etc. The general manager and his deputy cry to the minister and the deputy minister, the directors cry, everybody cries to everybody. The first version was presented also to the district party committee, there was crying, too. In order that an enterprise can adequately ask for what it needs, every leader has to shed an adequate amount of tears in his own line. This is where the enterprise managers have a primary role."

If, however, the above-mentioned instruments to bring success, enterprises – particularly those in a good bargaining position, that is, holding a monopoly – can resort to more efficient ones, making use of the dependence of the economy on them. It may be enough for the enterprise to announce: if it does not receive the conditions asked for, it cannot fulfil its delivery obligations. For an illustration of this general and characteristic situation I shall quote only a single example, again from the study by Erzsébet *Szalai*. The production director of an enterprise put forward the following argument, after their investment credit application had been refused for the third time: "Under such conditions, what can one say? That some of the equipments will not be delivered." [18]

The justification of this argument is hardly questionable. In the given circumstances the enterprise can justly expect that if the national economy makes demands on it, it should also provide for the necessary conditions.

Yet further steps may also be taken beyond mere argumentation. If the monopolistic form rearranges its production activities in a way that supply of certain articles becomes irregular, customers will try to get competent authorities to intervene, to help, and to eliminate somehow the "bottleneck".

In the case of such rearrangement the enterprise can usually refer to its own financial interests: the article produced is more profitable than the one neglected. ("In my opinion, the firm's interests are clear: production of the material-intensive article destined for the socialist countries has to be pursued even at the expense of home market obligations, to the brink of scandal. What are the consequences of failing to meet home obligations? Imports will grow a little. Not too much, since control is strong in this field. Therefore, a shortage will appear sooner or later on the home market. This will be noticed, however, only later, and it is in the interest of the enterprise to pursue this policy as long as there is a scandal, and large customers start to urge the ministry. . . Then, sooner or later, a solution will have to be found in some way." – Head of a commercial section.) The "solution" may be a rise in prices, subsidy, or investment – the enterprise will know what is most advantageous for it.

With the most efficient instrument, that is, by making use of the dependence of the economy, the enterprise does not threaten the ministry, on the contrary, it supplies thereby the weightiest arguments to its natural ally: the ministry representing its interests in this question.

In the given situation the enterprises can more clearly survey their possibilities for asserting their own interests than can central organs. While the latter are influenced in their actions by world economic events as well as by the socio-economic conditions of the country, to which they have to pay attention constantly, the enterprises can turn their attention in a great part to their superiors, since their conditions of functioning depend in some cases more on them than on the changing conditions of the foreign and home economies.

Therefore, if their chances for a more independent management are deteriorating, that is, under conditions of intensifying dependence relations, it is in the interest of enterprises that the possibilities of access to resources and of influencing central decisions should not change. In the recent past, at a conference with enterprise managers, among the proposals submitted in writing in advance there has been one according to which external investment resources ought to be available in the future exclusively in the form of bank credit. Representatives of the large enterprises of different sectors all protested, using as counter-argument the "hairsplitting" procedure of the bank. What they would approve of: the highest possible degree of enterprise autonomy, its right to dispose of capacities, profit, and development funds. If, however, that is not possible, the well-known and proved practice of redistribution is more advantageous for them than a partial change: to enter into bargaining with perhaps such a partner against whom they are not in a good position, on whom the tested means of bargaining have no effect, and existing common interests and personal contacts may be eliminated, etc.

Therefore, as a result of circumstances having become permanent conditions by now, in this organizational system planned to function rationally the national economic interest can be asserted only in a lopsided way and deviating from the desirable direction in the course of bargaining about so many factors of management. Among the conditions of greater harmony between the two kinds of interests there are also

the gradual, permanent and deliberate transformation of the organizational system and of its functioning conditions, as well as the creation of better conditions for a more autonomous enterprise management.

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«ТОРГИ» МЕЖДУ ПРЕДПРИЯТИЯМИ И ОРГАНАМИ ЦЕНТРАЛЬНОГО УПРАВЛЕНИЯ

Т. ЛАКИ

В статье рассматриваются «торги» как процесс согласования интересов между предприятиями и органами центрального управления. «Торги» ведутся из-за ресурсов, необходимых для деятельности предприятий, преимуществ, льгот, которые могут быть представлены органами центрального управления. Шансы предприятий в получении этих ресурсов и льгот неравны. В более благоприятном положении, как правило, находятся или наиболее крупные предприятия, или менее крупные, но занимающие ключевые позиции, от деятельности которых зависит функционирование многих сфер экономики. Выступление крупных или занимающих ключевые позиции предприятий с позиций диктата является иррациональным результатом задуманной как наиболее рациональной формы управления экономикой – руководства путем прямых плановых директив. Ведь эта форма управления – в интересах непосредственного руководства – требует, чтобы на самом низшем уровне управленческой иерархии находилось как можно меньшее количество производственных единиц. Это была одна из причин значительного сокращения числа предприятий в стране. В то же самое время экономика попала в зависимость от крупных предприятий, которые благодаря своим позициям способны добиваться своих собственных, узких интересов. В условиях общественно-экономического положения страны «торги» обычно происходят мирно, в форме достижения договоренности. Но если предприятия не могут добиться желаемого результата таким образом, то они находят себе союзников, прежде всего в лице отраслевого министерства, которое также заинтересовано в получении централизованных ресурсов, а также могут воспользоваться и более эффективными средствами «торгов». Вследствие этого ресурсы часто распределяются на цели и в пропорциях, которые нежелательных для народного хозяйства в целом. Одним из необходимых условий изменения этого положения является усиление самостоятельности предприятий.

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L. HÉTHY

SELECTION OF ENTERPRISE EXECUTIVES IN HUNGARY: A CASE-STUDY

Relying on the actual analysis of the practice followed in selecting executives in a construction firm, the study seeks answer to the question to what extent the structure of economic organization can secure such realization of this selection that gives perspective for the individual, corresponds to the efficiency targets of the enterprise and fits into the political, social and economic development of socialism.

The problem

How does somebody become and executive? Hungarian public opinion is continually showing great concern for this question: cadre decisions get more attention than any other organizational and social ones. During the last 30 years the leadership of society has tried to develop with several decisions on cadre policy a process of selecting executives which best meets the interests of society, those of the organizations and finally of the people. All that shows that the selection of executives – perhaps more precisely: *how* they are selected – is such a key-issue of the socialist organizations and in the life of society whose importance cannot be overemphasized. Thus all the attention the individuals and organizations – socialist enterprises, socio-political organizations – and society as well as its executives pay to it is justified. *The political and social, but at the same time also the economic importance of selecting executives is equally important for society, for organizations and for the efforts, interests and ambitions of the individuals.* Therefore, the way how executives are selected may be regarded as an indicator reflecting the formation, development and state of socialist social relations; among other things: how the putting forth of individual abilities, their utilization in the interest of society, the harmony of individual, group- and social interests and efforts are realized, how the leading role of the working class prevails, how strong socialist democracy is in the life of organizations and society, etc. What does the way of selecting executives i.e. how they are being selected really mean for individuals, organizations and society?

Becoming an executive means for the *individual a way to success also under socialist organizational and social relations and those social groups for which this is the main way of advancement are by no means insignificant. Acquiring an executive's position means at the same time also higher earnings and income and together with this better financial conditions and greater social respect* – since the social importance of the person of the executive is occasionally emphasized by such obvious symbols as a separate

office room, use the firm's car, a secretary, etc. – as well as more favourable working conditions and generally also better and more meaningful tasks.

All this is true even if there are exceptions, too: the attainable leading posts are not attractive for all social layers and groups (e.g. it is well-known that promotion of the best skilled workers to foreman means usually lower earnings and brings about more social conflicts). Furthermore, obtaining a leading post is not always favourable (e.g. for a doctor, researcher or constructor it means usually that his original work "becomes insipid", more precisely, he gives up the practice of his profession for administrative organizational tasks) and what is more: in our society the organizational promotion enables the reaching of only certain (and often not too high) income levels and those can be exceeded in quite other ways.

Nevertheless, becoming an executive is the chief or supplementary possibility for a significant part of technical, economic and administrative employees working at enterprises and also for many other intellectuals by means of which they are able to realize their endeavours and assert their interests. Therefore, it can be such an effective means of stimulation by whose application many people may be integrated into our organizations, into our society.

Selection of the executives is of basic importance for organizations and thus also for socialist enterprises. To be able to fulfil their economic, social and political tasks they need a working collective possessing adequate expertise, among others people who perform management functions in the system of organizational division of labour and are called upon precisely for maintaining the harmony and unity of activity in the organization "cut up" by the division of labour. The organization ensures through the selection of executives that such individuals get leading position whose abilities, qualification, character and attitude promote the realization of the organization's objectives. If not such individuals are in the leading positions of the organization who are needed to realize the economic, social and political objectives and tasks of the organization, then the effectiveness of the organization will necessarily diminish and it becomes a burden on society. This naturally holds not only for certain organizations, thus for industrial enterprises, but also for organizational units (workshops, factories, departments, basic organizations, etc.). It is a well-known fact – although never strictly proved – that the work of an industrial enterprise is determined by the quality of its executive staff at least to the same extent as by other conditions of its activity. There is hardly any establishment known in Hungary which would not hold out with a perfect, capable staff – independently of favourable or unfavourable working conditions, except if quite impossible –, but a great many organizations are known whose performance is rather criticizable under very favourable conditions because of the weakness of management.

Although there have been examples in historical emergencies for leaders who acquired the necessary skill – even if not the ability – to complete executive tasks mainly after having already obtained their position, the rather expensive nature of this solution for both the organization and society called attention to the necessity that, with the present high requirements raised towards leaders, the only desirable way for organizations

would be to select from "ready" cadres. (This obviously does not exclude the possibility and necessity that also these executives should continue learning when in their position.)

If selection of executives is an *important question* for the individual and the organization, then it is obviously important *also for society*. Not only because of the aforesaid (although it would be enough alone, too) but also because the selection of executives is *one of the mechanisms through which also the great, comprehensive processes of social development take place.*

Economic development cannot be separated from the way how executives are selected. In Hungary a particular practice of selecting executives (together with education and other factors) contributed to the fact that in the years after the Liberation the working class stepped into the positions of the former ruling class and took over its leading role in society. What is more: selection of executives (thus placing talented workers into executive positions) is also at present one of the processes which is called upon to express the leading role of the working class. Accordingly, this question has not simply economic, but general socio-political aspects even in the case of industrial enterprises, i.e. it cannot be handled as an "internal problem" of the organizations, but requires the permanent attention of and control by society, within this of the leadership of society and the party. It can be attained only in this way *that the selection of executives should not serve the restricted efficiency interests and goals of only one or another organization, or institution but that it should be fitted into the whole of the economic, social and political development in harmony with the interests of the whole society.*

The main guarantee for this is the formulation and assertion of general principles and requirements regulating the selection of executives, and the existence of an organizational structure realizing them. In principle the basis of selection is in Hungary the so-called triple requirement of cadre policy. According to it, an executive should be suitable for his post professionally, politically and regarding his leading ability. The relative importance of the three requirements became modified during our socio-political development and it also differs at present by types of organization, i.e. in economic organizations or in socio-political ones. A significant institutional guarantee of their assertion is the specific structure of the organizations, thus of socialist enterprises, and within it the peculiar mechanism for the selection of executives. The economic organizations – thus socialist enterprises, too, – represent such a complexity of organizations where the actual economic organization, the party organization and the trade union are simultaneously present (closely linked to each other). The actual selection of executives takes place under the combined influence of these three organizations – since in this also the party and the trade union have definite rights. The appointment of executives is the right of the highest economic executive of the enterprise organization. But the practice that the appointment of the highest executives belongs to the scope of authority of sectoral control and requires the approval of the regionally competent party organizations expresses the dependence of the organization on the "external" environment, on the control of society.

The principles of the selection of executives elaborated under our socialist conditions and its practice yielded significant results. This system of requirements is up-to-date also at present: it expresses the recognition that economic organizations, thus the enterprises – especially under our socialist conditions – *serve not only economic goals, but also have definite socio-political functions, in strict connection with the former,* to mention only one of them: they are the primary terrains of the political activity of workers and working collectives. They have a basic role in shaping the way of life of the people, thus in the forming of the socialist way of life, they decisively contribute to the formation of the people's consciousness, to that of socialist consciousness, and give the individuals the not negligible chance to develop their abilities many-sidedly and to put forth their personality. The problems nonetheless, arisen during the last 30 years in the practice of selecting executives, did not follow from the deficiencies of the requirements, but from the fact that the functioning of the organizational structure ensuring their assertion sometimes deviated from the desired and intended one, thus impeding and restricting enforcement of the interests of society in the important selection of executives. As a consequence subjectivity has become prevailing in the selection of executives, that many executives prove to be ill-suited to their position and this inaptitude appears not only in their professional knowledge, but also in political respects, human relations and regarding their leading abilities. The present study is to describe that these well-known, often criticized negative phenomena do not *simply result from accidental, mistaken personal decisions* (although there have obviously been also such ones), *but from certain peculiarities, we could say deficiencies of the organizational mechanism of selecting executives.*

The case

The enterprise through which we want to present some problems in the selection of executives* cannot be regarded typical at all, but this is not even necessary. On the contrary: it is an extreme case thus making especially perceptible what danger of disfunction is hidden in the present construction and functioning of the "mechanism" of selecting executives, what obstacles can be put in the way of a consistent assertion of our principles. In our opinion the dangers resulting from the described mechanism and "structure" are looming everywhere – precisely because the mechanism and structure are the same – even if they do not produce such negative side-effects everywhere. Therefore, the extremity of the enterprise does not explain the distortions, only their extent.

The building company in question, employing 4250 persons – examined in 1970–72 – was engaged in the construction of flats, one of the fields in Hungarian economy and society most full of tensions. The research project itself, whose central topic was the general exploration of management activity was justified by the circum-

*I have made the examination together with Csaba *Makó* [1, 2].

stance that the economic results of the company had been rapidly deteriorating. In 1967 (when two enterprises were amalgamated into the present one) about 3000 flats were still constructed, but by the date of our research this fell below 2000, with identical, what is more, even increased production capacities (manpower and machines), and has improved only to a small extent ever since then. The case of the enterprise is an obvious example for the fact that a formal increase in organization – i.e. the fusion of the two predecessor enterprises, centralization of their resources – does not lead to higher efficiency, but may bring about even its deterioration if harmony and unity of the joint activity do not support the strengthening of organizations.

The examination tried to explore the – at that time already historical – practice of selecting executives starting from the situation of 1970–71, in a period following the replacement of a manager. We wanted to find an answer to how the executive staff just then in position, but developed obviously in the course of years or even decades had been selected; *what regularities could be observed in the promotion of people; how the triple requirement of cadre policy was asserted in appointments; how much these people were suited to their posts politically, professionally, regarding their executive ability and human attitude.* Obviously it was impossible to examine directly the *presence of abstract principles of cadre policy in the concrete established situation.* Therefore, we ourselves thought to explore the assertion of requirements in an indirect way, concluding from certain external marks – following the method of management and cadre work. – Thus, in lack of a better basis we, too, tried to obtain a picture of the professional ability of executives from their qualification and their experience in the building industry and at the enterprise; their political aptitude was concluded among others from whether they were members of socio-political organizations and which functions they had in them etc. Finally, we had no "objective" basis concerning the human aptitude of executives. The data were obtained from the personnel records of the enterprise. Naturally, the statistical processing of personnel data was supplemented also with knowledge obtained with the aid of the particular means of sociological examination – structured and instructured interviews with executives. This method has its well-known possibilities – we might say: advantages – as the apparent objectivity, but also its limits: the danger that certain external signs of leading ability do not coincide with the aptitude itself (cadre work encounters this every day). (Obviously, this is not only a consequence of the contradiction between form and contents, but also of conscious human activity based on it, i.e. of the natural phenomenon that also the members of organizations try to manipulate their organization; and this occurs not only conversely.)

It is, therefore, regrettable that despite our efforts we did not receive any reliable picture concerning the quantity and quality of work performed by some executives on the basis of which aptitude to a leading post could have been judged unambiguously. It was impossible because the evaluation and qualification of executive work were not solved within the enterprise, either there were no organizational frameworks for this task or they failed to work. This circumstance is very characteristic of the present situation – which alone impeded clearsight in the matters of the enterprise.

Table 1
Number and distribution of executives in the individual categories

Category	Persons	Per cent
I. Executives in the administrative centre of the enterprise (heads of section, group executives etc.)	41	23.6
II. Chief building engineers	10	5.8
III. Building engineers	34	19.5
IV. Foremen	89	51.1
Total	174	100.0

All executives (except for the top management, i.e. the manager and his deputy) were included in the examination; they were classified into four categories according to their place in the organizational hierarchy.

Considering their general standard the leading staff of the enterprise seemed to be acceptable – at least on the basis of "objective facts". At the moment of examination 35.1 per cent of executives had enterprise or sectoral decorations, and 2.3 per cent of them government decorations (medals) which were given for their work: the proportion of those decorated was especially high among production managers, chief building engineers (80 per cent) and the building engineers (50 per cent). About half of the executives (47.7 per cent) came from the working class. Although the general level of their qualification was relatively low, not reaching secondary school qualification (10.8 years), this seemed to be counterbalanced by their long experience in the building industry and at the enterprises themselves, (21.7 years) as well as by the special courses they had completed (about half of the leaders attended such courses mainly after their appointment). At the same time this executive staff was politically active. About half of them were members of the party (47.7 per cent), nearly one quarter had lower, one tenth higher party functions and many of them had various functions in the trade union. 15.5 per cent obtained qualifications in mass organization and party schools. Despite these features of the executive staff there were serious troubles with the enterprise, namely, deteriorating production results indicating poor work, bad cooperation, striking deficiencies in organization and in the utilization of capacities. Thus, it is a no less exciting question, how this executive staff had come into being, how they could survive, what was the reason for the failure of their activity: an *ab ovo* wrong practice of selection whose defficiency does not appear in outward facts or something else.

The assertion of professional aptitude in the selection of executives was approached through the data on qualification and experience.

Qualification has seemingly a significant role in the selection of executives: proceeding upwards in the hierarchy the degree of qualification is increasing. While foremen had gone to school only 8.6 years on the average at the time of their appointment (thus hardly exceeding the primary-school qualificaiton), building engineers had already spent 11.6 years, chief building engineers 12.2 years and employees in the administrative centre of the company 13.5 years (within the latter the heads of functional sections 14.3 years at school). (For indicator of qualification the number of years spent in learning is used. Accordingly 8 years mean the primary school, 12 years the secondary school and 15–17 years higher qualification, college and university.) However, there are several facts querying the actual importance of qualification: 1. The average qualification level of executives was rather low (at the time of appointment 10.5 years), although it exceeded the primary level, it did not reach the secondary one. 2. In each category it was possible to get an appointment with lower than secondary qualifications. Although a part of such appointments occurred in the 1950's, even at the date of our examination there was still no position which could not be filled in with only secondary-school qualification. The majority of executive groups had secondary-school qualification – except for foremen.* Considering qualification there were very insignificant differences between the individual, hierarchically deviating executive categories: heads of section in the administrative centre had a qualification of 14.3 years, the chief building engineers 12.2 years and the building engineers 11.9 years at the time of their appointment. Only the foremen lagged behind significantly. Although the qualification of the majority of executives left much to be desired, only a few of them felt it necessary to improve their qualification following their appointment, i.e. to continue their studies. The qualification level of the executive staff increased by only 0.3 years after their appointment. Summarizing the above, it might be said that qualification was only occasionally considered in the selection of executives.

Experience, length of service – similarly to qualification – has an apparently significant role in the selection of executives: it seems that for higher leading posts longer experience is needed than for lower ones. Thus the building engineers had had on average 10.2 years of practice when they were appointed, while the chief building engineers had spent already 16 years in the building industry and the heads of sections of the administrative centre 16.3 years. Moreover, the average practice of executives was high already when they were appointed, it exceeded 10 years in each category and it has naturally increased further since then. As a result of many circumstances the importance of practice is still degraded in the selection of executives: 1. The experience of executives at the time of appointment is widely varying: there was no category – except for foremen – where one could not be appointed without any previous practice in the building industry and at the enterprise, including also such important posts as a head of

*43.9 per cent of the administrative centre, 70 per cent of chief building engineers, 55.9 per cent of building engineers and 22.5 per cent of foremen had secondary-school qualification. In the same categories 41.5 per cent, 20, 11.8 and 1.1 per cent of the executives had higher qualification. Thus there were only a few people in the management of production with higher qualification!

Table 2
Qualification of executives

Category	Max.	Min.	Median	Average	Standard deviation
	years				
I. Executives in the administrative centre of the company					
at the time of appointment	17	8	12	13.5	2.9
at present	17	8	14	13.9	2.8
II. Chief building engineers					
at the time of appointment	17	11	12	12.2	1.7
at present	17	11	12	11.9	2.4
III. Building engineers					
at the time of appointment	17	6	12	11.6	2.2
at present	17	6	12	11.9	2.4
IV. Foremen					
at the time of appointment	16	5	8	8.6	2.3
at present	16	5	8	8.8	2.4
Total					
at the time of appointment	17	5	11	10.5	3.2
at present	17	5	11	10.8	3.3

section at the enterprise or, in the field of production management, a building engineer and a chief building engineer. 2. As a matter of fact, experience had the strongest part in the category of foremen – it exceeded that of building engineers and almost reached that of the chief building engineers – but the reason was to fill up big gaps in qualification. 3. The role of experience necessarily mingled with that of age in the selection of executives, since the two are related. The latter is however, not always an indicator of expertise, although public opinion imperatively requires its consideration, especially with an older leading staff. At this enterprise top executives obtained their position rather late, for example, heads of section in the aministrative centre nearly at the age of 40, just as chief building engineers, and they were 45 and 47, respectively, at the moment of our examination.* 4. Finally, the importance of practice was diminished by the fact that a

*The age of the executives was 34.8 years on the average at the time of their appointment, and at the date of our research 43 years. Heads of section of the administrative centre took up their post at the age of 38.8 years, chief building engineers with 39.3 years, building engineers with 33.2 years, foremen with 32.9 years, and their average age was 45.0, 47.1, 41.5 and 42.3 years, respectively, at the date of our research. Later on a rejuvenation trend began among building engineers and foremen.

Table 3
Experience of leaders

Category	Max.	Min.	Median	Average	Standard deviation
	years				
I. Employees in leading post at the enterprise centre					
when appointed	30	0	18	16.7	6.9
at present	42	3	22	22.1	7.6
II. Chief building engineers					
when appointed	30	11	14	16.0	5.8
at present	35	17	22	23.1	5.2
III. Building engineers					
when appointed	25	0	10	10.2	5.9
at present	40	7	19.5	18.6	6.6
IV. Foremen					
when appointed	33	1	11	13.1	7.2
at present	47	4	22	22.6	9.9
Total					
when appointed	33	0	13	13.5	7.2
at present	47	3	21	21.7	8.7

significant part of top executives did not acquire their experience with a building company, but somewhere else.

Evaluating the performance of the enterprise it would be obviously an exaggeration to state that management problems resulted from professional inaptitude of the group of executives. However, we have good reasons for the conclusion that the *weighing of professional aptitude was very occasional in the process of selecting executives* (which, of course, dates back several years or even decades before our research) *and this contributed to troubles arisen between 1967 and 1970.*

At the same time, it should be noted that *both formal education and experience are very relative indicators of professional aptitude.* Importance of the former is strongly restricted by the fact how organically professional training at school is related to the practical requirements of enterprises, while experience might have different meanings according to where, in what position, at a how well and efficiently working enterprise, etc. the leader has obtained it. Experience alone does not necessarily guarantee good and efficient work.

How far was this executive staff politically suitable for the leading post? If participation of executives in the work of political and social organizations is examined,

then a satisfactory assertion of the *requirement of political aptitude* has to be concluded. At the time of their appointment 43.9 per cent of executives in the administrative centre of the enterprise, 50 per cent of chief building engineers, 52.9 per cent of building engineers and 24.7 per cent of foremen were party members and the proportion of those having various party functions was significant mainly in the category of higher executives. Thus, 46 per cent of the heads of section of the enterprise had lower and 31.8 per cent higher party functions, but there were functionaries also in other leading groups.* Furthermore, it should be mentioned that another group of executives had functions in the trade union at the time of their appointment. Thus, 13.6 per cent of the heads of section of the administrative centre held lower and just as many of them higher posts in the trade union, but there was a similar situation also among foremen.** The importance of the factors of political aptitude is underlined also by the fact that the political activity of executives has not become stabilized at the level of the time of appointment, but continued to rise significantly also later on. Thus many executives joined the party after their appointment and there are even more who were selected for different functions in the party and trade union following their appointment.

(In Table 4 the post of the secretary of basic party organizations and membership in the executive committee and the party committee of the enterprise were considered as higher party functions; members of the leadership of the basic party organizations as well as party group heads as lower functions. The post of the secretary of the shop TU committee, membership in the company's TU Committee and in the company's TU Council were regarded as higher level union functions. Membership in the shop TU committee and the shop stewards were qualified as lower functions.)

Analysis of the practice in the selection of executives shows *that, on the one hand, assertion of the factors of professional aptitude is very occasional, while, on the other hand, the factor of political aptitude has a very strong influence.* This reality is reflected

*The following data are available for the evaluation of party membership and party function as a factor determining the chance of selection: at the time of our examination there were 407 party members at the enterprise (somewhat less than 10 per cent of all employees), 99 of them were party functionaries at lower level (52 leaders of basic party organizations and 47 party group heads in 14 basic party organizations amounting to 2–3 per cent of the total staff, and there were 60 party functionaries at higher level (14 secretaries in basic party organizations, 37 party committee members and 9 party executive committee members at the enterprise), i.e. nearly 1 per cent of the total staff, taking also overlaps into consideration. The executives occupied about half of all party functions, i.e. the economic leadership of the enterprise and the leadership in political and social organizations were considerably intertwined also personally.

**Approximately three quarters of all employees of the enterprise were members of the trade union. In the leading staff this proportion exceeded 90 per cent. The number of trade union functions at lower level amounted to 255 (60 members of shop trade union committees, 193 shop stewards) which meant 5–6 per cent of the total staff. The number of trade union officials at higher level was 89 (13 secretaries of shop TU committees, 15 members of the enterprise TU committee and 61 members of TU Council), i.e. about 2 per cent of the staff. Executives occupied about one fifth of all trade union functions.

Table 4

Party membership, party and trade union functions of executives

Category	Staff in the category heads	Party members		Party functions				TU functions			
				Lower		Higher		Lower		Higher	
		number	per cent	number	per cent	number	per cent	number	per cent	number	per cent
I. Employees in executive posts at the enterprise centre											
when appointed		18	43.9	3	7.3	11	26.8	7	17.1	6	14.6
at present	41	22	53.4	7	17.1	13	31.7	8	19.5	8	19.5
II. Chief building engineers											
when appointed		5	50.0	1	10.0	1	10.0	2	20.0	1	10.0
at present	10	6	60.0	2	20.0	3	30.0	3	30.0	1	10.0
III. Building engineers											
when appointed		18	52.9	4	11.8	1	2.9	7	20.6	1	2.9
at present	34	22	64.7	11	42.4	2	5.9	8	23.5	2	5.9
IV. Foremen											
when appointed		22	24.7	5	5.6	1	1.1	13	14.6	1	1.1
at present	89	33	37.1	20	22.5	6	6.7	28	31.5	8	9.0
Total											
when appointed		63	36.2	13	7.5	14	8.1	29	16.7	9	5.2
at present	174	83	47.7	40	23.0	24	13.8	47	27.0	19	10.9

in the reasoning and actions of the people and the executives themselves as they always take new steps to demonstrate their political aptitude also after having been appointed, though their professional suitability might be queried. It is a remarkable fact, for example, that while only one or two executives determined to raise the level of their professional qualification following their appointment, relatively many of them – 16 executives altogether – completed party and mass organization schools after their appointment. It would be very easy to draw the obvious conclusion from these facts that our industrial relations are "over-politicized" – as many say – and the political element has a too great part in the economy, leading to an overstressing of political aptitude against the professional one in the practice of selecting executives. This practice – for which the company examined is a good example, too, – completely runs counter to the party's policy, to the recognition that the economy may be interfered with only in a way allowed by the laws of motion of the economy, which means for the selection of executives that professional aptitude should never be pushed into the background by the political one but the two factors should have a joint effect. What kind of subjective and objective reasons – rooted in enterprise and social relations – can be still found for the fact that the requirement of political aptitude, more precisely, reference to it, allows that professional suitability should be pushed into the background? The enterprise case examined also provides some basis for finding an answer.

Our research results have shown that in the selection of executives over and beyond the well-known principles also unintentional, unregulated considerations had some part, and even such as are contrary to the triple requirement. What we have in mind is subjectivity, those friendly, chummy or in some cases "comradely" relations which linked certain groups of the executives to each other, but sometimes also to others outside the enterprise, often to representatives of sectoral control agencies and of political and social organs, which all had an important part in their advancement. Within the enterprise examined these connections followed first of all from the enterprise origin of the individual persons, i.e. they developed depending on which of the predecessor enterprises these persons had belonged to before the company was founded in 1967. Let us call these predecessor enterprises "A" and "B". It is quite natural that the long time of joint work and having encountered a series of problems of their common fate – thus also those of fusion – resulted in close links. Similar (and in many respects even desirable) solidarity was created also by the fact that the persons in question worked together in the same political and social organizations, thus precisely in the party and the trade union. All this may obviously have had also such effect that in case of vacancies in executives' posts those authorized to choose new leaders preferred their old acquaintances. Troubles arose when such "acquaintance" or "connection" was enforced to the detriment of professional aptitude or of political aptitude taken in a strict sense, i.e. not limited to external signs.

The fusion of the two predecessor enterprises in 1967 was carried out in an unfortunate way: in the course of structural transformation all production units were preserved (even new ones created), but – necessarily – a single enterprise centre was

established. From the viewpoint of leading positions this meant that while all production managers could keep their previous functions – chief building engineers remained chief building engineers, building engineers remained building engineers, etc. – the number of positions for heads of functional sections and top leadership was reduced to about half, i.e. nearly every second person got a lower post (if he remained). Distribution of positions among people of the two predecessor enterprises was made "at par" in these fields: the director came from enterprise "A", the secretary of the TU committee from "B", the secretary of the Party Committee from "A", the chief engineer from outside, while the posts of heads of section were distributed among "candidates" of the enterprises "A" and "B". This solution obviously hurt the material and even more the prestige interests of several people and was not acceptable for many of them – taking also unofficial connections into consideration. Thus a fierce fight of cliques started between camps "A" and "B" after 1967 which resulted in that executives coming from "B" were gradually pushed into background – since those belonging to "A" had a stronger position through the director –, but these mutual thwartings exhausted the energy of people to such an extent that the standards of economic activity rapidly deteriorated as we could see. Because of this deterioration the sectoral ministry and the local party committee were forced to intervene in the affairs of the enterprise several times; the secretary of the party committeee of the enterprise was removed (but – and this is perhaps not unimportant, either, – he was appointed head of the personnel section), then in 1970 also the director was relieved. At that time – which coincided with that of our investigations – also executives coming from "A" got into a difficult situation, because the new director began to bring in his own "stock" and give them all possible positions. This went on so far that in 1971 the party committee of the enterprise had to stop the "import" of executives and the appointment of executives who were not party members.

Our data refer to the situation in 1970: this is when executives coming from "A" became already predominant in the enterprise centre as a result of clique fights in preceding years; those from enterprise "B" could preserve their posts only at lower levels of production management, but the large-scale "import" of executives (indicated by the proportion of those coming from other enterprises) had already begun owing to the activity of the new director.*

But how were executives selected, after all? *This was not governed simply by professional, nor even political aptitude – although also these, mainly the latter, had an obviously important part* –, but in the last resort *by friendly connections, personal*

*To the evaluation of the situation in 1970, staff data of the two predecessor enterprises in 1967 are given: according to these data enterprise "A" had 1340 manual workers and 332 white-collar eomployees, its centre consisted of 12 functional sections; 5 chief building engineers, 18 building engineers and 44 foremen worked in production. As against this, enterprise "B" had 1639 manual workers, 371 white-collar employees, 12 functional sections, 4 chief building engineers, 23 building engineers and 54 foremen. Thus, a practically identical executive staff could be found in both enterprises at the time of their fusion, but the number of production managers of the enterprise "B" was higher.

Table 5
Enterprise origin of executives

Category	Staff in the category persons	Coming from					
		enterprise "A"		enterprise "B"		other enterprises	
		number	per cent	number	per cent	number	per cent
I. Employees in leading posts at the enterprise centre	41	17	41.5	11	26.8	13	31.7
II. Chief building engineers	10	5	50	1	10	4	40
III. Building engineers	34	9	26.5	13	38.2	12	35.3
IV. Foremen	89	25	28.1	26	29.2	38	42.7
Total	174	56	32.2	51	29.3	67	38.5

contacts, "wires". Of course this process had two sides. On the one hand, the practice of selecting executives was delimited by the triple requirement of professional, political and leading aptitude and such connections, friendship, etc. could be hardly imagined that would have allowed anybody to obtain an executive's position *without meeting a certain minimum of these requirements.* Executives appointed within the enterprise possessed – as we could see – a minimum, usually a secondary-school qualification, while their political activity was demonstrated by the party membership of their majority and by several party and trade union functions. (We will not speak about their human qualities this time, partly because we could not seize this in the course of investigations ourselves, and partly because this is difficult to state also in general.) However, it is also obvious that cliques working in the enterprise and dominating at a given moment – formed around subsequent directors and secretaries of the party committee – *always helped their own people into positions from among possible candidates,* what is more, *they even found some ways to interprete requirements not so strictly in the case of some people, but more strictly in that of others* (which was promoted by deficient regulations and "disorganized state" of the organization to a great extent). *Thus a situation developed when the triple requirement of cadre policy was seemingly enforced* – and thus the leadership of the economic as well as the political and social organizations of the enterprise could not be reproached – *though the real processes basically contradicted it.* The problem came to the fore only with the economic bankruptcy of the enterprise.

We have to note that friendly ties or connections are not necessarily negative phenomena for the functioning of the society and organizations. On the contrary: they are the pillars of the collectivity, public spirit and activity which we try to realize on the

basis of our socialist values. In the enterprise in question they are repugnant because they serve to enforce such restricted individual and group interests which are obviously in conflict with superior interests – thus with those of the enterprise collective and of society. However, we have to be aware of the fact that even these connections, wires and nexuses had a positive part in all those cases when they ensured the cooperation between individual fields, sections and organizational units in production which the enterprise organization could not ensure owing to its disorganized state.

The superior control agencies (which also commissioned the research project) were convinced that reasons for the deterioration in production results, and for poor performance should be sought after in the work, aptitude and abilities of enterprise management. In this approach the traditional attitude can be observed which disregards more important problems of cooperation within the enterprise rooted in interest relations and conflicts, and attributes all troubles to the abilities, qualification, attitude and views of the leadership. There is much sense in all this – since most enterprise problems manifest themselves also as management problems –, but the solutions offered by this traditional way of reasoning (thus replacement of executives by new ones, education, extension training of executives) alone are not suitable for overcoming complex troubles of structural origin. Our research has also proved that the enterprise struggled not only with simple concerns of management and of selecting executives; the problems were rooted in the insufficiency of the entire organization (thus, over and beyond the selection of executives, of the mechanism of decision-making, of the systems of taking responsibility, and of stimulation, etc.).

Conclusions

The practice of the selection of executives* in the enterprise of the building industry examined came into conflict with the proclaimed triple requirement of cadre policy. This brought about serious consequences for the entire economic, but also the social and political functioning of the enterprise: it caused and also preserved deficiencies thus developed. A part of the troubles experienced obviously results, – we emphasize again – from specific, extreme and by no means typical circumstances of the enterprise, but another part points beyond these circumstances. What are these troubles?

Though problems of the selection of executives result primarily not from attitude, but from enterprise and industrial relations, thus, they are of structural origin, yet they can be best comprehended at the level of attitude reflecting also these relations.

*It would be probably more suitable – in a scientific concept – to speak about leaders being selected, as a passive process, instead of selection of executives since selection, as an active process, postulates that control and management organs can fully regulate and influence this process, but the real situation is such that the hands of those making personal decisions are bound even in a favourable case by social conditions and possibilities under which decisions have to be made. In this sense, however, it is not the decision-makers who are simply choosing, but the person in question is "being selected". This is especially so when in the organizations unintentional and uncontrolled processes are becoming dominant as the enterprise dealt with in the present study well indicates.

It is a general concept that leading is a "service" undertaken by any honest man without considering compensation offered by the society and completely or partly without the hope of material or other gain. True, nobody can deny that people advancing to executive posts or accepting such appointments are motivated not exclusively, sometimes not even primarily by financial viewpoints and the financial or other compensation obtained is often not proportionate to their efforts. However, it must not be forgotten, either, that for certain social groups – and the groups in the enterprise mentioned undoubtedly belong here – promotion to become executive is accompanied by such financial and other advantages which they could not obtain in our society otherwise or only at higher price. Therefore, becoming an executive is by no means a one-sided undertaking of service, but a possibility to satisfy various needs and enforce interests which is not available for anybody. This is one of the reasons why this question is a source of sharp conflicts of interests between all those plant, enterprise or social groups (mainly technical and economic staff), whose interests are basically affected by this. (The working class is free from such intrigues mostly because they are less interested.) Not only the economic organization, but even political and social organizations do not remain untouched by these conflicts: since a considerable part of their members are involved they cannot evade the effects of this phenomenon, either. The conflict in the course of the selection of executives is caused by the scarcity of available positions, which has been and will be the case also in the future in our organizations, and it was only an additional tension in the enterprise examined that, resulting from the fusion of predecessor enterprises, some executives' posts were abolished.

Namely, it results from the hierarchical – pyramid-like – structure of organizations that the number of executives' posts is usually smaller than that of subordinate ones, just as the number of higher posts is smaller than that of the hierarchically lower ones. Therefore, while moving upwards in the hierarchy there will be less and less chance of advancing. (This chance was further diminished in Hungary by the circumstance that following the Liberation very young people took leading positions in various organizations and in the society, which practically impeded the promotion of several generations and for a long time hindered even that the question of replacement should be regularly discussed.) The perspective of becoming an executive cannot replace for the individual the ways of success not attached to a change in the position in the hierarchy precisely resulting from its scarcity, i.e. since this is a real possibility only for a few. (This can be ensured, for example, by an adequately functioning system of financial stimulation.)

In the established practice of the selection of executives also our attitude to interests has a part. We have already reached the point that in principle and in general we accept the existence of conflicting interests – what is more, even the fact that they result from our social relations –, but interest motives and conflicts are still considered in the practice as undesirable and shameful phenomena. This is one of the reasons why enterprises and especially political and social organizations within them present themselves as "free from interest". However, when doing so, i.e. disregarding and denying the existence of interest relations, deviations and conflicts, they will only get into such a

situation that they will have to overcome these phenomena unprepared and fumbling in the dark.

Thus, after all, they give free way to individual and group interests fighting against each other and asserting themselves in this important matter, with reference to enterprise and superior interests, but usually running against them. This process – resulting in the selection and reproduction of executives ill-suited for their posts, but in good position to enforce their interests, i.e. contra-selection – means at the same time that in the course of selecting executives subjectiveness is dominant, political and social organizations come under the influence of one or another group of executives, while central organs loose control practically over the enterprise.

Though the interest of certain social groups in becoming executives follows from the nature of our social, enterprise and factory relations, yet the political and social organizations and public opinion, in general, resent "careerism" and condemn everybody who seems to be sensitive to the possibilities of advancement. However, this alone would mean no trouble. On the other hand, serious problems are brought about if political and social organizations as well as public opinion neglect making a distinction – as it is often the case – between advancement ambitions of people having the abilities to take higher posts and also concomitant additional tasks, and those wishing the same, but without abilities and real willingness to undertake tasks. Society will not be damaged by advancement ambitions of the individuals (these are rather strong motors of development), but by the advancement of those who are ill-suited for that. The fact that we often cannot make distinction here – just as the enterprise examined could not make it, either – results from the institutional and structural inability of many of our organizations to do so. In Hungary the competence of personnel work in the enterprises leaves much to be desired; up to now we not only have not reliable methods and means for an objective measurement of the aptitude and performance of executives, but even attempts were hardly made to find them. Cadre work is very much of *ad hoc* character; the training of leaders is – despite sectoral and national efforts – mostly unsolved even at present and there is hardly any enterprise whose middle- or long-term development plan concepts would be supported by adequately concrete plans of cadre development. The general situation is surely better than in the enterprise examined, but it cannot be considered satisfactory taken as a whole, either.

The present problems in selecting executives are closely connected with the deficiencies of democracy. Cadre decisions are made in most cases even at present in secrecy and with the participation of very few persons. It occurs very rarely that the opinion of those people is asked who will be led by the new executive, and often even that of political and social organizations is not asked for at all, or only formally. But, without increasing publicity and a democratization of these decisions the suppression of subjectiveness and of contraselection can be hardly expected. *Realization of the triple requirement is anyway impossible without greater democratization:* subordinates may have many useful things to say not only concerning the professional and political aptitude of the executive, but their opinion is decisive as regards the human qualities of executives,

since it is they who will be directed by the candidate and they can judge whether he is apt for this apart from his political and professional qualities. In this the workers and employees are willing to participate, too, because they not only have a survey of the issue, but are also interested in it. It is not the same for them who will direct them; this may considerably influence their situation at the workplace. To many people the decision is not the same all the more as they would also aspire to the executive position and are possible candidates. A decision made together is more easily accepted even by those whose interests are hurt by it. Asking for the opinion of workers and employees renders help also to political and social organizations in seeing more clearly these questions; at the same time, public opinion is a pillar these organizations can always rely on against the pressure of certain individual and group interests. Precisely on this account, over and beyond the combination of democracy at the workplace with the selection of executives, the elaboration of standpoints built on wider democratic basis than previously is no less important, which should express the views of political and social organizations, first of all of the party, concerning these matters. *Giving greater publicity to the selection of executives and its further democratization do not contradict the efficiency of decision-making; on the contrary, they enable that better founded decisions be made better corresponding to the triple requirement of cadre policy than previously.* Of course, greater publicity and democratization in the selection of executives cannot be easily realized: democratization of any kind means simultaneously also division of power; considerable power is lying behind these decisions – precisely because they very strongly affect the interests of the individual groups. It is now often concentrated in the hands of a narrow circle of leaders in the Hungarian enterprises.

– *Improving cadre work, increasing publicity in the selection of executives and the participation of workers and employees in connected decisions postulate that their participation in other matters has already been realized.* Namely, it hardly makes any sense to speak about the extension of democracy at the workplace also to such questions until its preconditions cannot be found: that is, the real participation of workers and employees in a series of other questions connected with the evaluation, remuneration and control of work – among others precisely of executives' work – has not been ensured. Therefore, we would cherish illusions and support demagogic claims if we considered democratization of decision-making connected with the selection of leaders as a primary or central task in the development of democracy at the workplace in Hungary at present. On the other hand, we have to point out that in the field of cadre work the elimination of present deficiencies and a radical improvement in the situation can hardly be expected without increasing publicity and democratization which cannot be separated from the development process of democracy at the workplace, in party and TU organizations and in the entire public life, and socialist democracy, in general.

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ПОДБОР РУКОВОДИТЕЛЕЙ ПРЕДПРИЯТИЙ В ВЕНГРИИ (КОНКРЕТНОЕ ИССЛЕДОВАНИЕ)

Л. ХЕТИ

Статья – на основе конкретного анализа практики подбора руководителей строительного предприятия – ищет ответ на вопрос, в какой степени структура хозяйственных организаций способна обеспечить проведение такого подбора руководителей, который открывает перспективу для отдельных лиц, соответствует целям эффективной деятельности предприятий и согласуется с социалистическим политическим, общественным и экономическим развитием в целом.

Статья сопоставляет принципиальные требования к подбору руководителей, предусматривающие комплексную профессиональную, политическую подготовку и личные качества кандидатов на руководящую работу, и сложившуюся практику предприятий. В последней все стороны этого триединого принципиального требования удовлетворяются далеко не в равной степени. С одной стороны, требованию политической пригодности – по крайней мере, формально и во всяком случае необоснованно – придается большее значение, чем профессиональной пригодности, а критерий личных качеств почти совсем не принимается во внимание. С другой стороны, – и это решающая проблема – официально принятые принципиальные требования в практике подбора руководителей подменяются такими неофициальными критериями, как принадлежность к той или иной группе интересов внутри руководства, и, например, членство в партии или работа в политических и общественных организациях часто также служат тому, чтобы скрыть наличие неофициальных групп интересов и их влияние. Такие мотивы выбора руководителей в равной степени свидетельствуют как об организационной слабости хозяйственной единицы – социалистического предприятия, – так и действующей внутри нее партийной организации, и прежде всего о неудовлетворительном состоянии внутренней демократии. Для того, чтобы покончить с проявляющимися в подборе руководителей тенденциями, одинаково нарушающими интересы как отдельных людей, так и организаций, и в любом случае противоположными интересам общества, необходимо укреплять внутренний демократизм данной производственной организации, особенно в принятии решений, связанных с подбором руководителей.

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THE SMALL ENTREPRENEUR AND SOCIALISM

The subject of the study is the stratum of small entrepreneurs under socialism. The authors outline the specific features distinguishing this stratum both from the traditional peasantry and from artisans. In the East-European socialist countries the stratum of small entrepreneurs is not simply a remnant of the past, but a product with specific features of the new structure of these societies. The study discusses the tendencies, new developments, changes in form and activities of small enterprising in the sixties in Hungary and the contradictory nature of the status of small entrepreneurs.

When studying the development of various societies and the motives of their dynamism one finds groups which are insignificant or marginal with respect to both number and formally acknowledged function, but whose presence and functioning has not negligible influence upon the different historical stages and also affects the choice between development alternatives. From these one of the most interesting and challenging social stratum of the East European socialist countries, that of the small enterpreneurs, has been studied this time.

Their role in the societies that abolished the private ownership of the means of production has not been much analysed, especially not from the sociological point of view. At the same time, we believe that to outline the changing functions of this stratum is also necessary for understanding some specific traits in the development of the said societies and some important segments of the economic and sociological processes taking place in them.

Determinative features of the small entrepreneur stratum

When the stratum of small entrepreneurs is torn out from the mass of economic "small business", a multidimensional continuity (size of income, sphere of activity, business size, traditionalism, the degree of rationality etc.) is more or less deliberately broken. This ranges on the one hand from the traditional farmer and artisan economic unit to small enterprise and is, on the other hand, moored between small and medium enterprise. The thus delimited stratum of small entrepreneurs is still rather heterogeneous, but its members show a number of common characteristics which distinguish them from the aforesaid strata and give ground for considering them a separate stratum of society.

The small entrepreneur is distinguished from traditional farmers and artisans in the traditional sense of the term first of all by the following marks:

– The basis of his economic activity is not his own labour power and that of his family but his holding of a capitalizable sum of money with which he can buy not only means of production but also alien labour power.

– His activity is not necessarily tied to a given profession or to professional knowledge required for working in that profession.

– In selecting the field and structure of his activity and in introducing technological innovations he follows rational, i.e., business considerations and not traditional norms.

– The main motive of his economic activity is to satisfy not directly felt family or local needs but market demands with the aim of gaining profit, i.e., income.

The demarcation line between small and medium enterprises can be drawn first of all according to the magnitude of the enterprise for the above listed criteria are equally characteristic of them. However, there are further implications of the different magnitudes of enterprise which justify our speaking of the small and medium entrepreneurs as of separate strata differing in several important respects:

– The small enterprise does not grow as big as to need a special apparatus or even a separate person to direct and control it, to whom the owner should have to delegate his power or part of it. The small entrepreneur who is relieved from manual work by his one or two (or sometimes more) hired workers performs these functions himself (employing the services of professionals such as engineers, lawyers at most as counsels or experts).

– Small enterprising needs relatively small capital and thus, at least in theory, relatively broad masses have access to it.

– Exactly because of the relatively small sum of the capital available to them most small entrepreneurs are existentially very much exposed to market fluctuations or, in the broader sense, to those of the economic situation and have in addition often very limited opportunities for raising credits. Therefore, the drop-out rate of these strata is also high.

This very ambiguous small entrepreneur stratum bears not only social and economic but also certain socio-psychological marks. The personality of the small entrepreneur could be best described as the little businessman displaying an important type of the "homo oeconomicus" who judges money-making the utmost value and who measures his own social value and that of others by this standard. He does not only subordinate his economic activity to it but this determines his way of life, his ideals and human relations as well. Nonstop activity, a search for ever newer fields of economic activities, ever newer ways of solution is his natural "modus vivendi".

Although it has been found necessary in this study to outline the development of this stratum under capitalist conditions, the main objective has not been this but to analyse the specific features observable in the functioning of small entrepreneurs in the East-European societies. Here the small entrepreneurs are not simply left over from the past but – provided that they enter the scence – they are both products and shapers of the new pattern of these societies and as such they differ in many respects from both the classical and from the contemporary capitalist small entrepreneurs.

The reason for this difference can be found first of all in the following two essential circumstances:

– In the societies abolishing the private ownership of the means of production new systems of economic control and management, political power structure and ideology

different from those of the – contemporary or classical – capitalist societies have evolved and in this new structure the small entrepreneur stratum occupies a marginal place.

– Economic development in the East-European societies not only lagged behind the Western ones but also its basic institutional systems developed in a different way.

Still, in spite of the great number of differences, a historical as well as concrete economic and sociological parallel can be justly drawn between the small entrepreneur stratum under capitalist conditions and the small entrepreneurs of societies that abolished the private ownership of the means of production. This comparison is all the more necessary as it shows the changes in the appearance and functions of this stratum under the new circumstances.

The small entrepreneur and capitalism

The "merchant clothier" who not only bought up the wool but also had it processed, moreover, even raised his own sheep, played a very important role in the primitive accumulation of capital. The first manufactures were founded by them and through their activity the amounts of money accumulated in commerce were transformed into industrial capital. The institutional forms of feudalism, of course, confined this development at the beginning. In the first times also the guilds struggled against the small enterprises invading their areas and menacing their interests. But later on also the guildsmen themselves chose this way if they were able to acquire the necessary financial means, and became small entrepreneurs in masses.

In agriculture the feudal conditions were more rigid than in trade guilds and in commerce; we may say that feudalism was an economic formation built on a special mode of agricultural production. Here the small entrepreneur appeared first as a tenant who became rich at the expense of both landowners and agricultural labourers. Precondition to enterprising was the possibility to lease – even if not to sell – land on the one hand and to employ hired workers – even if laden with many feudal-type constraints. The terms of these opportunities were latent in feudal tenancy since serfs possessed the land and in advanced feudalism the richer ones had already some chance to employ labour. This provides explanation for the fact that later on also serfs who attained liberty played an increasing role beside tenants in making capitalist conditions dominating, as a part of them, taking the way of rationalized production, became small entrepreneurs. Owing to the reasons mentioned this process spread over a long period in agriculture and in many cases it cannot be regarded as accomplished even in the advanced industrial countries.

The genesis of capitalism is thus, in some way or other, attached to the stratum of small entrepreneurs even if their role was taken over later on by bigger companies or enterprises, and the importance of small entrepreneurs faded away.

Facts show that, along with the ever increasing enterprise and factory concentration of capital, the mostly small entrepreneur-type economic "little existencies" have survived even in the most advanced industrial countries as a numerically significant social

stratum though it must be admitted that their role in economic life is now less spectacular. For example in the United States where capitalist conditions are undoubtedly best developed a tendentious numerical decrease of this stratum cannot be shown despite the intensive concentration of capital.*

Small enterprises growing out from the shadow of big ones can no longer live on the hope – which was not quite unbased in the early and even in classical capitalism – that they might once develop into medium or big size.

Besides, the restructuring of small enterprises by sectors expressed a significant change. Analysis of this process shows why these economic units, considered by many as unviable, could survive even in the most advanced industrial states. From this aspect the survey of United States data will be again revealing. (See Table 1).

According to the data of the Table, one of the most substantial features of restructuring is that small enterprise is squeezed out of almost the whole manufacturing industry, i.e., the sector where it used to play a leading role during the evolution of capitalist conditions. The reason is very obvious, since technological changes, making large-scale production the most economical one, took place chiefly in this sector. Thus in this field the overwhelming majority of the small entrepreneurs became pauperized, and only those could survive who specialized in time in products that cannot be manufactured economically on a mass scale. Understandably, in mining, transportation and public utilities the small enterprise never had much room.

In agriculture concerning which part of the literature is of the opinion that in many branches of production (at least under advanced industrial circumstances) the optimum plant size does not exceed the magnitude of small enterprises, this type of farming has not been superseded. This is characteristic especially of the United States where small entrepreneurs did not have to struggle against feudal constraints even at the beginning.

At the same time new vistas have opened up for small enterpreneurs in services, in the so-called tertiary sector which has become one of the fastest advancing sectors of the

*_Lipset_ and _Bendix_ claim that small entrepreneurs now amount to 10 per cent of the American population but much more than that belong to that stratum during their lives. In a research project carried out in 1949 in Oakland on problems of labour mobility it was found that more than a fifth of the workers used to be independent entrepreneurs once and, what is more surprising, 67 per cent of the workers answered 'yes' to the question whether they had ever entertained the idea of creating their own small enterprise. More than 40 per cent of them actually took efforts towards that end [1, pp. 177–188].

All that shows that independent small business appears to be a desirable and promising way for a very broad stratum of manual workers in the United States. Macrostatistical data indicate a similar tendency. Accordingly, in the United States round 16 million new enterprises came into existence and 14 million were wound up between 1900 and 1940. This great mobility further increased after the war and from 1944 to 1948 round two million new enterprises were set up while somewhat more than a million closed down. [1, p. 102].

Extrapolating the above data the said authors infer that 20 to 30 per cent of urban labour were, or would become independent during their lives. Relying on similar facts Mills states that a relatively high percentage of small entrepreneurs belong biographically to the workers class.

Table 1
Number of small enterprises and their sectoral distribution in the United States in 1968*

Sector	Individually owned enterprises		Partnership enterprises	
	thousand	per cent	thousand	per cent
Agriculture and forestry	3096	38.0	109	14.7
Mining	39	0.5	12	1.6
Building industry	569	6.8	38	5.1
Manufacturing industry	140	1.7	23	3.1
Transport and public utilities	262	3.2	13	1.8
Wholesale and retail trade	1338	16.4	130	14.7
Finances, real estate affairs	491	6.0	282	38.2
Services	2020	27.4	133	17.8
	8139	100	740	100

*Independent economic units with annual revenues below $50,000 for individually owned and 100,000 for partnership business.

Source: The American Almanac for 1972. Grosset Dunlop, New York, Table 714.

capitalist economy. The existence of smaller economic units is more justified here than in the industry because demands for services are far more individual, do not lend themselves so readily to uniformization, and can be therefore satisfied more easily by the more adaptive and flexible small enterprises.

Although this restructuring has not resulted in a numerical decrease of small economic units, yet their dependence on bigger economic units increased and a so-called vertical integration evolved.

While earlier it could be stated only that the small enterprises became financially dependent on bigger capitalists, today this dependence covers basic elements of economic activities as well. Bigger economic organizations link to themselves small enterprises more and more widely by providing for them material and technical services, or taking over their products for sale or for further processing. This is especially widespread in agriculture and entails an intensive specialization of the small economic units.

From the point of view of our subject the integration of small enterprises into bigger economic units has a double impact: on the one hand, it diminishes the scope of the enterprises (for example it is very difficult for specialized agricultural enterprises to change their line) but, on the other hand, this new institutional form helps in enhancing the efficiency of the small enterprises, promotes their expansion to new fields, and thereby stabilizes them.

These changes as well as the wide opportunities in the tertiary sector created a situation in which the small economic units which had been doomed to long agony, have proved viable in "updated form", as enterprises successful also in new areas.

As most of these tendencies evolved in the last century Marx could naturally not reckon with them. But today it is impossible to neglect them, and this requires a certain reconsideration of the Marxian concept of social structure as well.*

The small owner is in the Marxist sense rather a remnant of feudal conditions than a product of capitalist circumstances. As against that, as we have tried to show above, the stratum of small owners who become small entrepreneurs is perpetually reproduced by capitalist conditions.**

The small entrepreneur in our interpretation thus transcends the traditional small-scale producer strata which represent the old mode of production in capitalism and, consequently, is different from the latter in several structural features, as already noted. This is one of the reasons why rational pondering plays a very important role in joining this stratum (under certain financial conditions) or in leaving it (which means the giving up of independence).

In consequence, there is dynamic flow, and sometimes even some kind of circulation, between workers and small entrepreneurs. (A similar symptom, though to a lesser extent, can be observed between officials [administrative personnel] and the stratum of small entrepreneurs too.) This flow is much more intensive than the flow between workers and officials although in respect of capital relations there is a bigger difference between workers and small entrepreneurs than between workers and officials. The latter are namely distinguished from each other not by the difference in ownership but primarily by their position in the actual division of labour, with all its attributes.

Accordingly, the small entrepreneurs may be regarded as a transitional stratum, but not in the sense that they loose their economic grounds in a longer or shorter time and cease

*From a cardinal thesis of Marxism, namely, the dichotomic nature of capital relationship, a concept of a stratum of small owners derived who are inserted between the capitalist class and the proletariat and whose members, as Engels states, ". . . hope to climb up to the big bourgeoisie and they are fearful lest they be pushed down into the ranks of the proletariat." [3] Marx himself treated the role of the small owners the most thoroughly in his work "The class struggles in France" and classified here the keepers of restaurants, small shopkeepers, grocers, craftsmen and, of course, speaking about rural areas, also free landowners. In that society there stands facing them (mostly in the quality of creditor) the bourgeoisie who only give them the chance to "continue their business only under conditions which made them absolute serfs of capital." [4] The free peasants get into a similar dependence. "Just as privileges accumulated on the medieval state, mortgages accumulate on the modern small holding." [5]

**Beside them there naturally exists, especially in the less developed countries, a relatively broad "semi-feudal", "semi-capitalist" stratum of small owners. But with the development of the capitalist, i.e., market conditions the members of this stratum do not have merely the alternative of "climbing up to the big bourgeoisie or be pushed down into the ranks of the proletariat" but also have the chance of eventually becoming small entrepreneurs.

to exist. They are transitional in a sense that, owing to their high rate of mobility they are not separated sharply, not even in the span of a single generation, from the workers or, in other groups, from the heterogeneous stratum of the white-collar employees.

Small enterprise in the period following the abolition of bourgeois private property (The case of Hungary)

In Eastern Europe the above-described development not only began with quite a lag but it also took place in different social circumstances. From the viewpoint of this study the main point is that the stratum of small entrepreneurs was here much less important for primitive accumulation than in the Western countries. Much of its role was taken by state interference, by foreign capital and by capital accumulation in big estates. Though broader extensive industrial development begins in the second half of the 19th century, yet the creation of new industrial settlements, expansion and technological updating of the old ones was by far not as dynamic as in the contemporary Western societies. In Eastern Europe the industry was still widely scattered at the beginning of the 20th century. In Hungary even in the 30s about half of the industrial labour force worked for units with less than twenty workers. Even most of these were not yet small enterprises but traditional craftsmen or artisans. That is, at the time when in the West the small enterprice was about to be replaced in the manufacturing industry owing to enterprise concentration, in the Eastern countries it was not yet established.

Conditions were no better for small enterprises in agriculture either, that engaged at that time the overwhelming majority of the population in Eastern Europe. In the grasp of the traditional type peasant farm and the semi-feudal large estate this type of economic units could develop only with great difficulties. There were still many legal limitations to land purchase. Therefore, the small enterprises were started mostly on rented farms – like in England at the time of early capitalism – and in many cases, owing to the shortage of land caused by ownership conditions, only covered some segments of agricultural production which did not require large areas (graftling production, ownership of threshers or crushing mills, etc.). Along with them rationality (replacement of traditional cultures and production technologies by more modern ones) also appeared under the effect of widening market relations even in traditional peasant farming, true, rather sporadically and in limited areas. As a result, after a longer period, part of the wealthier peasant farms also assumed the features of an enterprise. As a consequence of this retarded process in Hungarian agriculture a specialization limited to smaller areas developed in the 1930s which replaced traditional peasant farming.

As seen above, by that time the tertiary sector already offered favourable opportunities for small enterprises. In Eastern Europe it had a very narrow scope, in part because per capita national income was still very low and hence no wider demand could develop for services, and in part because the way of life was still mostly traditional and the importance of self-sufficiency withdrawn from market impacts was great. In this sector

some opportunities for small enterprises were offered almost only in trade and catering. As a result of all this socialist transformation encountered a small enterprise structure which could be compared to the one formed in classical capitalism as to its distribution by sectors but which was in a far worse situation as regards its development opportunities.

The post-war situation in Hungary, the urge to satisfy primary needs and the tasks of reconstruction, brought about a boom of small enterprises. Large-scale industry and trade could not make up for the great shortages in production and transport capacities even with very effective state interference. The smaller and therefore more flexible units proved to be better suited in many fields. In those years the medium and large-scale enterprises were not yet nationalized and the communist party which steadily increased its influence but still was not having a monopoly position sought alliance with middle strata.

At that time small enterprise was a formally recognized activity. None of the political forces wanted to draw a sharp line of demarcation between the small entrepreneur and the artisan-retailer strata.* As a result, the number of artisans did not decrease considerably,** while the volume of their activities increased at a higher rate than that of the large-scale industry and wholesale trade.

The post-war land reforms carried out in the agriculture hardly had any bearing on small enterpises. The ceilings were set at 200 cadastral yokes*** for peasant holdings and at 100 cad. yokes for the holdings of the gentry. (The Land Reform Act applied the categories describing the peasant society and therefore the notion of agricultural entrepreneur never emerged.) As seen above, the agricultural small enterprises normally did not hold or own large areas and therefore their lands were usually not taken.

It belonged to the first measures of the communist party which took over in 1948, in the so-called year of change, to draw a sharp line of demarcation between small capitalists**** and artisans and retailers: the majority of small entrepreneurs fell into the first, and a smaller part into the second group. The break in continuity was carried out in subordination to political considerations.*****

Some conclusions about the measure of supression of small enterprise can be drawn from the statistics of private small-scale industry: while the number of independent artisans decreased to one-quarter of the pre-war number, that of their workers decreased

*Although the Hungarian Communist Party began to fight the so-called black marketeers already in 1946, at that time this did not really affect the stratum of small entrepreneurs, that is, its most important groups engaged in industry, agriculture and services.

**In 1946 they were 10.000 (i.e., slightly more than 5 per cent) less than before the war.

***1 cad. yoke = 1.42 acres = 0.57 hectares

****The political terminology of the age used the denomination small capitalist and not small entrepreneur.

*****Aware of the instability of their situation, the industrial small entrepreneurs joined the industrial cooperatives already earlier, these worked quite unrestricted originally, and took there not only their equipment but also their organizing and professional experience.

Table 2
Changes in the number of artisans and their employees in Hungary

Date	Total staff in private small-scale industry	Independent artisans	Employees in private small-scale industry
December 1938	367.819	180.087	187.732
February 1953	51.411	46.199	5.522

Source: [6]

to less than a thirtieth (See Table 2). That is, the small enterprise of which the employment of alien, non-family labour is, if not the only, yet a very essential characteristic feature, could be considered as practically liquidated.

After the revision of the economic policy, declared in June 1953, a new situation was created in this respect: great efforts were made at putting an end to the difficulties deriving from the suppression of small-scale industrial activities and causing wide discontent. The granting of new licences was begun, owing to a great extent to the resistance of the party and council machinery to the new economic policy, with a great deal of procrastination. In order to speed up the procedure the government lifted the limitations to the licensing of artisans in 1954 and in only one and a half year more than 60.000 licences were issued. Thereby the number of artisans more than doubled and an opportunity opened up for the revival of small enterprises in the framework of small-scale private industry. But attacks started against the latter.*

This time the critiques were naturally directed not merely against the stratum of small entrepreneurs but, at the same time, also against the policy on whose soil these eterprises could be set up, and had their role in the new change at the beginning of 1955 which then entailed not only the limitation of the activities of small enterprises but as a rule a new regression of private small-scale industry.**

The new policy of restrictions was broken in October 1956, following this a policy similar in this respect to that of 1954 began to assert itself. This is indicated by the fact

*"Abusing the unrestricted licensing, says Béla Gervai, then general secretary of the National Federation of Artisans, speculators and former capitalists rushed (namely, to join the artisans – A. H. – M. M.), many of them never pursued any productive activity . . ." [7] In this critique not only the dislike for the said groups is reflected but also the actual situation that the activation of the market and of private producer-service activities – no matter how much these dynamized the economic life in some fields – were still an alien force in the given model and therefore they upset the social and economic conditions in many respects. These impacts will be analysed later.

**". . . the excessive tendency of capitalization must be controlled through more effective taxation", the resolution of the Hungarian Workers' Party Political Committee stated in February 1955. "Cancelling of licences must be applied more consistently to those contravening the law."

that in December 1957 artisans numbered 120 thousand, that is, about three times more than at the trough in Spring 1953, and by round 20 thousand more than in December 1954.

Political forces and administrative measures had especially big roles in liquidating the agricultural small enterprise – in winding up the stratum of wealthy peasants (of so-called "kulaks"). Wealthier peasants whose farming activities bore the traits of strong traditionalism as well as agricultural small entrepreneurs who were trying to shape their farms along rational conceptions to correspond with the impacts of market conditions were equally squeezed out.

It entailed grave administrative consequences and social branding to be classed a wealthy peasant or kulak, which was primarily a political judgement, and often an instrument of settling various local conflicts. Although there was no law to nationalize the means of production of the people in this category, many of them gave up their farms and left agriculture.

The small entrepreneur and the reform attempt in the 1960s in Hungary

New vistas began to open up again in Hungary for the small enterprise in the mid-sixties. However, this new prosperity developed under different circumstances than in the earlier stages (1945–1948, 1953–1955 and 1956–1958). At that time the decisive majority of the country's forces of production was possessed by state and cooperative enterprises and such a stable reproduction pattern had developed in society which cut the previously more or less existing continuity of small enterprise reaching back to capitalist conditions.

The unfolding of the new opportunity for small enterprise was attached primarily to the attained level of economic development. In these years the per capita national income was about double of the pre-war figure and reached a level where differentiated demands began to take shape. Consequently there was markedly growing demand not only for consumer goods but also for services. The state and the cooperative sectors – the latter having institutional forms similar to the former – were no longer able to satisfy this growing demand.

Beside the increased national income further factors contributed to the renaissance of the small enterprise model. The major ones are the following:

– *Market impacts and the growing importance of market conditions in economic life.* Theoretically it is possible to conceive a model of the economic system which uses the market mechanisms for control and, at the same time, prevents the revival of the small enterprises. But it is inconceivable to suppress them with merely economic instruments. This needs such measures which at the same time entail elimination of market conditions or at least their very powerful restriction. This, however, has very grave implications because usually a coincidence is found between where it is necessary to

assert the market mechanisms for the sake of dynamic growth and where the small enterprises appear to be viable against, or together with, the bigger economic units.

– *Relative shortage of capital in state and cooperative enterprises.* An industry-centered, and in that context primarily heavy-industry and production-equipment-oriented, economic policy neglecting branches manufacturing consumer goods and investments for the promotion of services resulted in the emergence of a structure which impeded the raising of living standard and the satisfaction of the population's changing and expanding demands for consumption. While the endeavour to enhance the raising of living standards was already prevailing in economic policy, the necessary investments were in many cases above what the state and cooperative sector could afford. Economic rationality required the state to concentrate the means available to such consumer goods industries and services where the bigger enterprise units work more efficiently than small enterprises – ceding the latter the fields requiring quick structural changes and mobility.

– *Private accumulation of considerable amounts of money.* At the end of the 1950s and the beginning of the 1960s there was an appreciable increase in personal incomes in Hungary with an accompanying emergence of wide demand for durable consumer goods. The offer of commodities could not yet keep pace with expanding demands. Especially goods suitable for drawing money away from higher-income strata were missing, e.g. at the beginning of that decade the possibilities for buying a car or building a private apartment were narrow. The bigger part of the hoarded sums were in the form of saving accounts or were used for speculative investments (e.g. buying real estates). In 1955 personal savings amounted to only Ft 722 million. This increased to almost eight fold by 1966 and reached Ft 5.5 billion, and by 1965 it exceeded Ft 20 billion. Economists and economic-politicians were greatly concerned about this rapid growth at the beginning of the 1960s. They were afraid that for some unexpected reason this amount of money should become activated and cause a general shortage of commodities. The postulate that part of this sum should be involved in production in a direct manner, i.e., without the intervention of the state bank, came almost automatically.

– *The opportunity to capitalize the amounts of personally held money.* This means that those having the suitable amounts of money and meeting the other necessary conditions (first of all having artisans licences) could buy means of production and labour power with their money. Even if the legitimate ways were narrow, once other conditions were given this did not set a ceiling on the enterprises but rather lent them some specific deviant feature. Namely, many of the small enterpreneurs, making use of the enhanced demand for their products or services, found the ways of transgressing the official limits.

First of all, this is how the enterpreneur obtains the necessary labour: A considerable part of the workers and of specialists with higher qualification sell a part of their free time after the official working hours in order to increase their incomes. If overtime opportunities are limited or do not pay well at their workplace they look for extra work opportunities elsewhere and find it with the small enterpreneurs in the first place. This is how a more or less free labour market evolves where the price of labour power is in some

professions two or three times higher than the "official" wage level.* Secondly, he can acquire the means of production and materials necessary for his work usually only through semilegal channels. By winning the "helpfulness" of the appropriate organizations or officials he can also assure more room for his economic activity.

The above brief review is intended to prove that the boom of small enterprises evolved in the mid-sixties under different circumstances and different conditions than in the previous periods. This difference brought about a substantial change in the small enterprises themselves too, especially in two respects:

– The sectoral distribution of small enterprises changed drastically and in those years it resembled not so much the traditonal structure but rather the pattern found in the advanced industrial countries.

– The boom of the small enterprises appeared not so much in the increased number of private enterprises – as could be seen in the period beginning in 1953 – but rather in the changed nature and expanding range of activities of the licensed artisans or retailers.** Moreover, also such new small enterprises were created in the socialist sector which did not take *de jure* the form of private enterprise.

The small enterprises operating in cooperative farms, industrial cooperatives and smaller council enterprises began to take shape in the preparatory stage of the 1968 reform of the system of economic control and management when the autonomy of medium and big enterprises was increased and certain kinds of enterprising became possible within these frameworks. They unfolded more widely when the reform offered the different economic units the opportunity to shape their lines of activities relatively freely, in accordance with profitability considerations, requirements, and market demands. The agricultural cooperatives were given the opportunity to set up their so-called auxiliary lines including industrial activities. In cooperatives where there were "enterprising" people big changes took place in the production structure and the auxiliary profile often became the main source of income of these economic units. Then these usually exceeded the magnitude of small enterprise and became enterprises whose administration remained the duty of the technical management.

This movement was unleashed by the same objective and subjective needs which brought about the new prosperity of private enterprises. At the same time much ampler ground opened here for enterprising activity, since many restrictive measures by which private enterprise was afflicted did not assert themselves in the socialist sector in the said period and, moreover, the opportunities for procuring materials were incomparably better.*

*This subject was treated in greater detail in our paper. [8]

**If we set out of the number of valid licences then two contrasting tendencies can be observed in the decade of the 1960s: in the first four years there was a relatively marked decrease of about 20 thousand. Thereafter a new increase took place and by the end of that decade the number of licences attained the level of 1960. From the aspect of our subject it is noteworthy that the number of their employees decreased at a slower rate and then, from 1963 on, increased more steeply than the number of holders of licences.

According to the extent and manner of the assertion of the private enterprise character, the following main types of small enterprises were formed in the socialist sectors:

– Enterprise fitted into the institutional frameworks of companies which only complement the traditional activity with a new section, or branch – for example when an agricultural cooperative sets up a building organization which satisfies not only its own needs but can be hired by various customers including private individuals. If such type of activity becomes considerable and really lucrative then it may naturally have appreciable impact upon other fields of activities fitting into the traditional order of the organization: partly, it may encourage the evolution of enterprising in other fields too, and partly it might replace the less profitable branches, i.e., it may result in changes in the pattern of activities. In the given situation this again became a source of conflicts, because the development of branches not profitable for enterprises often remained – especially in the case of agricultural cooperatives – an important target from the aspect of the national economy. In the 1960s this was a lasting characteristic of, among others, cattle breeding and sugar beet production.

– Enterprise partly outside the company frameworks, usually based on family labour and using perhaps some private capital. This is actually the case of vertical integration that can be shown for small entrepreneurs in capitalist countries when a usually medium-size enterprise links up with smaller economic units – often of the small enterprise type. The best example in Hungary is the contracted production widely implemented in the 1960s in household farms. Or it may be regarded such type of enterprise if the cooperative farm, from its own incubator station, delivers chicklings to families (whether any of their members belong to the cooperative or not) who oblige themselves to breed the poultry. The cooperative supplies the fodder required for breeding, and then processes the poultry in its own industrial plant and sells them.

– A combined type of small enterprise – prevailing mainly in commerce and catering trade – where the company provides premises and equipment, supplies the unit with the necessary commodities but leaves the sales – and perhaps also some processing jobs – to self-employed persons. This type is in fact very near to private enterprise and the frameworks of such enterprises are quite often abused for the purpose of unlicensed private trade (e.g. not only the commodities provided under the contract are sold but the self-employed also engage in procuring themselves goods). Fairly many kinds of this combined type have developed, ranging between employee and self-employed private entrepreneur.

– Finally there are private entrepreneurs working with the "stamp" of state (council) enterprises and cooperatives because this way – despite being unlawful and

*Also the range of activities of industrial cooperatives narrowed or expanded with changes in the opportunities of enterprising. If we look at the share of workers in industrial cooperatives in total industrial employment, (12.3 per cent in 1960, 11.8 per cent in 1965, 13.8 per cent in 1970 with subsequent stagnation) the same type of movement can be seen as in the case of the employees in private small-scale industry.

despite the frequent severe verdicts which ought to serve as deterrents* – private capital and private enterprising meets much less restrictions and can be run more profitably than under the terms provided by a licence. This is profitable enough for the owner of the capital even if he has to cede a part of his receipts to the institution which thus secures the scope of activity. Here we could quote the example of private lorry transportation pursued extensively in the period under study (though no longer now) under cooperative auspices, which was fairly profitable for both the owners of the lorries and for the cooperatives covering them, while the clumsier state enterprises working in the field were put in an awkward situation.

Table 3
Changes in the number of licensed artisans in some trades

Trades increasing most quickly	1960	1970	Trades decreasing most quickly	1960	1970
Vehicle repair worker	287	617	Cartwright, coach builder	1 315	306
Radio and TV fitter	224	513	Smith	2 379	727
Wall painter	1 062	2 254	Carpenter	6 090	3 556
Plumber	292	626	Shoe maker, boot maker	10 558	5 284
Carter	2 598	5 807	Tailor	6 948	3 970

Source: Statisztikai Évkönyv, 1971. (Statistical Yearbook, 1971.) Budapest, 1972. Központi Statisztikai Hivatal.

Another important new feature of the small enterprises reviving in the sixties, i.e., deviation from the traditional sectoral pattern, is illustrated by a list of the quickest decreasing and the quickest increasing trades (see Table 3). Those trades showed a decline

*In the early 1970s when restriction of the various types of enterprises began, such cases often came to trial. Two pertinent cases published in the daily Népszabadság are quoted for better illustration:

– An entrepreneur in Budapest who had not been granted an artisan's licence agreed with four cooperatives to run his screw-making machines under their auspices. 27 million forints worth of goods were turned out over the years and sold as products of the cooperatives. The cooperative managers shared in the profit. The small entrepreneur was sentenced to three and a half years' prison and confiscation of property worth 100,000 forints.

The chairman of a cooperative farming on poor quality land introduced herb production (the court acknowledged his merits in this field). However, a smaller group within the cooperative, including the chairman, produced camomil in their household plots but harvested and processed it with the equpment of the cooperative. They distributed between themselves nearly one million forints collected for the essential oil. The chairman was sentenced to two years' prison and a fine of 10,000 forints.

where the opportunities for developing an enterprise are narrow and which characteristically apply traditional technologies. Growth, on the other hand, was fast mostly where conditions demand more or less an enterprising type of activities. (Carting is an exception from this point of view being a traditional form; its preservation and growth may be explained by the fact that licences for transportation by lorries were not issued to private persons.)

Some activities where a new field has opened in the last decade for small enterprises deserve special consideration.

– *Car repair and maintenance.* The number of privately owned cars increased very steeply in the 1960s, it roughly doubled. Owing partly to lack of capital and partly to labour problems, the state network of service could not keep pace with this rate. The boom of the small enterprise was enhanced also by the inability of the trade network to satisfy the demand for cars and thus there was a demand for repairing even the very obsolete cars. But even apart from narrow capacities, the bigger state service shops are by their very nature not suitable for such operations. This explains the fact that in this field – according to official data – in 1970 about 30 per cent of services were performed by private artisans and more than 30 per cent by industrial cooperatives.

In this field private small-scale industry assumed enterprise features in the overwhelming majority of cases. A rather clearly defined division of labour developed between the small entrepreneurs: engine fitting, electricity, chassis repair and tyre repair were separated. This made it possible to set up relatively up-to-date workshops with relatively small initial capital (200–300,000 forints). Most small entrepreneurs are not or not too much engaged in manual work although they possess trade qualification (a precondition to the licence) but are working mostly in administration, organization and control. They typically employ two or three skilled workers and as they pay better than the state enterprises they usually employ very skillful men despite the prevailing labour shortage, and are therefore significantly more attractive in spite of their asking usually higher prices than the state or the cooperative sector.

– *Home maintenance and modernization.* In Hungary the housing stock was much neglected in the early 1960s, owing in part to the high ratio of flats built long ago, and in part to the relatively little expenditure on maintenance for a long time. The standard of equipment with utilities were also low.* It is only natural that parallel with raising living

*It is worth to compare the standards of the housing stock of Hungary with those of neighbouring Austria (1961 data):

Equipment of flats with	Hungary	Austria
	in percentage of all flats	
Watermains	22.7	63.6
Bathroom-shower room	17.4	30.0
Electricity	74.5	98.4

standards the demand for modernizing the flats, having more up-todate heating, piped water, hot water supply, modern flooring, WC built in the flats etc. also increased. These are again demands which the state enterprises and major cooperatives could not, at least in the given state of affairs, statisfy rationally. On the other hand, the traditional crafts which had been undeveloped even before the war, decayed completely in the early fifties. The new demands in the 1960s offered opportunities not only for renewing the old traditional forms but also for setting up small enterprises which, beside satisfying demands for modernizing the homes, also induced and acted as catalysts of new demands. Such enterprises are normally not located in a workshop as in the former case, but work is done mostly in different apartments. This allowed to increase the ratio of part-timers, moreover, to create enterprises based fully on part-timers.

Here the transcending of the traditional artisan character is enhanced not by the magnitude of the required capital, nor by the optimum number of workers but mostly by the fact that the primary objective of this activity is not to make the homes better and to maintain them (the artisan-type crafts carry that on) but to design, procure and fix new installations and this requires, among other things, the knowledge of how to design.

– *Housing construction.* The prosperity of small enterprises was produced not only by growing demand for the modernization of homes but also by the surge in private home and holiday home construction which in the given period moved together with the increase of state constructions and amounted to round 50 per cent of the total volume. Otherwise the same trend asserted itself in the building industry as seen in several other fields: from 1960 to 1963, the number of people working in private small-scale construction decreased from 22 thousand to 17 and a half thousand and thereafter increased steadily, reaching nearly 26 thousand by 1970, appreciably more than the initial number. It is also true that in most cases private constructions were and are carried out not with the help of small enterprises but in the do-it-yourself way: the family build by themselves, with the assistance of an artisan or skilled worker. Yet in an increasing number of cases the builder wants to get rid of the troubles and engages a small contractor who employs workers with different skills and is responsible for the entire process of building. In this case the small entrepreneur looks after designing, obtaining the building permit, provides the labour, buys the building materials and, beyond that, with his organizing and controlling activities, cares for smooth work. In this case the small enterprise is more advantageous relative to the do-it-yourself kind of building, because in such framework the various operations related to constructions can be coordinated more easily and proficiently. It has become more and more usual that partial jobs (central heating, electric installations, etc.) of bigger private constructions (e.g. building of condominium flats or holiday-complexes) are assigned to small entrepreneurs instead of artisans or skilled workers who work in the traditional manner.

– *Garment and shoe industry.* From the viewpoint of the subject of this study a distinction should be made between repairs and new products. Repair activities decreased markedly year after year: in the case of shoes the decrease in volume reached as much as 10 to 15 per cent p.a. at the end of the 1960s. This steadily decreasing activity could not

develop into enterprise but remained a traditional craft even if done in artisans' cooperatives. Namely, this kind of repair cannot be modernized or mechanized and remains a very laboursome piecemeal activity.

As far as new production is concerned, ready-made garment industry and large-scale shoe industry have drastically drained the opportunities for small enterprising here. Outerwear-making is an exception in some sense where the proportion of making to order was ranging around 50 per cent even at the end of the 1960s shared about equally between the cooperative and the private small-scale industries. Though the volume of this activity is appreciable, still the chances for enterprise-type activities are narrow here. Satisfying individual requirements does not actually permit production that could reach the level of an enterprise. This can be done mainly if the medium and big enterprises are for various reasons incapable of following the changes in fashion and this shortage gives ground for smaller series production. This is true especially for knitwear and dry goods retailers who usually engage outworkers while they are occupied mostly in materials procurement and in retailing the finished product. So in this case, unlike the examples above, the basis of the enterprise is not industrial but commercial capital.

The precarious status of the small entrepreneur

In socialist societies the status of small entrepreneur is powerfully determined by the fact that here they constitute the only stratum possessing wealth that operates as capital. Their situation shows a number of special traits which result in a different view and mode of life than the parallel stratum in capitalist societies.

One of the sources of the particular features is that their survival is a contingency not primarily of market conditions but of administrative decisions depending on economic policy or ideology. At the same time the limits are relatively narrow for expanding the enterprises even in the "flourishing" periods and the revenue originating from them cannot be capitalized above a certain magnitude. This latter fact decreases the economic activity of small entrepreneurs on the one hand and spurs for wasteful consumption on the other hand (including the buying of durable consumer goods which, at the present level of these countries, are of luxury type), or leads to hoarding like in other high-income strata (buying antiquities, paintings, rare books, etc.). Their conduct therefore differs from that of the small entrepreneurs of capitalist societies just in this respect, as the latter strive after capitalizing the biggest possible part of income and usually despise lavish-handed concumption.

Beside the said limits to capitalizing his receipts the small entrepreneur of the socialist society is encouraged to live in a showy way and to develop prestige ambitions by other circumstances too. For example one of the peculiarities of his structural position is that he belongs, regarding his income, to neither the lower middle nor to the middle-middle class as his counterparts in the capitalist society do (using the strata

categories of those countries), but clearly to the top category. At the same time, at least officially (though this naturally has wide influence upon public opinion) they are judged to be a peripheral non-conformist stratum and consequently have little prestige (as evidenced by several researches).* This inconsistency is felt by the small entrepreneurs themselves too, especially as on their scale of values the size of income is equivalent to the first criterion of success. But this can turn into a source of growing prestige in public opinion only if they spectacularly show their outstanding position by their way of life, if they appear to be "enviable". This becomes all the more important for them as the size of income is about the only source of prestige within their reach, while other high-income strata have such significant (and socially acknowledged) sources of prestige as e.g. knowledge or power. These are usually even accompanied by government allocations which function also as symbols of high reputation (service apartments, service cars with driver, etc.).

The fact itself that the magnitude of income is about the only source of prestige available to the stratum of small entrepreneurs under study derives also from the specific conditions which have brought about and maintained this stratum in circumstances substantially alien to them. In principle, namely, such factors as "good work", "accuracy", "dependability" and similar traditional values of small entrepreneurs or artisans might also be sources of high reputation. But under the conditions of commodity shortage and consumer competition they cannot expect these to considerably increase their social prestige, nor can they expect that from involvement in the management of local communal affairs because of the lack of small autonomous communities and because of the social status of the small entrepreneur in socialism.**

The important accessory of the "spirit of capitalism", the principle of usefulness (by which the efficient capitalization of income should be meant in the first place) is discarded or restricted by small entrepreneurs in socialism because the social conditions that determine their way of life have changed the very content of usefulness itself. For example, the subject of usefulness has changed not only because of the said cause – the narrow limits to capitalizing incomes – but also beyond the literally economic causes. Namely, while in the capitalist societies the small entrepreneurs considered piling up fortunes as a way of their own perpetration and of founding a house, and this appeared among the cardinal criteria of judging usefulness, under the conditions of socialist society wealth is accumulated in pursuance of usually shorter-term objectives, and is used primarily for the actual consumption of the family and for enhancing its actual prestige.***

*See for example [9]

**C. W. *Mills* says that participation in the management of local community affairs is a source of remarkable prestige for capitalist small entrepreneurs [10].

***This is naturally not against their ambition to secure "the future" for their – mostly not many – successors (one child or two). It is often stated: "we are going to work until the children will have all what they need". In Hungary this usually translates into a perfectly equipped private apartment and a car.

It has been seen above that under contemporary capitalist conditions the stratum of small entrepreneurs is highly mobile. From a certain aspect this holds even more for small entrepreneurs in a socialist society. With respect to mobility the most substantial difference is that in capitalism the mobility of the small entrepreneur stratum is a symptom concerning mainly individuals while here not only individuals but the entire stratum as such is affected by instability. Being member of the stratum is limited rather to only one generation or even to some time of the life of a generation.

Entering this career is though first aimed at the financial rise of the family but along with it there are motives such as desire for autonomy ("nobody should tell me what I have to do"), different conflicts at the workplaces (many belong to the "difficult" people as regards adaptation) or talents and longings that cannot materialize in state or cooperative company frameworks.

It is among the contraindications that, as in these societies the entrepreneur is almost always forced to move at least along the borders of legality, and to actually transgress them quite often, this involves such a permanent state of stress which not everybody is willing to bear for a lifetime. Again, the social discrimination which is a disadvantage for the family and mainly for the children (in admission to university, production, etc.) will end by leaving the stratum.

This instability contingent on external factors is shown in the *opinion of other strata* about the small entrepreneurs and by how they *think of themselves as of a stratum,* i.e., it affects the development of both autostereotypes and heterostereotypes.

The opinion formed about them by official institutions is naturally of special importance for their future. The small entrepreneurs are in direct contact almost exclusively with administrators – the lowest red-tape officials. They are to gain the benevolence of these officials which they usually do with more or less effort. This is true for the officials of both state administration (in charge of things like licensing, levying of taxes, professional and financial control, etc.) and for the officials of state enterprises (in charge of such important decisions as distribution of materials and equipment, sales, providing the opportunity for outwork, etc.). The benevolence indispensable for the running of the small enterprise is strongly dependent on the economic policy orientation, i.e., it cannot or can hardly be acquired in periods of repression.

Those actually in power do not acknowledge the existence of small entrepreneurs as a stratum in society but simply classify them as artisans or retailers and consider their development into small entrepreneurs a deviation. Their subjective judgement of this stratum is also negative; this is motivated, among other things, by their opinion that those belonging to this stratum are unjustifiedly better off than they are.

The dislike for the small entrepreneurs has spread, though in an ambivalent manner, also in broader strata of society and particularly among workers of big enterprises, because small enterprising created appreciable disproportions in earnings not only in the global wage structure but also within individual trades. The severe regulations (tariff system, average wage control, taxation of labour incomes, etc.) and quite often the narrow financial possibilities limit the raises a big enterprise can carry out in

nominal wages. The small entrepreneur, on the other hand, pays much higher wages than the official earnings. It is true, though, that the private entrepreneur and even the small enterprises that came about in the framework of the socialist sector demand higher work intensity, but some of the workers, especially the youth who have to furnish their own household and whose demands are higher anyway, do not want to spare their efforts, but are rather after maximum income. It was consequently found – especially at the beginning of the the evolution of the reform and as a by-effect – that part of the young people flowed to small enterprises, meaning by the term now not only private enterprise but also the small or medium enterprise-type auxiliary branches of industrial cooperatives and cooperative farms.

The opinion formed about the small entrepreneurs by their own workers is another question. Here again a substantial difference must be noted between the situation of entrepreneurs in the two economic systems. In capitalism, owing in part to the activities of trade unions and in part to better financial conditions, workers of big companies are not only given higher pays (usually there is positive correlation between the earnings of workers on the same job and company size) but enjoy also higher standards of labour safety and broader social benefits than those working for small enterprises where, though under the disguise of patriarchal conditions, sometimes more rigid and brutal forms of exploitation assert themselves. The small entrepreneur in socialism engages his workers also with worse labour-safety and social benefits but usually with far better organization of work (meaning in the first place continuous supply of materials) and for far higher wages but demands more intensive and dependable work in return. Since these jobs are taken mainly by the people who want to make money there is usually good cooperation between the small entrepreneurs and their workers.

This brief outline is naturally not suitable for the complete illustration of how far-reaching and how intense strains are involved by the existence and activities of the stratum of small entrepreneurs. Yet it is hoped to have shown that this stratum, marginal as it is, is by virtue of the important functions it fulfils a not negligible factor in the structure and way of life of society.

Some conclusions

According to the aforesaid the small enterprise is an integral part of the modern economic structure as shown by the experiences of capitalist countries with advanced industries. Its viability and rationality have been proven first of all in two ways: in agriculture it has replaced the traditional peasant farms pursuing mostly natural-type productive activities, and it has acquired new positions in the surging tertiary sector.

Thus, though it has been powerfully restructured sectorally and has changed in many respects, this stratum continues to fulfil important functions hardly replaceable by other economic institutions.

In this respect the Eruropean socialist countries took another way of development when they set up bigger economic units based on state or cooperative ownership not only in industry but also in agriculture and in the tertiary sector (as to agriculture Poland is an exception to some extent and Jugoslavia is known to be different in many other respects from the Hungarian way of development portrayed in this paper). As a result, the room left to small enterprises is much smaller here. This solution made the central administration of the economy undoubtedly easier and also ideological considerations supported it. In practice, however, it became evident that the administrative elimination of small enterprises from economic life had unfavourable impacts from more than one aspect: first of all, the satisfaction of growing demands became more difficult, especially in the field of services. Consequently, this stratum revived all over again in some form and for some time whenever the market mechanisms had to be utilized for the sake of dynamism and for rectifying the disturbances of economic equilibrium.

Two main forms of this revival may be noted in particular: the enterprises legalized by artisan or retailer licences and the small enterprises, carrying the traits of private enterprise to various extents, evolving in the frameworks of cooperative or occasionally of state (mostly local) enterprises.

If we set out from economic rationality alone, then we could quite easily determine empirically the economic sectors or fields of activities where the small private enterprises are capable of producing good results and might perform important supplementary functions beside the medium or big enterprises, even if the latter were assumed to work more smoothly and with better organization. But if the principal socialist values are also considered, it becomes clear that in this field another way – no less effective but not conflicting with these values either – must be found to resolve the economic problems. Private enterprise is actually attached to a stratum whose members characteristically adopt a system of values and norms of behaviour oriented towards money-making and owning material goods. Support of small enterprises based on private ownership can be hardly accepted from the viewpoint of bringing about more humane social conditions in a society which set out from the termination of the capitalist ownership of the means of production.

If due regard is given to the empirical fact that in the modern structure of production there is need for agile and adaptive smaller-size economic units, efforts toward solving the said dilemma will lead to the evolution of small enterprising associations (beside the auxiliary workshops of state and cooperative farms, traditional small-scale industrial units, household plots and small farms) which maintain the advantages of the small enterprise, i.e., agility and adaptivity but do not atomize the members of society as much as private enterprising does, and which also oust the forms of behaviour which neglect the interests of others.

The small enterprising associations in this interpretation of the word could more easily avert bureaucratized institutionalization than larger economic units can, even if they are run under the auspices of major units (which is frequently unavoidable, if modern conditions of production are postulated), and could have an internal structure

free from the rigid super- and subordination characteristic of bureaucratized producing organizations. Of course, we must not entertain too far-reaching illusions about this form of economy as regards realization of the socialist values which Marx expected from the "association of free producers".

Such associations based on economic activity would nevertheless amount to a forward step relative to the present state of affairs through the important role they could play in better satisfying the consumers' demands and in shaping the economic and everyday life: they could help the people to perceive economic relations in their broader context and magnitude. Though these enterprising associations would be actually guided by particular interests, their members would all the same have to mind the interests of others directly and could provide the basis for greater and more constructive activity in the sphere of work. All this could release such social forces which might promote deep changes pointing to socialist transformation also in spheres outside the economy, especially if they are in line with aspirations of the same direction evolving in other fields of social and economic life.

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МЕЛКИЙ ПРЕДПРИНИМАТЕЛЬ И СОЦИАЛИЗМ

А. ХЕГЕДЮШ – М. МАРКУШ

Предметом статьи является слой мелких предпринимателей при социализме. В вводной части авторы останавливаются на тех своеобразных чертах слоя мелких предпринимателей, которые отличают их как от средних предпринимателей, так и от ведущих традиционное крестьянское хозяйство и от кустарей-одиночек. Они указывают на то, что слой мелких предпринимателей в

восточноевропейских социалистических странах является не просто пережитком прошлого, а продуктом новой структуры этих обществ, обладая специфическими чертами по сравнению с мелкими предпринимателями как классического, так и нынешнего капитализма.

Для того, чтобы более ощутимо охарактеризовать эти специфические черты в облике и функциях слоя мелких предпринимателей, своеобразие, проявляющееся в новых обстоятельствах, авторы – учитывая конкретные экономические и социологические аспекты – сравнивают слой мелких предпринимателей, существующий в капиталистических условиях, с мелкими предпринимателями обществ, в которых ликвидирована частная собственность на средства производства.

Далее авторы статьи останавливаются на тенденциях мелкого предпринимательства в 1960-ых годах, на новых моментах в его эволюции, на изменениях в формах и структуре деятельности, а затем на противоречивости статуса мелких предпринимателей.

В заключительной части статьи авторы выступают за распространение формы коллективного предпринимательства.

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THE SECOND (SECONDARY) ECONOMY

EARNING ACTIVITY AND REGROUPING OF INCOME OUTSIDE THE SOCIALLY ORGANIZED PRODUCTION AND DISTRIBUTION

The "second economy" (or as it is often called: the secondary economy) is a rather extensive sector of gainful activities and of income redistribution outside the socially organized production and distribution relations and involves many conflicts. It is one of the phenomena on which public opinion is centered in the socialist countries, and whose comprehensive and systematized scientific exploration has not been attempted yet. Since these are phenomena examined up to now only in a few details or from some minor aspect, no unambiguous notions sanctioned by professional consensus could be formulated. Therefore, in this study the *contents* attributed by the author to the notion of this economic sphere will be discussed with adequate elaborateness and care. Following this, a *typology* seeming suitable for the exploration, systematization and analysis of socio-economic interrelations of sources of incomes (activities and transactions) to be found in the "second economy" will be outlined. Then some economic hypotheses about the reproduction of this sphere in socialism will be presented.

The notion of "second economy"

By "second economy" we mean the ways in which capacity to work is utilized outside the socialized economic sector as well as the income redistribution processes among the population outside socially organized distribution in their entirety. Accordingly, to this sphere of economy and distribution belong, beside the activity of the legalized private sector:

a) the productive and service activities of unofficial collaborators (unreported employees, out-workers), illegal artisans (craftsmen) evading taxes and of those providing, non-professionally, services in socialist organizations (working on own account, mostly with the firm's materials) or outside them, eiher individually or in family framework, as entrepreneurs or associated entrepreneurs, which activities are either "sold on the market" or are of saving purpose ("for own consumption");

b) commodity-producing and self-supporting farming activity carried on individually or in family framework, perhaps with temporary or lasting employment of outside labour, on smaller or larger landed properties, on land allotted by state farms or household plots;

c) to this sphere belong also such types of income flows among the population which are connected with activities performed in organizations of the socialist (state and cooperative) sector, or are connected with workplace, position, etc. and whose characteristic example is the "tip" or "conscience money";

d) several other forms of obtaining and regrouping incomes similarly outside socially organized frameworks such as: letting some parts of buildings in private ownership and of allocated state tenement-dwellings; trade in immovable and movable properties among the population, loan transactions between private persons and other kinds of contracts, agreements, etc. connected with the regular engagement and obtaining of incomes, respectively.

Realization of personal savings and accumulation through the socialist sector (deposits with savings bank, letting private homes to public agencies, etc.), as well as overwork, overtime, part time jobs in socialist productive organizations, other forms of extra work and additional earnings and incomes of the population resulting from them are regarded as verging on the sphere in question, but still outside it.

Basic dimensions of the division of the "second economy"

According to the sources of incomes resulting from the "second economy", (additional) incomes of the population based on work, on accumulated wealth and savings*, further, on official positions, as well as on agency or mediating activities displayed in the organization of connections within the economic sphere are distinguished. Incomes traceable to these four sources are realized through concrete activities and transactions placed at various points of continua expressing the degree of *legality*** and *integratedness**** in the socialist economic sector (organizations).

Source of income, legality and integratedness are the *three basic dimensions* in whose space the situation and movements of the "second economy" concerning its extension, structure and functioning determined by spontaneous or conscious socio-econ-

*Subtypes: self-support; selling the output of work (sale of own product or service); selling of labour power (employee and outworker relations in the private sector); enterprising; transactions limited to the pure circulation sphere (transfer or leasing of rights of disposal and goods).

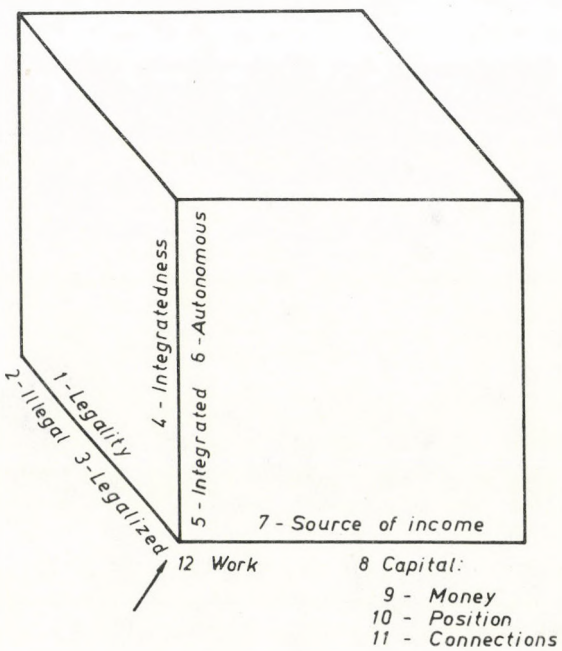
**The following degrees can be mentioned: legalized, supported or tolerated non-legalized; illegal activities and transactions (subject to criminal law).

***By integratedness we mean here how directly the contents and space of action of given activities and transactions are determined, and the activity itself controlled, by the influence of the socialized sphere relying on institutional market instruments and means of power. In case of incomes based on position the notion of integratedness is narrower: it expresses how far the control of the given socialist organization is extended to additional incomes obtained there and to what extent they are built into the system of official stimulation and remuneration, respectively – e.g. through allocation or withdrawal of positions ensuring such additional incomes.

The two poles are: integrated and autonomous. For example, both the functioning of the legal private sector and working on one's own account outside the socialist firm where one is employed are near to the latter, but as regards legality there is a considerable difference between them. It should be noted that the contents of the particular degrees of legality are changing in time: in Hungary a great part of activities on own account which belonged to the "illegal" category 25 years ago now appear in the "supported" or "tolerated" category; and, as regards a given period, the rigour of rules proclaimed and that of their enforcement may be different.

omic effects should be first of all studied in order to understand its connections with the socially organized production and distribution, furthermore the processes and conflicts of its reproduction. The real "density" points of the various activities and transactions of the "second economy" (their situation in this space) can be determined on the basis of empirical and historical investigations. Regularities of its situation and movement may be established – among other things – by using the instruments of economic analysis.

The classification system of the activities and transactions of the "second economy" is shown by the following figure:



In the figure the point of the cube that may be regarded as a common point of the "second economy" and the socialized sector (through income from work and integrated, legalized transaction) is marked with an arrow. Moving away from this point along any of the three edges of the cube, we come to activities and transactions farther and farther from the socialized sector. Of course, incomes from transactions of illegal, autonomous and rent character are placed at the opposite end of the diagonal of the cube as remotest from the socialized sector. A review of types of transactions to be separated on the basis of the classification of sources of income is made easier by the following table, where the domain of transactions belonging to the "second economy" to which our explanations refer is marked with a dotted line. As can be seen from the table, we are discussing the utilization of *working ability* within the "second economy"; in the following the denomination "second economy" will be used in this narrower sense.

Sources of income based on work	Various combinations of incomes based on work and of rent character, respectively	Sources of incomes of rent character		
Self-support	Enterprising	Loan transaction Financing of private ventures Leasing transaction "Transfer" transaction	as sources of obtaining incomes	Wealth, money
Selling of work (output)		Habitual additional income Additional income for performance that might be otherwise expected Additional income for breach of duty		Position
Selling of labour power		Additional income enjoyed for informal mediating or agency functions		Connection, acquaintance

On the method of approach

The survival and development of the "second economy" are usually attributed to shortages emerging mostly on the market of consumer goods and to deficiencies in the distribution of some scarce goods (first of all flats).* Without challenging the justification of this approach, we start from another aspect and from a little farther, namely, from the *scarcity of labour power* as factor of production and its "private property" nature. Accordingly, the utilization of working capacity outside socially organized production is in the focus of our analysis instead of the "concealed" economy including also incomes from speculation, corruption or tips, or only these. We suppose, namely, that without taking the utilization of working capacity and the resulting incomes into consideration, any explanation of the emerging "concealed" incomes can only be lop-sided. At the same time, by starting from the scarcity of labour power as production factor and from the

*Such concept is outlined by Zsuzsa *Ferge* when she writes: "The economic reason for the existence of the second economy is obvious. The socially organized production is unable to meet all emerging solvent demands in adequate quantity and/or quality". [1] Janusz *Piasni* comes to a similar conclusion. [2]

"private property" nature of labour power instead of from shortages in consumer goods, also the reasons for shortages lying directly or indirectly behind incomes resulting from the "second economy" can be partly pointed to.

In this way the common image of the "second economy" usually attributed to transitory and deviant behaviour can be corrected also theoretically. Objective economic relations underlying the development of the "second economy" and unsolved by political economy up to now will become perceivable.

Our analysis is of logical and not of historical character. From this follows that facts are referred to only by way of examples or for illustration. It is also explained by this circumstance that – disregarding the chronological order of processes – first we start from the model of a ("pure") socialist economy containing no "second economy", which may be characterized by the following basic marks:*

a) Means of production are in *social ownership,* thus there is no private appropriation. Consequently, enterprise profits – the driving force of reproduction in capitalist economy – and also the coherent system of price regulating markets of commodities and of factors of production, will cease to be a central constituent institution of the economy. Economy is integrated by the *control centre* whose function is to establish and eliminate economic units, to define the surplus product, to withdraw and redistribute a certain part of it depending on the objectives set by itself, to regulate sub-, super- and coordination relationships within the institutional system of the economy, etc.

b) At the same time, socialist economy is a *commodity producing* one. Its separate units produce for sale. Therefore, together with the system of withdrawals and allocations there exists a market conditioned by the centre, where the actors of the micro-sphere of the economy are forced to economize. The commodity character of labour power is maintained insofar *as workers economize their limited labour power* as their own, basically according to the principle of economic rationality (maximization of returns). They do not have the alternative of becoming small-scale producers and then capitalists (productive accumulation), nor even that of pursuing gainful activity outside the socialist sector. They have to sell their labour power at prices controlled by the centre; this is the condition of their obtaining consumer goods. Thus, labourers economize on their labour power as employees of the socialist sector: *enforcement of their economic rationality covers the choice of workplace and the regulation of their efforts expended at the workplace.* This postulates the functioning of systems of *individual remuneration and stimulation* in the units of the economy and also enables them to price labour power (wages), *controlled by the centre.*

c) The socialist economy is growth-oriented; beside reproduction of its basic features it strives for the expanded reproduction of goods. The success of expanded reproduction is, at the same time, also a precondition of the preservation of basic features.

*We shall review this model quite briefly, on the basis of Péter *Galasi*'s study, [3].

We shall demonstrate that in this economy a permanent state of excess-demand for labour power will sooner or later develop at a high level of economic activity, which is accompanied by the withholding of performance by the labourers – partly as a consequence of less effective stimulation due to the high rate of employment.* Labour shortage and the withholding of performance – which will seem to be only a "self-sparing" endeavour of labourers in this "pure" model, since they have no alternative possibility for the realization of working capacity "saved" at the workplace – will become the basis of the "second economy" developing in the process of later progress in socialism that was "pure" at the beginning, which offers more favourable realization conditions for the utilization of working capacity than the earnings in the socialist sector.**

Labour shortage – relative wage-level – withholding of performance

"– We are an average enterprise with average staff and average production. Concerns of the majority can be found also with us . . . For example, if somebody comes to work, is not drunk, nor provocative, but retreats perhaps into a corner to take a nap, he is not likely to come before a disciplinary tribunal for that. And he will be very rarely punished even if he refuses to carry out the instructions of his superior.

*The author deals with the relationship between the level of employment and the possible efficiency of stimulation for better performance in another study [4], where he states that at higher levels of employment the possible efficiency of stimulation based on wages will be "ceteris paribus" less in nearly quadratic proportions.

**The great emphasis laid on this issue in party and government decisions, and a series of empirical analyses also prove, apart from everyday experience, that considerable withholding of performance is really an extensively existing phenomenon. Here we think, first of all, of the enterprise investigations carried out by Lajos *Héthy* and Csaba *Makó* which largely contributed also to the knowledge of the concrete mechanisms of the enforcement of labourers' interests attached to the regulation of their performance. [5, 6] But some other investigations could be cited, too. Ferenc *Nemes* writes, for example, the following: " . . . with a county enterprise of the construction industry daily worktime is not fully utilized in the opinion of three quarters of the workers. Among workers of another enterprise of the construction industry there were hardly any (only 2–4 per cent) who said they could not work more than at present. But also in the factories of a big enterprise of the textile industry, which is much better organized than construction enterprises, even if for technological reasons, only every tenth of the workers had the opinion they could not work more than at present." [7]

We note that performance and work intensity are treated as synonymous notions. Namely, if we say that workers regulate (withhold) their performance, by this we mean that they regulate or limit their efforts. Accordingly, not only low work intensity, taken in the narrow sense, but also negligent and indolent work, "notorious" absenteeism, being late, frequent changing of workplace, arbitrary shortening of worktime, the depopulation of workplaces, occupations and jobs requiring greater efforts are understood as outward forms of the withholding of performance, i.e. all such phenomena which refer to the rejection by the labourers of efforts to be made at the workplace for the wage.

– Why are leaders so tolerant?

– Because they have few people. In practice a leader has to reconcile two contradictory things: to maintain discipline and, in the meantime, also to keep the people . . . If he slackens the reins and lets go things, this will be bad for the overall work morale, but if he is strict, he has to fear that people will leave him. And, in the present labour shortage situation hardly any leader can afford this. Thus, if somebody does not go too far with insubordination and sometimes can even be counted upon, he will not be dismissed. He will come before a disciplinary tribunal only for most serious delicts . . .

– If they are incorrigible, they should be fired.

– I am also of this opinion, but, unfortunately, nobody will replace them. And even if they work only 15 days a month, it is already some help to us, and our task is made so much easier. We only lug along with these people as a hunchback." (From an interview of László *Karcagi* with the head of the labour department of the Chemical Works of Budapest. Népszabadság, April 7, 1978.)

The starting point of our exposition is the excess demand for labour in the socialist economy. The macro-economic reason for it is obvious: in a socialist economy it is worth drawing additional labour resources into production as long as this will result in some increment of production and national income at all, as against private sector of capitalist economy where additional labour is drawn into production only if it produces also adequate profits over and beyond the "necessary product", i.e. the equivalent of wages. In other words, the national economy is interested in a socialist economy in drawing into production and keeping there such labourers (workplaces), too, whose wages exceed the new value produced. This is the *macro-economic basic situation* and the resulting labour shortage (excess demand for labour), just as any relative scarcity of other factors of production, asserts itself *partly directly,* through the manpower requirements of central development projects and *partly* through the interestedness relations and behaviour of economic units, thus, *with the mediation of the micro-sphere of the economy.* It follows from the "basic macro-economic situation" in question that only a system of economic control disfunctional from the viewpoint of the permanent functioning of the whole economy may, in principle, create such interestedness relations where the microsphere will not raise excess demand for labour; that is, excess demand for labour in contemporary socialism is, in the final analysis, not a problem of the system of control.

Resulting from the practically unlimited demand for labour of the socialist economy, furthermore from the fact, that the state tries to restrict the sphere and amount of alternative sources of income outside the socialist (state and cooperative) sector – first of all the number of self-employed and their employees – the *rate of economic activity* (the proportion of those employed in the socialist sector within the total population) may reach a very high level. A corresponding large supply of labour, great willingness of the population to take a job will necessarily develop.

Namely, willingness of the population in working age to take a job will be promoted to some extent even by the high rate of employment already attained. If –

under the effect of a previous rise in the rate of employment – families with several earners will become predominant instead of those with only one earner and, accordingly, a precondition of attaining the prevailing average living standards will be that families have several earners, then families can dispense with the earnings of less and less members capable of working without having to put up with too low living standards as compared to the social average.

In a socialist economy the high rate of activity – accompanied by excess demand for labour – leads to a lower level of performance not only because of less efficient stimulation, but also because a relatively greater part of the available manpower is made up of persons who are able or willing to meet only lower requirements. This may be a consequence of their objective relations (family obligations, etc.) or of subjective reasons (way of life, value order, physical and mental condition, etc.). However, the minimum and average levels of performance – functioning always as social norms – will, of course, be influenced also by the relatively poor performance of the latter.

Self-sparing and rational management: disparity between incomes in the socialist sector and the "second economy"

"When speaking about making workers (employees) financially interested it is mostly discussed whether the average wage control should be maintained or we should change over to the only salutary wage-bill control. Long discussions are going on and enormous amounts of paper are used up for this subject and, I would not say that fully in vain. But it is wrong to look for the salutary solution only in that, because the financial interestedness of workers cannot be really solved even so. Why? Because even if workers can be paid a little better, for example by means of a good system of wage-bill control, the problem of financial stimulation is still not solved since workers see the surrounding world. Let us suppose that a part of workers encouraged by ourselves took out a licence and work also as an artisan, beside their normal job. If they see that during six hours of mentally difficult and valuable work they will not earn more at the workplace than with two hours' work outside the workplace, then the financial stimulation of workers cannot be solved by any wage system within the enterprise. The worker cannot appreciate his work within the enterprise, and thus nothing will stimulate him to work there better and more efficiently." (From the contribution of József *Garam,* editor-in-chief of the economic weekly "Figyelő" at the conference of journalists dealing with economic policy, held on March 10, 1978.)

The withholding of performance will appear for the worker as a rational management of his labour power as against the previous "self-sparing" because of the circumstance that by combining the "official" earning activity displayed with lower intensity with the utilization of his working capacity *outside* the socialist sector – in the form of temporary and part-time activities – a worker can much more increase his income than he

could achieve by similar surplus performance at his workplace. Depending on this possibility the withholding of performance may become even stronger and more deliberate until it will not endanger the status of employee accompanied by several socio-economic advantages. (It necessarily follows from the official order of values and economic objectives of a socialist society that the status of employee is connected with socio-economic advantages making citizens interested in being employed.) In this way the average performance level as the prevailing measure of efforts made at official work, and simultaneously the social norm regulating them, may become lower, and the circular process leading to even larger withholding of performance may be repeated.

The role of the "second economy" in reproducing its own conditions of existence may be most directly observed where it "shares" the market of the needs of population with the socialist sector in such a way that workers may carry out – in the form of subsidiary activity – with their own instruments the same productive or service activities, which belong to the sphere of activity of their producing organization in the socialist sector. With prices or service charges equal to (or "comparable" with) those of the socialist sector – thus, *without any price-raising "monopolistic situation"* with which high incomes in the "second economy" are often explained – this subsidiary activity is much *more profitable* for them. Namely, behind prices of the socialist sector we find a withholding of performance which is especially considerable in such cases, a high net income contents connected with the high rate of accumulation of the socialist sector, furthermore, the reserve-building behaviour generally characteristic of socialized economic units (acquisition and maintenance of assets exceeding the real needs of the activity)*, not to mention the considerable costs of the administrative and control machinery of large-scale enterprises.

The withholding of performance would be irrational in the "second economy". Partly because incomes grow proportionately to additional performance – which occurs only exceptionally in the socialist sector under large-scale production conditions – and partly because, resulting from the above, a unit of performance will ensure higher income than the official earnings. Only prices of the socialist sector supported by heavy and growing state subvention or – what is the same – cut down by under-taxation of net income can mitigate the disparity between official earnings and additional incomes. This

*The reserve-building behaviour of socialist enterprises organically follows from the basic features of the outlined model of the economy. Namely, it can be proved logically [8] that since enterprises do not manage their own assets, the expanded reproduction of goods on the level of the entire economy can be ensured only if they are made interested in growth. As a consequence of the fact that they are interested in the increment and because the enterprises do not manage their own assets and their hunger for production factors (resources of development) is unlimited the aggregated demand for development will always exceed the means available for development. However, the *relative scarcity of means of development – production factors – will necessarily produce a reserve-building behaviour on the part of enterprises forced to grow.* (On the reserve-building behaviour of socialist enterprises see Lajos *Zelkó*'s study [9].

would mean, however, that scarce accumulation resources of other fields of the economy, more important from the viewpoint of founding the future, would be regrouped to an increasing extent for maintaining and expanding these "losing" activities. Thus, it may occasionally become necessary to shift the satisfaction of certain social needs upon the "second economy" that has been functioning in Hungary since the formation of industrial cooperatives and the reorganization of agriculture in the early 1960s, only to a small extent in the form of "full-time" legal private sector and mostly as *subsidiary activities* of the population. However, this does not occur as an effect of long-term central intentions, but despite them – on the basis of forced decisions thought temporary, or spontaneous.

At the same time, abstention of the socialist sector from losing activities which can be carried out also in the framework of the "second economy" – though rational in itself, but exceeding the capacity of the "second economy" – may add *extra income* to the anyway high "equilibrium incomes" of the "second economy" as a result of excess demand for its activity. This, on the other hand, will further increase the attraction of the "second economy" simultaneously strengthening the trend of withholding of performance by those working in the socialist sector. In this way the scarcity of labour (work) as production factor will further deepen which might necessitate the transfer of new activities to the "second economy". However, a strategy of action in opposite direction – namely, that socialist sector should fully satisfy the needs of the population – might run against limits on the basis of the same interrelations.

Though the "second economy" – and its sources of income – are not directly accessible to all, *its effects* concern almost all layers of workers and employees. The most direct effect is that the relatively low level of activity at the workplace *of workers strongly interested in the withholding of their performance* with a view to their subsidiary activity *will lower the average level of performance as a social norm.* Therefore, the efforts will be reduced which workers consider just for "normal" wages. Better performance can be produced more and more only through special stimulation. This, however, will *devaluate the stimulating power* of usual wage-increases and wage-differentials. Withholding of performance will now have another meaning already in the framework of the working organization: it *may increase the volume of over-work accompanied by higher remuneration than usual.*

In the case of services provided for the population in the form of personal contacts those requiring these services are forced to give a tip or "conscience money" for otherwise expectable accomplishment. Since withholding of performance concerns also those working in these fields – they consider their wages also "low" –, furthermore (as a consequence of the "vicious circle" mentioned in the foregoing) the expansion of capacities cannot follow increasing demands in several fields. On the other hand, those who are forced to "tap" their incomes in the form of various tips, black market rents of flats extraordinarily high in comparison with official earnings, etc. cannot even do without looking after and making use of sources of additional incomes.

Those having no extra earnings strongly urge for the raising of their wages. Enterprises are partly forced to give in under the pressure, since these wages are really "unjustly" low if compared with earnings of certain layers complemented by high incomes. However, those having no extra income can be compensated for this disadvantage only at the expense of working layers having the possibility to obtain such extra income, but this would so to say legalize the extra incomes of the latter. On the other hand, there is a pressure on the part of both intellectuals and manual workers not enjoying incomes of the "second economy" for widening the scope of complementary and secondary (part-time) employments and of other additional earning possibilities within the socialist sector made appear as desirable also by the labour shortage and the volume of tasks to be accomplished. The situation is similar also with the licensing of subsidiary activities of the population. An exchange of the roles of main and additional earnings may occur in this way. In a sharp formulation: one cannot live on wages, while one may perhaps become rich from additional incomes. In such a situation everyday consciousness provides sometimes moral excuses also for transactions bordering on criminal law . . .

Small enterprise – big enterprise

For the validity of our conclusions indicating a strengthening of the conflictive nature of the "doubled" economy it is a relevant question how far the rather widely accepted thesis about the superiority of big enterprises over small ones can be regarded as unambiguous and of decisive importance for the perspective of the "second economy" functioning in a socialist economy. A thorough discussion of this topic exceeds the scope of the present study. Instead, we have to rest satisfied with mentioning only some viewpoints, indicating that in this respect it is an irrelevant way of approach to start from the confrontation of big and small enterprises.

Firstly, the size of enterprise (establishment) is a very complex and rather obscure category. For example, it is a rather frequent mistake that agricultural small farms are *ab ovo* classified as small enterprises on the basis of their area, though a farm working on a given area might be small, but also big – of course not according to the size of the "enterprise" limited by the state, but as regards "plant size", the relevant basis of the comparison in question and determining the attainable level of efficiency. We might say very roughly that as the number of kinds of products produced in the farm working on a given area decreases, as the technical supply of the farm improves, as certain phases of the complete vertical chain of the production process are eliminated through cooperation, as the production line is shifted towards less area-intensive plants, etc. so may the plant size of the farm approach the "optimum" ensuring maximum efficiency. In the meantime the area itself may even decrease. Thus we have no reason to assume a decline of small farms defined on the basis of traditional criteria. (All this naturally refers to "small plants" in other sectors as well.)

Secondly: under the effect of socio-economic development the main trend in the sphere of industrial production is undoubtedly a growing plant size (which, of course, is not to be confused with the much faster capital concentration taking place in developed capitalist countries, which is of quite different contents!). However, this trend cannot be considered as prevailing under all circumstances even in industrial production. What is more, in the tertiary sector of growing importance also rather marked opposite trends can be observed. Even if for this reason, plant size cannot be regarded as decisive for the perspective of the entire "second economy".

Thirdly: we are inclined to forget that the economy never meets simply needs, but *evokes also new needs* at the same time. The feature of the "second economy" must not be disregarded, either, that by utilizing forms and scopes of movement left to it, it evokes and maintains demands for such goods and services, which can be produced with maximum efficiency precisely in the given framework; their satisfaction can be socialized only with disproportionately great material sacrifices and low efficiency.

Fourthly: the determination of "optimum" plant size is not simply of technical and economic nature, it involves also social elements. In a given production line maximum efficiency will be ensured by differing plant sizes in the cases of a state enterprise, a cooperative, a joint private venture and a family work organization, in consequence of deviating conditions, interest relations, division of labour, etc. Various forms of work organization have their particular advantages. Here we do not mean first of all the technical organization of work, but the *social contents* of a given work organization (including also "one-man work organizations") which, then, manifests itself in the identification with work, in the technical organization of work, in interest relations and in work intensity, too. These advantages may assert themselves under given conditions, with a definite plant size. With a different plant size they can no more be realized – precisely because the change in plant size beyond a certain limit results in, and also assumes, a change in the social contents of work organization.

Even these few viewpoints prove: the possibility that the "second economy" might gain ground cannot be ruled out simply because of its small-scale character. Thus its permanent presence has to be reckoned with because of the interrelations discussed in the foregoing, and the strategy of action has to be adjusted to it.

The task is very difficult, since what we have to face is not a simple *coexistence* of economic sectors, but that these are functioning on different "principles" and are at the same time interrelated through thousands of threads, furthermore, that they are *full of conflicts.* It follows that if we do not consider the "second economy" in its interrelations with the socialist sector, then no valid conclusions can be drawn on its perspective, on alternative actions in this sphere and on their effects, just as if we tried to rely on analogies taken from the capitalist economy – neglecting the necessary caution. Namely, all activities or transactions which take place in socialism in the "second economy" are in the capitalist economy mostly *organically and institutionally integrated* in the entirety of the economy relying on profit motive.

Small-scale activities in the capitalist and in the socialist economic models*

a) In the capitalist economy withholding of performance as the "self-sparing" of wage and salary earners is less frequent because of more efficient stimulation and owing to the overall excess supply of labour (unemployment). Consequently, work intensity is higher. Therefore, the alternative utilization of working capacity is less advantageous for the worker from the aspect of rationally managing his labour power than it is in the socialist economy, where one of the reasons for income disparity is – as we could see – lower work intensity.

Since in capitalist producing organizations the withholding of performance is less possible and worth-while, a small-scale producer or entrepreneur in the capitalist economy may obtain considerably higher income than those living on wages and salaries mostly only through the "exploitation" of his own and his family's labour power. However, in the "second economy" of the socialist economy higher incomes can be attained than in the socialist sector even with much lower work intensity.

b) Another reason for the income disparity between the two economic spheres is the reserve-building behaviour of the socialist producing organizations. Namely, as a consequence, the prices of their products and services are increased by such surplus costs which create a relatively advantageous situation for the "second economy". It may be explained partly by this circumstance that means of production operated only with a deficit in the socialist sector and sorted out on this account, can often be used profitably in the "second economy".

c) Furthermore, becoming independent under capitalist conditions generally means a social rise for those living on wages and salaries (skilled workers). Thus, it is worth-while for them to legalize this status. As against this, the social status of those belonging to the private sector is, by the nature of things, lower in the socialist economy than that of those working in the socialist sector.**

d) The way to further rise for the capitalist small entrepreneurs leads through increasing the size of his venture. Therefore, he is interested in a large-scale productive accumulation of his net income. The more he uses up his income in the form of personal

*In this part we have occasionally relied on a study by András *Hegedüs* and Mária *Márkus* giving a tangible and true picture of the layers of *small entrepreneurs* in capitalist and socialist economy, respectively. [10] Besides, we have made use of research results of periodical surveys on complementary earning activities carried out by the US Department of Labour and published in the Monthly Labour Review since 1947, furthermore of Rita *Palmer*'s and Alan M. *Field*'s article [11], and several other western works dealing with "underground", "illegal", "hidden", "parallel", "counter-", etc. economies.

**In a Polish survey the small entrepreneurs of the private sector were ranked *behind* intellectuals with university degree, skilled workers and independent farmers in the list by social prestige determined on the basis of answers of those interviewed. A lower social prestige than theirs was enjoyed only by non-manual workers having no degree and by unskilled workers. [12] The low prestige of the layer of small entrepreneurs is verified also by Hungarian investigations.[13]

consumption, the more he will endanger the perspective of his venture, thus risking to become an ordinary worker again. Therefore, the low accumulation rate of net income in the "second economy" of socialism, as another source of income disparity, will not appear under capitalist relations, either. In a socialist economy the size of private enterprise is necessarily limited. Therefore, the behaviour of those involved in it is characterized by wasteful consumption, accumulation of personal assets – at lower or higher living standards depending on the limit to the size of the venture – as well as by the investment of savings outside the venture with a view to drawing a rent.*

e) Since one of the basic motives of the behaviour of small entrepreneurs in the capitalist economy is productive accumulation, the size of the venture and its development is a more or less reliable basis for the state to check the reality of their income declaration. As against that conclusions drawn from wealth and the way of life increase the subjectivity of taxation and involve the danger of arbitrariness – just as in case of any other *individual* assessment. On the other hand, efforts aimed at the unification of taxation are restricted because a measure of taxation with which certain members of the private sector may still have extraordinarily high income as compared with the social average might ruin less profitable small-scale plants or those which are in the process of accumulation and might thus reduce the number of private businessmen and their capacity. The handing in of trade licences (and the failure to replace artisans having become inactive, respectively) will lead to the reduction of taxes, and then a rapid enrichment and "luxurious" way of life of the owners of plants. As a consequence, the situation of the entirety of the private sector in socialism and of the individual small-scale plants is characterized permanently by *lability*. Its natural consequence is that, instead of perspectivic business policy, the objective of rapid enrichment comes to the fore, which also stimulates the evasion of official regulations. However, exaggerated severity in the revealing of irregularities will diminish the staff of the legal private sector and its capacity.

f) In lack of income disparity, workers and employees of small entrepreneurs in the capitalist economy cannot earn much more than those *working in large-scale industry,* nor can this sphere provide possibility for workers of the large-scale industry to obtain outstanding additional income as compared with earnings attainable at their main job. The situation is just reverse. As against this – resulting from income disparity – the private sector in socialism ensures more favourable earning possibilities for its employees than the socialist sector and because of the size limits of the venture and the related strong progressivity of taxation, it extensively relies on the occasional, periodical and part-time auxiliary work of those having full-time jobs in the socialist sector.

g) Under capitalist conditions *small-scale organizations are integrated* into large-scale plants mainly through the market and cooperation relations, and this may meet the interests of small-scale producers or enterpreneurs. In the socialist economy such direct

*We would only mention here the third reason for income disparity in socialism, namely, the higher costs of administration and control in socialist economic units displaying small-scale activity than in those in the "second economy", noting, that such a source of disparity cannot be interpreted *in the capitalist economy having only one sector as regards small-scale activities.*

subordination encounters opposition on the part of units of the "second economy" – if it tries to mitigate the income disparity.

h) The functioning of the capitalist economy implies those autonomous mechanisms which – complemented by the regulatory, first of all supporting activity of the state – simultaneously control the activity and incomes of the small-scale sector. Excess demand for the products and services of the latter cannot ensure lasting extra income, because it would promote the independence of those living on wages and salaries. (For similar reasons wages have to keep pace with the increase of incomes of small-scale producers.*) Incomes of small entrepreneurs as well as the balance of demand and supply are delimited, on the other hand, by the possibility of relapsing into worker status and by the returns on the investment of savings. Such possibilities do not exist in the socialist economy, thus they cannot regulate the extent of activities and incomes simultaneously. Namely, income disparity between the "first" and "second economy" of the socialist economy and the price parity of both sectors appear at the same time. Bringing down the prices of the "second economy" to a level where incomes are in parity would diminish the satisfaction of demands, thus leading to black market prices higher than the official ones. But the limitation of incomes in the "second economy" through taxation postulates considerable and strongly progressive tax rates, which would necessitate a precise and reliable statement of the basis of assessment. Besides, high taxation increases illegal practice of the trade which may result in the handing in of trade licences even if from an incomes policy viewpoint an even higher taxation would be justified. Besides, a theoretical possibility of regulating the "second economy" may arise, if at all, only in case of the legal private sector!

i) Finally, the possibility of spending savings on the purchase of shares or other kinds of investment yielding rents does not exclude unambiguously that certain *"small-scale producers"* of the capitalist economy – running their big capacity plants and of high organic composition of capital as a family venture based on their own and their family's work without using wageworkers – should be regarded as *capitalists*. In the socialist economy the income of rent character of small-scale producers enjoyed from their invested savings over the official rate of interest is practically "capital income" (not based on work), since the legal possibility of "capitalization" of the savings of the population is not generally ensured. (At the same time this is a further reason for income disparity in socialism between the two economic spheres.) Of course, theoretically, the small-scale producer in socialism cannot be identified with that in the capitalist economy. But, as to the rent enjoyed after his investments – because of the risk of returns on investments resulting from the lability of private sector – its extent will necessarily be higher than the official rate of bank interest. Regarding its source this rent is of the same nature (though

*This is one of the interrelations in the functioning of capitalist economy which underlie the increase of real wages. Another reason for the increase of wages is that – following among others, from the private ownership of labour power and the resulting possibility of withholding performance – low wages do not necessarily mean cheap labour. And capitalits are not interested in low wages, but in the minimization of the costs of a unit of production including wage costs.

not so if we consider its economic function) as incomes of rent character connected with loans of the population among each other, speculative purchases of real estates, etc. which are clearly *not based on work.*

Proportion of fringe benefits, rate of accumulation and the "second economy"

In our opinion, the stimulative force of wages – and thus the withholding of performance having an important part in the explanation of the development and subsequent expansion of the "second economy" – is not influenced either by the *proportion of social* benefits (allowances) within the *incomes of the population* (compared with incomes from work) *or by the rate of productive accumulation within the national income.* Therefore, even if we suppose that – resulting from the substance of the system – in socialist countries the proportion of benefits and the rate of accumulation are higher than in the capitalist economy, which is logically less obvious than other features taken for basis in the foregoing nor is it unambiguously verified by statistics, yet they will not influence the reproduction of the "second economy" from this side.

The proportion of social benefits is not connected with the success of financial stimulation because an increase in the share of these benefits exempts incomes from work from the burden of functions of non-"par excellence" stimulative character. Thus – resulting from the relative decrease of funds for stimulation – the possible degree of efficiency of stimulation will, on the one hand, undoubtedly diminish but, on the other hand, it may also increase, and *vice versa.* The high rate of accumulation will not restrict the stimulative force of wages because the population cannot measure – how could they? – their living standards and wages or earnings against the level of economic development.

Can we declare then that the proportion of social benefits relative to personal incomes and their distribution, as well as the rate of productive accumulation have nothing to do with the reproduction of the "second economy"? This seems to be contradicted even if we think of only a single important field of the "second economy": the *construction of flats.* As a matter of fact, the system of social allocations connected with flats, which excludes one part of the population from the distribution of flats built from state funds and makes them rely mostly on their own resources, while others may obtain flats according to their needs as gifts or against small payment, constitutes the basis for the lasting maintenance of activities and transactions in the "second economy" related to the building and maintenance of flats. Inequalities of state distribution are increased by the similarly unequal distribution of burdens connected with the maintenance of flats, whereby tenants of state-owned flats are exempted from a considerable part of maintenance costs – *resulting from the nature of the system of consumer prices.* Thus they not only save expenses, but may even obtain considerable income by letting a part of their flats and through other transactions taking place in the "second economy" taken in a wider sense.

All this is naturally true. However, if we disregard those contradictions which result from the two sectors of dwelling stock concerning the trade in and the operation of flats (flats in private and state ownership) – which, therefore, are not a consequence of the social allowance (benefit) character of distribution by the state, but of the necessarily conflicting coexistence of the two sectors – then we may say the following. The system of allocating flats contributes to the reproduction of the "second economy" not by its mere existence, nor by the fact that the value of these allocations is in a given proportion to incomes from work and that their distribution follows given rules, but by the fact that, firstly, a much smaller number of state flats are built than demanded by the population; secondly, that certain layers of the population are excluded from the allocation of state flats; thirdly that conditions of a rightful claim to the allocation of a state flat are defined in such a way that claims to a flat considered "justified" on these grounds considerably exceed the number of flats available for distribution; fourthly, that as a consequence such a system of official allocation linked to queuing is functioning where some of the families nearly in identical situation are allocated flats depending on chance or their "cunning", etc. while others are not; fifthly, that differences among families in the burdens of satisfying demands for and in the maintenance of flats are irrational (ranging from relying completely on own resources to an almost symbolic individual or family burden).

These peculiarities in the allocation and maintenance of flats as allowances cannot be regarded as necessarily characteristic under socialist conditions. However, all statements of our analysis *are based on the relevant features of the socialist model of production and distribution.* The features mentioned above have to be taken partly as deficiencies of distribution – partly as a consequence of the "duality" of the economy, that is, as a reaction to the circumstance that there exist activities and transactions connected with flats also in the "second economy".

The fact that only few state flats have been built relative to the needs of the population cannot be connected with the high rate of productive accumulation in the socialist economy. Since, if we say that development of infrastructure for the population has been lagging behind needs – and we refer to scarce resources as a reason for that –, then we might also say that a too rapid expansion relative to the given possibilities in the raising of living standards took place in other elements of consumption – among others in those raising increased requirements towards infrastructure. Therefore, even in the most difficult years for the raising of living standards there would have been enough resources for development by the state of the infrastructure to a satisfactory extent relative to demands arising with the given living standards.

Therefore, the high rate of accumulation does not explain anything as regards the reproduction of the "second economy" over and beyond what has already been indicated in the analysis as a really relevant interrelation, namely, that it has a part in the income disparity resulting from deviating rates of accumulation in the two economic spheres. However, the difference between "high" and "low" rates of accumulation amounts only to a few per cents and this influences income disparity only *to a slight extent.*

Economic dynamism and the "second economy"

We should like to emphasize that in the long run the rate of economic growth is not influenced substantially by the lower or higher *level of the efforts of labourers at the workplace.* Therefore, effects of the "second economy" on efforts of labourers at the workplace do not challenge at all the perspective of dynamic growth in the socialist economic sector whose main source has been the transformation of economic structure and technological progress even up to now. The same can be said about *the reserve-building behaviour of economic units in the socialist sector.* If its measure does not increase, the rate of economic growth can be precisely as fast as it would be without such behaviour.

To convince ourselves of this, let us just think of the enormous economic development which took place in capitalist economies during the last one or two centuries without an increase in the intensity of work relative to the period of primitive accumulation of capital in England characterized by Engels. (Not to mention the considerable decrease of work-time since then.) Besides, when we define the reserve-building behaviour of our enterprises relative to the efficiency with which a capitalist enterprise would run the same production factors, our statements are not related to the entirety of the economy. However rational is the *inner* operation of a capitalist plant, *on a social scale* the functioning of the entire economy is still characterized by the wasting of productive forces whose well-known manifestation is, among other things, the reserve army of the unemployed.

Therefore, lower intensity of work and reserve-building of the enterprises are worth attention not from the aspect of competition between the two socio-economic systems. These features of socialist economy have been emphasized *because of their importance connected with our topic.* Namely, consequences of the spreading of the "second economy" appearing in the uncertainty of production and withdrawable surplus product, furthermore the socio-economic conflicts resulting from the difficulties of state control of labour allocation and income distribution processes have to be reckoned with, as a consequence of which the coexistence of the two economic spheres will be accompanied by unstable compromises also in the future.

Some ideas on the possibilities of mitigating contradictions

It would be too early or even a serious mistake to formulate positive proposals by relying on the results of a research project just started. There are several examples from past decades warning that restricting measures taken in a hurry and aimed at the solution of conflicts caused by the existence of the "second economy" are not only ineffective, but may involve even serious harm; furthermore, they could be maintained anyway only temporarily. As we have to deal with *phenomena rooted in objective relations of the*

economy we have to consider these issues in quite different alternatives, soberly and in a farther looking way.

In the shorter run – which, of course, may mean even one or two decades – we have to think over first of all how the utilization of working capacity in the "second economy" might be furthered in such a way that it should meet consumption needs better than previously, while simultaneously diminishing present-day conflicts. We think that some solution can be sooner found if the contradiction between *the low level of technology and efficiency* preserved as a consequence of the limitations on the legal possibility of accumulation as well as the – mostly "hidden" – *incomes of rent character* concomitant with accumulation *and the wasteful way of life* might be resolved, even if only partially. An already visible way of this might be the operation of an extensive network of small state owned plants – whose size is in harmony with needs – with one or more employees and with adequate technological equipment, in the framework of some leasing system (accessible to anybody against payment of a corresponding deposit), for which, of course, several concrete forms might be imagined. If we recall for a moment the figure showing the structure of the "second economy", it is obvious that such an alternative would shift the centre of gravity of the "second economy" towards the domain around the edge marked with an arrow on the figure (i.e. towards incomes from work as well as integrated and legalized activities and transactions).

In the longer run attention should be probably concentrated on such possibilities transcending *the basic features* of the model examined which would bring about changes in conditions of enterprise attitudes and of the behaviour of labourers ("the labour power") leading towards the "second economy". It has to be pondered which are the possibilities and conditions of implementing in the long run such a model of the economy where enterprises (productive collectives) would truly manage their assets as their own; and in the behaviour of workers the motives of "associated workers" would also appear beside the behavioural marks of employees rationally utilizing their labour power, which would thus dissolve the marked borders between the employee, consumer and citizen (owner of the means of production) qualities of man. The possibility of such changes in the world of work and work organization should also be examined which would considerably reduce the proportion of kinds of work characterized by "dull diligence", burdensome and accepted only as a sacrifice – under financial pressure – in favour of jobs giving some satisfaction, and thus mitigate the sharpness of division of life into worktime and leisure time as well as the appearance of this situation as a postulate in social practice and in the reasoning and behaviour of workers.

The real possibilities and topicality of the above cannot be judged for the time being. Relying on our analysis we can only say that our conclusions drawn from the present model of the economy and rendering likely the expansion of the "second economy" as well as a sharpening of the resulting socio-economic conflicts would lose in their validity to the extent of changes in such direction reflected also in distribution relations.

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ВТОРАЯ (ВТОРИЧНАЯ) ЭКОНОМИКА

(Побочные заработки и перераспределение доходов вне сферы общественно организованного производства и распределения)

И. Р. ГАБОР

Как можно установить из различных, весьма отрывочных источников, рабочая сила венгерского населения в большой и все возрастающей степени прилагается вне общественного сектора. Развитие этой «второй экономики» происходит таким образом, что количество лиц и семей, занятых исключительно в сфере мелкого товарного производства, в течение длительного времени не возрастает (а, скорее, несколько сокращается), но все больше распространяются побочные заработки занятых в общественном секторе трудящихся во внерабочее время, в выходные дни, во время пребывания на бюллетене и в отпуске и, возможно, в период перехода с одного места работы на другое. Существенное участие в деятельности, связанной со «второй экономикой», принимают домохозяйки, а также учащиеся и пенсионеры.

Хотя и в капиталистических странах сущесвует называемая «второй экономикой» сфера экономики, включающая в себя незаконные и не заявленные как подлежащие налогообложению деятельности, «вторую экономику», функционирующую в социалистических странах нельзя отождествлять ни с нею, ни со сферой мелкотоварного производства и мелкого предпринимательст-

ва капиталистической экономики. Дело в том, что эта «вторая экономика» функционирует в условиях дефицита рабочей силы, и корни конфликтов лежат в различии зароботков в двух сферах экономики (на одну и ту же единицу затраченного труда во «второй экономике», как правило, можно получить гораздо больше свободно используемого дохода, чем в общественном секторе), что затрудняет государственное регулирование доходов населения, ослабляет эффективность материального стимулирования на рабочих местах, оказывает давление о направлении повышения официального заработка. Что же касается легального мелкого товарного производства, то в социалистических странах государство ограничивает его накопления путем административных мер и сильно прогрессивной системы подоходного налога. Степень ограничений и изъятий изменчива, так как чрезмерно строгие ограничения ведут к росту нелегалсной деятельности и сокращают количество предоставляемым этим сектором и важных с точки зрения снабжения товаров и услуг, что время от времени ведет к смягчению ограничений. Таким образом, если в капиталистической экономике государство стремится консолидировать непрочное положение мелких товаропроизводителей, связанное с действием стихийных рыночных сил, то в современной социалистической экономике причиной нестабильности мелкотоварного сектора в условиях прочной рыночной конъюнктуры является изменчивость экономической политики в отношении этого сектора.

Автор делает свои выводы на основании дедуктивно-логического анализа модели, выражающей характерные для современной социалистической экономики черты. Важный вывод теоретического анализа заключается в том, что необходимо рассчитывать на длительное существование «второй экономики». Конфликты, вытекающие из сосуществования двух сфер экономики, могут быть смягчены – но не ликвидированы – путем создания более приемлемых, чем нынешние, форм их движения.

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SELECTION OF INDICATORS FOR COMPARISON OF PRODUCTIVITY LEVELS*

The author investigates whether comparisons based on indicators of labour productivity can be applied for characterizing the differences also in the level of total productivity. Studies on measurement of changes in productivity have shown that comparison of index numbers of labour productivity in industry as a whole generally provides realistic ranking. Experimental calculations on the relative levels of labour and total productivity are presented, relying on productivity comparisons between Hungary and Austria as well as between Hungary and Yugoslavia. In the case of countries of rather different development levels, comparison of total productivity results in smaller differences than comparison of labour productivity. Moreover, the two comparisons sometimes provide substantial differences in ranking the branches. The first conclusion indicates only the different scales of measurement, the second one, moreover, warns that greater efforts must be made for comparing capital output ratios as well as total factor productivity.

In this study the term comparison of levels is used for setting the level of productivity attained by an enterprise, sector, economic region or country in a given period against the productivity levels of other similar units. I find it appropriate to make this remark to the title of this paper because in fact comparisons of levels are made also when the dynamics of productivity is measured: comparison of levels belonging to two different periods. Furthermore, also the measurement of plan accomplishment is comparison of levels, namely, that of the planned and the actually attained levels. The scope of the study could also be specified as *spatial comparison* as against comparisons in time, and related to calculated values.

A comparison of the productivity levels in this sense *in a given country* can be made mostly between enterprises belonging to the same sector, and in case of big countries between economic regions with similar structures. As discussions of the subject indicate [6], [7], a direct comparison of productivity levels of enterprises belonging to *different* sectors and that of *different* sectors does not lend itself readily to economic interpretation.

In international comparisons of productivity levels by countries, again, the productivity of enterprises belonging to identical sectors and that of identical sectors, as well as

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– roughly – the productivity of aggregated sectors of national economies and that of economies (as a whole) can be measured against one another. In this case *indirect* ranking, not comparison, can be made among sectors on the basis that some sectors appear to be more or less leading or lagging than the average relative to international standards.

The production patterns of enterprises belonging to identical branches and those of "identical" branches might of course show marked differences, and that will substantially influence the results of our comparisons. Structural differences might affect comparisons of aggregated sectors of national economies and especially of economies as a whole even more powerfully. If relative levels are calculated separately by subsectors, too, then, with some selected assumptions, the effect of structural differences can be stated numerically, but it will be very difficult to characterize this with a single value: only a probable zone can be identified.

As a matter of fact, the results of productivity measurement should always be released together with the margin of error, for there is usually such an amount of uncertainty (inaccuracy or conditionality) in the basic data, in their comparability and in our methods that it would be deceptive to publish data with one or more decimals. It will be perhaps sufficient to quote here the difficulties in treating the changes/differences in the quality of the products, in the pattern of production or the conversion of input data into another price system.

Since weighting with price systems of different countries produces the bigger variances the more different the compared countries are with respect to development level and social system, in comparisons of Hungary e.g. with developed market economies a strong impact of this factor must be reckoned with.

In comparisons within the industry particularly big differences are not likely to derive from differences in structure and price system. Experiences nevertheless warn that in most cases a significant error margin should be expected also in comparisons of industrial productivity levels, especially when aggregates are concerned, worth to check and to reduce.

Beside methodological refinement of the comparisons, it could be recommended to carry out the comparisons from several sides (e.g. for the national income from both the production and use aspects), both for big aggregates and for their components, by various methods, and to check these calculations for consistency. Thus, for example, the result of a comparison of the average productivity of industry as a whole is sure to be judged better if it is complemented by a comparison concerning the other sectors of the national economy and the whole of the economy, and if the linking of these results does not show contradictions.

Another way of control is to carry out comparisons for several different dates and to check whether these are in agreement with the data obtained through projections based on the index numbers showing the changes over time. (Unfortunately such examples are often found.)

Confronting the results of bilateral comparisons with each other offers another possibility of control. The number of comparisons required thereto can be stated ac-

cording to the rules of mathematical combination – if we do not only want to "chain" the results but want to use them also for control calculations. Thus for example the study [1] in which the Hungarian Statistical Office determined – on the basis of the Austro–Hungarian, the Czechoslovak–Hungarian and the French–Czechoslovak comparisons – the relative productivity levels of the French and the Hungarian industries presents a correct "chaining" enriching our knowledge, does not provide for control. For that, another direct Austro–Czechoslovak and a Hungarian–French comparison would have been necessary. From the practical aspect it is naturally justified to ask – both in this case and with respect to the examples quoted above – whether the possibility of control is worth the extra work.

In the interpretation of the results of productivity comparisons and in deriving conclusions the objective of the analysis, and the contents of the indicator on which the computations are based are cardinal problems. The following might be the main objectives in international comparisons of productivity levels:

– evaluation of performances of the units studied relative to international standards; on this basis

– ranking of sectors or enterprises,

– exploring the reserves of productivity and the possibilities of enhancing it.

Moreover, productivity comparisons might also be used for helping to explain differences showing up in other indicators. Thus e.g. when the differences in the development levels are measured by per capita national income, the differences thus stated can be attributed in the first step to two factors: to the differences in employment and to those in productivity levels. Furthermore: the per unit wages cost is an essential element of international competitivity. This can be decomposed into two components again: into the ratios of productivity and the average wage level. Comparison of productivity levels might play an important role also in the analysis of relative prices between different countries.

Main types of productivity and efficiency indicators and index numbers

The analyses made with different objectives naturally call for the use of different indicators. In the background of theoretical-methodological discussions about the methods of measurement and productivity comparisons it is very often found that the parties have different objectives of utilization in mind.

There are many possibilities for measuring outputs and inputs and for forming productivity indicators on that basis. These will be surveyed in brief hereunder and then the indicators recommended.

I distinguish three main types of measuring output:

– measurement on the basis of gross output indicators,

– measurement on the basis of net indicators,

– direct index computations.

I classify the measurement in physical units as well as on the basis of the value of gross output and of "commodity production" in the first group.

Their common feature is that the volume of the material inputs used (or its changes) is not shown by either. In computing the net indicators the value of gross output is diminished by either only the material inputs (value added), or by the depreciation allowances as well (net national product or MPS national income); i.e., it is characteristic of these indicators that their value depends also on the changes of material inputs.

Finally, I put the direct index computations in a third group, when not aggregate indicators of the volume of production will be compared but the relative level of the volumes of production of the given countries are determined directly. The so-called product series index number recommended by the U.N. belongs to this category and is also suitable for international comparisons. The method essentially consists in the computation of a weighted average of empirically observed ratios by products, characteristic of changes over time or of relative levels. If the weighting system is based on labour input indicators, the method actually corresponds to measuring in terms of labour; if it is based on net product, value added or the sum of wages and depreciation allowance then the calculation approximates the index numbers of net product or value added. It cannot be but an approximation indeed as the computations are always based on *fixed weights* and in these changes in the per unit material inputs (or their differences) are not expressed. I put in this category also the method of computations of index numbers of the "normative value of processing" used in the Soviet Union. All these index numbers mostly do not cover the entire sphere of production and, therefore, they require further corrections reflecting the degree of representation.

Passing over to the measurement of inputs, as a rule only inputs emerging in the given phase of production, at the given enterprise or in the given sector will be taken into account. Methods of computation and analysis including all direct and indirect inputs embolied in the products, i.e., total inputs, have been developed, too, with the help of input-output techniques. (For details see e.g. [14], chapter VI.). Although many advantages would derive from using these total input productivity indicators for international comparisons (namely, it would not be necessary to make double price index calculations for deducting the material inputs converted into the same prices), in lack of sufficient practical experiences I will not indulge in this problem.

In field *1*, of Table 1, various types of labour productivity indicators are found. The methods of measuring labour inputs differ mainly from three points of view according to:

1. the scope of labour inputs (workers employed in basic production, all workers, workers and white-collar employees);

2. whether labour inputs are measured by hours worked or by number of persons employed (i.e., man-days, man-months, man-years), or by wages;

3. whether the "quality of labour" (first of all the differences in qualification) are taken into account.

Depending on these alternatives of measuring labour inputs everything that has not been included in the labour inputs (e.g. differences in the number of hours worked by

Table 1
Main types of productivity and production efficiency indicators

Output / Input	Gross indicators	Net indicators		Direct index computations
		value added	net product	
	A	B	C	D
I. Direct inputs				
1. Labour inputs	Labour productivity			
2. Fixed capital inputs	Fixed capital intensity			
3. Labour and fixed capital inputs	Total productivity = production efficiency			
4. Material inputs	Materials intensity			
5. Labour, fixed capital and material inputs	Cost analysis			
II. Total inputs	Input-output analysis			

one person or the differences in qualifications) will show up in labour productivity and in its relative levels.

Field *2* of the table contains the fixed capital intensity indicators. The fixed capital output ratios usually are not considered productivity indicators in the socialist countries, but nobody has doubts about the importance of their being studied particularly because labour inputs are increasingly substituted by fixed capital inputs through mechanization and automation. The major alternatives of measuring fixed capital inputs derive from whether the stock of fixed capital is measured (and by the gross or the net value of fixed capital) or whether expression of the volume of fixed capital inputs (flow) is attempted in some way. This latter can be done for machines and equipment by hours of operation, for aggregates of fixed capital by the depreciation allowance or a higher value containing also some normative returns above the depreciation allowance.

It should also be noted that the fixed capital input indicators (and, similarly, the materials intensity and cost indicators) are usually related to gross-type production indicators.

Since the comparison of the value of fixed capital between different economic units and especially internationally is highly problematic both theoretically and in practice, these comparisons are relatively rarely used in comparisons of relative levels. This is most probably an important constraint on our analyses in many cases and efforts should be made to lift it. Therefore, passing to field *3* of Table 1, the problem of measuring labour and fixed capital inputs together will be treated in more detail.

The formulae of the most important production equations and indicators (index numbers) for measuring productivity and efficiency are the following:

$$Q = L \times \frac{Q}{L} \tag{1}$$

$$Q = K \times \frac{Q}{K} \tag{2}$$

$$\frac{Q}{L} = \frac{Q}{K} \times \frac{K}{L} \tag{3}$$

$$Q = L \times \frac{Q}{K} \times \frac{K}{L} \tag{4}$$

$$Q = (L^* + K^*) \frac{Q}{L^* + K^*} \tag{5}$$

$$\frac{Q}{L} = \frac{L^* + K^*}{L} \times \frac{Q}{L^* + K^*} \tag{6}$$

$$\left(\frac{Q}{L}\right)' = \frac{aL' + bK'}{L'} \times \frac{Q'}{aL' + bK'}; \quad (a + b = 1) \tag{7}$$

$$Q' = L' \times \frac{Q'}{aL' + bK'} \times \frac{aL' + bK'}{L'} \tag{8}$$

where

Q	– output,
L	– labour input,
K	– the value of fixed capital,
a and b	– weights,
* (asterisk)	– serves to express additivity of the units of measurement and
' (upper comma)	– denotes index numbers.

In the socialist countries usually labour productivity and fixed capital intensity are analysed separately according to identities (1) and (2). If output is measured by the value of net product then fixed capital intensity is also reflected in the numerator of the labour productivity indicator but, as I proved elsewhere ([14] pp. 93, 94), only to a very slight extent. Therefore, a separate study of fixed capital intensity appears to be expedient also in such cases.

The identity according to formula (3) is used the most frequently for a combined analysis of labour productivity and fixed capital intensity. According to it, labour productivity equals the product of the technological equipment of labour by the output/fixed capital ratio. In comparisons of relative levels, therefore, the differences in labour productivity may be traced back to the output/capital ratios and the technological equipment of labour. This computation is mathematically correct, but from the economic aspect it neglects an essential relationship. When, for example, the productivities of the shoe industry and of the electric power industry are analysed with this method and in both cases a twofold difference in technological equipment of labour is obtained while the difference in the output/fixed capital ratio gives a value of 20 per cent, they are portrayed apparently to be the same, although the absolute size of the output/fixed capital ratio is in fact fourty or fifty times bigger in the electric power industry than in the shoe industry. Thus, the impact of these factors on the two sectors must be assessed completely differently.

It is known that different types of inputs can substitute for one another. Such relationship is possible also between labour and material inputs or fixed capital and material inputs, but this is usually not so important. However, substitution between labour and fixed capital inputs is a constant and one-way process: its substance is substitution of fixed capital inputs for labour inputs. The efficiency of this substitution should also be measured by our comparison and this cannot be done through a separate analysis of the per unit labour and fixed capital inputs.

Higher labour productivity is not comforting if it is attained through high fixed capital intensity, and higher fixed capital intensity is not worrying if it results in considerable saving in labour inputs. Therefore, it has been a long entertained idea that labour inputs and fixed capital inputs should be measured combined, and this should be set against the output. This is an old practice in computing production functions and is also pushing forward in productivity and efficiency computations.

Here one of the main problems is the need to express labour inputs and fixed capital inputs in the same unit of measurement (see formulae (5) and (6)). An identical unit is indispensable not only to sum up these two kinds of inputs but also for calculation of their changes between two periods or their relative levels concerning two economic units (see formula (7)).

Labour and fixed capital can be co-measured either in terms of man-hours worked (employment) or in value terms. The simplest – approximative – method of measuring both inputs in labour terms is to convert the value of fixed assets into hours worked or employment by means of the average wages; by a more complex method a coefficient can be calculated from the input-output tables (on basis of the so-called total labour input

content of the fixed assets). In both cases it is an open question whether the fixed assets should be included in the computations only according to the depreciation allowance or according to a value increased by normative returns too.

Computation with wages is a generally used method of expressing labour inputs in value terms; taxes and other charges on wages by help of coefficients are occasionally also taken into account. The procedure is the same when a and b weights are formed. The indicators and index numbers computed this way could be defined as multifactor or "total factor" productivity indexes. But in the socialist countries indicators of this type are usually classified as efficiency indicators and this is the title under which they are entered also into economic-statistical manuals [5].

Formulae (6), (7) and (8) illustrate the way how labour productivity and total factor productivity can be analysed combined with each other. This method of analysis divides the differences in the level of labour productivity into two factors:

– difference in total factor productivity (in efficiency),

– the ratio of labour input to total labour and fixed capital input which – with some simplification – may be regarded as characteristic of the substitution of labour by fixed capital.

Owing to the lack of adequate data on fixed assets, to problems of their comparability and other methodological difficulties there is scarce information in the literature on comparisons of relative levels covering also total factor productivity. From these the computations of A. *Bergson* and analyses based on various production functions in the field of Soviet–American comparisons and the works of *Bacha* [3] and *Clague* [4] may be mentioned. (The industry of Mexico in the first and that of Peru in the latter is compared with the industry of the United States.)

When and what problems can be answered by labour productivity comparisons and when is it really necessary to compare total factor productivity, too? In conclusion we attempt to answer this question.

Comparison of the levels of labour and total factor productivities

If we wish to assess the performance of economic units based on a comparison of their productivity levels then either all essential resources used for attaining the performance must be taken into account or the "net performance" must be taken for basis. Therefore, if gross value of output indicators are used (this is the category where also the direct index computations belong) not only labour but also fixed capital inputs (and possibly also material inputs) need to be analysed. According to the notation of Table 1 indicators B/1 and C/1 can be used for the estimation of net performance while to the gross-type indicators (index numbers) A and D also the input elements 2, 3, 4, 5 have to be associated.

Naturally, we should be aware that a full picture about the performance of a given economic unit is not given even by net output indicators. Quality and up-to-dateness of the products, the pattern of production, the balance of foreign trade, competitivity, and in the current world economic situation – especially in small countries – flexibility, adaptivity are factors which the performance indicators show poorly and only on the long run. These should be therefore taken into account too, and the evaluation should be dynamized in view of their expectable performance and their aptitude for changes as well.

It follows from the aforesaid that a comparison of gross value of output per unit of labour inputs can be accepted only as an approximation whether the performances of enterprises, of sectors or of economies as a whole are compared. This solution implies the following assumptions:

1. There are not considerable differences in the per unit values of the neglected inputs between the units studied,

2. or these differences do not appreciably affect the result of the comparison, e.g. the ranking on that basis.

Let us study this point with respect to fixed capital inputs, first on the basis of the experiences of measuring changes in productivity over-time.

It is a regular occurrence that the technological equipment of labour (K/L) increases, thus the output/labour input ratio (Q/L) increases more steeply than the output/fixed capital ratio (Q/K). It follows that total factor productivity, the appropriately weighted mean of these two ratios (Q/(aL + bK)) always shows a smaller growth than labour productivity. This has been verified by countless practical investigations and is also indicated by Table 2, where labour productivity and approximative total factor productivity indexes computed for industries of 13 countries are compared.

According to figures presented in Table 2 the rankings of the countries by growth rates do not vary much according to the two indexes, there is no bigger difference than 3 in ranking. (The data are quoted for the sake of methodological lessons, the picture outlined by them would be in part modified by a prolongation of the time span.)

The weights of labour and fixed capital inputs are mostly quite similar with respect to the whole of the industry in the different countries, around the range of one-third and two-thirds. Within industry, there are, however, important differences by sectors, and this has importance because differences between the labour and total factor productivity indexes are expected to be bigger in those branches where the weight of fixed capital inputs is relatively high.

In Table 3, computations concerning 18 sectors of the Hungarian industry are quoted. Some significant changes can be observed in the sectoral order: e.g. the chemical industry was relegated from its 2nd place according to labour productivity to the 8–9th while the food industry advanced from the 10–11th to the 7th in the period under review.

The first lesson to draw from the international comparison presented here is that our labour productivity comparisons for the entire industry very likely yield a realistic

Table 2

Growth rates of labour and total factor productivities in the industries of 13 countries

Country	Period	Labour productivity, average yearly growth rate (per cent)	Total productivity, average yearly growth rate (per cent)	Ratio of the two rates (per cent)	Ranking by growth rate of labour productivity	Ranking by growth rate of total productivity	Difference in ranking
Bulgaria	1950–1952–1967–1969	6.9	4.1	59	2.–4.	5.	2
Czechoslovakia	1950–1952–1967–1969	4.3	3.5	82	9.	6.	3
Poland	1950–1952–1967–1969	5.0	4.5	90	5.–6.	3.	1.5
Hungary	1950–1952–1967–1969	3.9	2.4	62	10.	12.	2
German Democratic Republic	1950–1952–1967–1969	6.9	5.3	72	2.–4.	2.	1
Romania	1950–1952–1967–1969	8.0	6.0	75	1.	1.	–
Soviet Union	1950–1952–1967–1969	6.9	4.2	61	2.–4.	2.	1
United Kingdom	1954–1972	2.9	1.3	45	12.–13.	13.	0.5
Austria	1955–1971	5.0	2.9	58	5.–6.	7.	1.5
United States	1948–1966	2.9	2.5	86	12.–13.	1.	1.5
Greece	1951–1971	4.6	2.6	57	7.–8.	10.	2.5
Canada	1946–1967	3.8	2.8	74	11.	8.	3
Federal Republic of Germany	1954–1972	4.6	2.7	59	7.–8.	9.	1.5

Source: [14] (pp. 390–391); for the U.K. and the Federal Republic of Germany: [12], for Greece: [15] (p. 25).

Table 3

Ranking of sectors of the Hungarian state-owned industry by the average growth rates p.a. of productivity between 1950 and 1970

Average yearly growth rate (per cent)	Ranking of sectors on the basis of	
	labour productivity	total factor productivity
Increase		
8–. . .	1. Precision engineering industry	1. Precision engineering industry
6–7.9	2. Chemical industry	2. Printing industry
	3. Printing industry	
	4. Production of transport equipment	
	5–6. Telecommunication and vacuum technical industries	
4–5.9	7. Production of electrical industrial machinery and equipment	3–4. Telecommunication and vacuum technical industries
	8. Production of machinery and equipment (other than electrical)	3–4. Metal mass production
	9. Electric power industry	5. Production of transport equipment
	10–11. Building materials industry	6. Production of machines and equipment (other than electrical)
	10–11. Food industry	7. Food industry
	12. Metallurgy	8–9. Production of electrical industrial machinery and equipment
2–3.9	13. Paper industry	10. Wood processing industry
	14. Wood processing industry	11. Building material industry
	15. Textile industry	12. Paper industry
	16. Mining	13. Metallurgy
0–1.9	17. Leather, fur and shoe industries	14–15. Textile industry
	18. Textile garment industry	16. Leather, fur and shoe industries
Decrease	– –	17. Textile garment industry
		18. Mining

Source: [13] (p. 161).

ranking. As according to experiences the differences in the output/fixed capital ratios are much smaller than in the output/labour input ratio, and not only between different periods (in the same country) but also between different countries, a comparison of total factor productivity would show smaller differences between countries than does a comparison of labour productivity.

In Table 4 the output/fixed capital ratios of 28 approximatively comparable sectors of the industries of Hungary and the Federal Republic of Germany are set against each other (always using gross values and national currencies). A great many similarities can be observed at first glance and this is verified also by the $r = 0.89$ rank correlation coefficient of the two data series.

Table 4

Output/fixed capital ratios in the Hungarian and the West-German industries in 1975

Sector	Value of output/ fixed capital		Output/fixed capital related to the industrial average	
	Hungary	FRG	Hungary	FRG
Mining	0.67	0.74	0.42	0.51
Coal mining	0.52	0.85	0.33	0.58
Crude oil and natural gas extraction	1.13	0.64	0.72	0.44
Metallurgy	1.24	1.17	0.78	9.80
Ferrous metallurgy	1.22	1.12	0.77	0.77
Engineering industry	2.09	1.72	1.32	1.18
Machinery and equipment production	2.12	1.83	1.34	0.95
Electrical machinery and telecommunication engineering industry	2.18	1.80	1.38	1.23
Metal mass products industry	2.12	1.75	1.34	1.20
Building materials industry	0.64	0.90	0.41	0.72
Fine ceramics industry	0.83	1.27	0.53	0.87
Glass industry	0.79	1.13	0.50	0.77
Chemical industry	1.35	1.36	0.85	0.93
Crude oil refining industry	2.37	2.34	1.50	1.60
Rubber industry	2.13	1.30	1.35	1.89
Plastic processing industry	2.45	1.73	1.55	1.18
Wood processing industry	2.11	1.83	1.34	1.25
Paper industry	0.94	1.20	0.59	1.82
Printing industry	1.46	1.28	0.92	0.88
Textile industry	1.46	1.15	0.92	0.79
Leather, fur and shoe industries	3.32	2.02	2.10	1.38
Textile garment industry	4.20	2.96	2.66	2.03
Food industry	2.31	1.70	1.46	1.16
Milling industry	2.39	1.82	1.51	1.25
Sugar industry	0.91	1.04	0.58	0.71
Vegetable oil industry	3.32	3.74	2.10	2.56
Beer industry	0.90	4.60	0.57	3.15
Tobacco industry	3.60	1.87	2.28	1.28
Total manufacturing industry	1.58	1.46	1.00	1.00

Source: Statisztikai Évkönyv, 1975. (Központi Statisztikai Hivatal, Budapest, 1976), as well as [10].

From a study of the Secretariat of the Economic Commision for Europe we quote a grouping by capital intensity of sectors which though computed from data of nine countries, may be considered as generally valid:

Relative capital intensities of industrial sectors on the basis of nine countries' average

Highly capital intensive sectors (above 125 per cent of the average)

1. Petroleum and coal products
2. Chemicals, plastics
3. Basic metals
4. Paper
5. Food, drink, and tobacco

Around average capital intensive sectors (from 75 to 125 per cent of the average)

6. Non-metallic minerals
7. Rubber
8. Other industries
9. Electrical machinery
10. Transport equipment

Sectors with low capital intensity (below 75 per cent of the average)

11. Textiles
12. Printing
13. Non-electrical machinery
14. Metal products' instrument
15. Wood, furniture
16. Leather
17. Clothing, footwear

Source: [11] (p. 52)

We have to infer from the quoted data – similarly to the dynamic analyses – that for the ranking of branches it is no longer indifferent whether the level of labour productivity or that of total factor productivity is compared between countries.

To check this assumption some further computations were made on basis of comparisons performed by the Hungarian Central Statistical Office with the Austrian and the Yugoslav industries. These comparisons did not cover the fixed capital inputs but compared the consumption of electric energy. As a first approximation it was assumed that the relation levels of electric power consumption and of fixed capital inputs do not differ substantially. (Some ground for this assumption is provided also by the results of correlation computations by the Economic Commission for Europe quoted in Table 5.)

Table 5

Correlation between the value of fixed capital and electric energy consumption per employee in industry

Country	In 1960	In 1970
Czechoslovakia	0.87	0.93
Hungary	0.93	0.86
Poland	0.92	0.93
Bulgaria	0.75	0.83
Romania		0.92

Source: [19] (p. 221).

Table 6

The relative level of productivity in the Austrian and the Hungarian industries in 1975

Sector	The Austrian level in percentage of the Hungarian level						Hungarian weights of labour and capital (per cent)
	1	2	3	4	5	6	
Mining	17.7	39.7	23.9	39.2	221	164	72 : 28
Food industry	35.6	60.7	43.1	52.1	146	121	70 : 30
Textile industry	40.2	66.3	37.8	60.7	151	127	71 : 29
Garments industry	40.7	81.4	50.4	65.7	140	130	90 : 10
Leather, fur and shoe industries	24.2	50.0	28.6	32.8	136	115	89 : 17
Wood industry	58.3	18.3	85.1	103.0	177	121	78 : 22
Paper industry	144.0	435.5	286.8	209.2	203	102	51 : 49
Chemical industry	63.6	98.5	81.8	97.9	154	120	48 : 52
Building materials industry	55.9	134.6	85.8	116.7	209	136	62 : 38
Metallurgy	87.8	139.6	110.6	100.6	115	91	56 : 44
Engineering industry	48.3	65.7	52.8	91.8	190	174	77 : 26

1 – Employment
2 – Electric power consumption
3 – Total factor input
4 – Output
5 – Labour productivity
6 – Total factor productivity

Source: [2] (p. 26 and p. 30) and for the last column Statisztikai Évkönyv (Statistical Yearbook.) 1975. (p. 115).

In our complementary computations Hungarian weights were used. In the comparison with the Austrian industry (see Table 6) first the relative levels of the total factor inputs were determined then from that, comparing with output, the index numbers of total factor productivity. For the Yugoslav industry (see Table 7) these index numbers

Table 7

The relative level of productivity of the Yugoslav and the Hungarian industries in 1970

Sector	The Yugoslav output		
	worker	unit of energy consumption	total factor input
	in percentage of the Hungarian industry		
Mining	101	91	98
Metallurgy	88	51	68
Engineering industry	110	78	100
Building materials industry	96	104	99
Chemical industry	99	94	96
Rubber industry	116	110	113
Wood processing industry	114	112	114
Paper industry	122	65	91
Printing industry	87	69	82
Textile and textile garment industries	87	87	87
Leather, fur and shoe industries	102	98	101
Food industry	111	88	102
Tobacco industry	51	50	51
Industry, total*	104	76	93

*In the Hungarian industry: the state-owned industry.

Source: [9] (p. 18): weights for the computation of the total factor input index were taken from the Statistical Yearbook 1970 (Központi Statisztikai Hivatal, Budapest, 1971. p. 164) and Ipari adattár (Collection of industrial data) vol. II (Központi Statisztikai Hivatal, Budapest, 1962. p. 272).

had been calculated as the weighted average of output per worker and per unit of electric power consumption.

It would not be correct to derive far-reaching conclusions from our computations – among other things because of the small number of the sectors studied (and because of the small differences in the case of the Yugoslav–Hungarian comparison) – but it is still felt to be a justified assumption that comparisons of total factor productivity

1. show smaller differences between countries than comparisons of labour productivity;

2. though not often, it occasionally results in not negligible differences in the ranking of sectors (see Table 8).

The first statement only warns of the different scale of measurement while the second one suggests to make more efforts toward comparing, beside labour inputs, also fixed capital intensity and total factor productivity. This recommendation will obtain greater emphasis if we also indicate that, beside the evaluation of performance and beside ranking, this is indispensable also for exploring the reserves for improving capital/output ratios. Lack of data was unfortunately often encountered in our comparisons with West-

Table 8

Ranking of sectors from the Hungarian point of view according to labour and total factor productivity levels on the basis of international comparisons

Sector	On the basis of the comparison of the industry of					
	Austria and Hungary			Yugoslavia and Hungary		
	ranking according to productivity		difference in ranking	ranking according to productivity		difference in ranking
	labour	total		labour	total	
Metallurgy	1.	1.		4.	2.	2
Leather, fur and shoe industries	2.	3.	−1	8.	10.	−2
Garment industry	3.	8.	−5			
Food industry	4.	5–6.	−1.5	10.	11.	−1
Tobacco industry				1.	1.	
Textile industry	5.	7.	−2			
Textile and textile garment industries				2–3.	4.	−1.5
Chemical industry	6.	4.	2	6.	6.	
Rubber industry				12.	12.	
Food industry	7.	5–6.	1.5	11.	13.	−2
Engineering industry	8.	11.	−3	9.	9.	
Paper industry	9.	2.	7	13.	5.	8
Building materials industry	10.	9.	1	5.	8.	−3
Mining	11.	10.	1	7.	7.	
Printing industry				2–3.	3.	−0.1

ern countries, but this expected to improve: in addition to the Federal Republic of Germany e.g. France and Austria have recently published data on fixed assets.

In conclusion let us note that there are two possibilities for comparing the levels of total factor productivity between countries (see Table 8).

Either the fixed capital inputs have to be rendered comparable through conversion into a common currency between the countries studied (A and B); in this case the computation can be based on the following formula:

$$\frac{Q_A}{Q_B} : \left[\frac{L_A}{L_B} a + \frac{K_A}{K_B} b \right] \qquad (a + b = 1)$$

or we have to solve the adding up of labour and fixed capital inputs within the countries analysed: in this case the relative level of the total factor productivity of the two countries can be determined from the labour productivity and the substitution ratios:

$$\left[\frac{Q_A}{Q_B} : \frac{L_A}{L_B} \right] : \left[\frac{L_A^* + K_A^*}{L_A} : \frac{L_B^* + K_B^*}{L_B} \right]$$

Since the first one of the two methods allows for a direct and perhaps for a more detailed comparison of fixed capital intensity, it should be given preference as far as possible.

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ВЫБОР ПОКАЗАТЕЛЕЙ ДЛЯ СОПОСТАВЛЕНИЯ УРОВНЕЙ ПРОИЗВОДИТЕЛЬНОСТИ ТРУДА

З. РОМАН

Рассматривая вопрос выбора показателей для международного сравнения уровней производительности труда, автор производит обзор важнейших типов показателей и индексов производительности труда. Он отмечает, что преобладающая часть международных сравнений производительности труда содержит сопоставление валовой продукции и затрат труда. Поскольку затраты труда – в результате механизации и автоматизации – во все большей мере заменяются затратами основных фондов, становится проблематичным, дают ли эти сравнения достоверную картину относительно оценки выработок и раскрытия резервов повышения производительности труда. Применение чистых показателей в международных сравнениях (в виду потребности в двухкратной дефляции) является весьма трудоемкой задачей. Поэтому в последнее время возникло стремление к дополнительному обследованию фондоемкости и материалоемкости, а также к сопоставлению затрат живого и овеществленного труда с продукцией (исследование о производительности совокупной эффективности производства).

В дальнейшем автор рассматривает вопрос о том, является ли осуществленное на основании показателей производительности труда сравнение приемлемым для характеристики соотношений уровней совокупной производительности. Пример динамических сопоставлений показывает, что сравнения производительности труда относительно всей промышленности обычно дают реальные соотношения, но сравнения производительности труда между странами всегда выражают большие различия, чем соизмерение совокупной производительности.

Автор на основании венгеро-австрийского и венгеро-югославского сравнений производительности – выражая фондоемкость потреблением электроэнергии на единицу продукции – путем экспериментальных расчетов указывает на соотношения уровней производительности труда и совокупной производительности. Эти расчеты подтверждают, что сравнение совокупной производительности между значительно отличающимися друг от друга по степени развития странами дает меньшие расхождения в уровне, чем сопоставление производительности труда и, далее, два вида сравнений в отдельных случаях дают значительные различия в соотношении порядка отраслей. Первый вывод обращает внимание только на иную шкалу измерений, а второй указывает на то, что следует приложить большие усилия в интересах сравнения наряду с затратами труда также и фондоемкости и совокупной производительности.

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MEASURING SCALES FOR INTERNATIONAL COMPARISONS

The authors compare the results of international comparisons of the economic level, applying various methods; they range the causes of their differences in three types: 1. difference in the scale of measurement; 2. difference in the object of measurement; 3. bias and errors coming from the method or the numerical data. The detailed discussion focuses on the first type.

The differences in the scales of comparisons can be separated by standardization. Through an inverse procedure standardized values difficult to interpret can be reinterpreted and expressed also in index form. The results measured on a given scale can be transferred to another scale by standardization, followed by inverse standardization with the parameters of the other scale.

Practical questions of the scale-transfer by contrasting two, actually accomplished comparisons are dealt with. Per capita GDP of 32 countries expressed in dollars is used relying on comparisons prepared in Hungary and in the United States. Results of standardization and inverse standardization come considerably closer and the differences, which can be attributed to the different interpretations of development or to inaccuracies in the methods, become distinct.

Actually or apparently contradicting results and data are met with increasing frequency as the methods of international comparisons of economic level become ever richer and more sophisticated and as the number of practical computations grows. In such instances selection is the first reaction: which of the alternatives we should regard as the correct one or should we perhaps reject all of them. However, there has lately emerged another type of approach in the discussions of the methods and results, in which parallel admission is also accepted beside selection or rejection, either because the several kinds of results do not refer precisely to the same phenomenon or because they highlight the phenomena in different ways and from different sides.

Thus, in the course of the development of international comparisons we are about to consider the "comparison of comparisons" and along with it those elements that justify the simultaneous and parallel existence of various methods and results. The objective of this paper is to present and separate the main types of these elements on the one hand, and to analyse one of these types, the measuring scale, on the other hand.

Deviating results of comparison and their interpretation

According to general routine the economic development of a country is expressed by some synthetic value indicator such as per capita national income, GDP, etc. The well-known and often scrutinized fact that a single indicator, however intricate and elaborate,

cannot but very limitedly approximate this objective, will not be discussed here. However much the need for a combined analysis of several indicators is acknowledged and emphasized, we can not disregard the currently prevailing practice and demand, namely, to concentrate on a single synthetic indicator.

Types of deviations

Comparisons of such nature may vary due to the following main types of causes:

A) Difference in the measuring scales

B) Difference in the object to be measured, which may be the outcome for example of different interpretations of economic development levels (these may occur even if the various comparisons operate with the same synthetic indicator)

C) Errors, inaccuracies, distortions in the method or in the numerical material used.

It is deemed to be particularly important to distinguish the above three types because, even if some variances are admittedly justified and the different economic interpretations are accepted, yet not all methods and not all computations are considered to be equivalent, to be equally "good" (this is why type C should be distinguished from types A and B). Furthermore, not all deviations in interpretations are regarded as traceable to the measuring scale. This needs to be stressed because in the discussions about the "comparison of comparisons" the notion of the "scale" has become far too broad and the question "by what scale do we measure" gets often mixed with the question "what is measured". If according to one comparison the level of country X is by 10 per cent higher than that of country Y, while it is 20 per cent higher according to another one, this may be – partly or entirely – attributed to differences in the scale of measurement. But, if according to some comparison the level of county *X* is higher than that of Y (significantly higher, not only by some percentage points within the error limits of the whole computation) while another comparison shows a higher level for country Y, then this must not be considered as a scale problem but as a deviation attributable either to the subject of measurement or to the errors of computation. Thus, from the viewpoint of the order of the countries, type A should be distinguished from the other two types.

As noted above, analysis of the scale problem is the main topic of this paper. However, for a clearer demarcation of the subject, some general remarks, sometimes no more than hints with respect to the deviations of type B, namely, the subject of measurement, will be required.

The subject of measurement

Part of the international comparisons are done with the aim of comparing the per capita GDP or national income, that is, the GDP (or the national income) is put into the centre as one of the prime indicators of national accounting. The most important of these comparisons are the exercises carried out under the auspices of the UN (International

Comparison Project – ICP), [13] and the international comparison of value indicators in the framework of the CMEA [1], [5]. Other comparisons go beyond that and the GDP or the national income are assumed to be only instruments, measurable categories for the quantification of such more abstract categories as e.g. *economic development level or socio-economic welfare.*

No exact indicator belongs to either of these notions, and no better approximation could be found so far for either of them than the indicator of per capita GDP or per capita national income, while it is generally acknowledged that these are not completely satisfactory. Though the GDP level is more or less related to the level of development or welfare, it is not identical with them. Much criticism is levelled at the national accounts (balance systems) and their synthetic indicators (thus also at the GDP) because they do not or only imperfectly express economic development or welfare. (The relevant literature is by now fairly extensive and its review would need a separate treatise. We can only refer to some papers as examples, [2, 3, 4, 7, 8, 11, 16, 18]). But economists lack a common platform concerning either the accurate content or the interpretation of development or welfare, and this in itself is a good reason why these notions do not have definitions that could provide a basis for measurement and for quantification.

The definitions of *economic development level* are widely ranging from pragmatical to philosophically abstract ones depending on attitudes or intents of research workers and authors.

There nevertheless are some apparent common traits of these concepts.

– In the category of economic development level the accumulated wealth of the countries obtains greater weight than the GDP* is capable of expressing.

– Economic development level is a more stable category, much less subject to short-term fluctuations than the GDP. Good or bad crop, favourable or unfavourable market tendencies, different kinds of crises, market terms etc. might occasionally have acute impacts on the GDP while the development level is hardly influenced by these.

– The comparison of the GDP reacts to certain structural factors and internal proportions in a different way than the economic development level. One-sided monocultural development, for example, has the same or almost the same increasing effect on the level of GDP as a development similar in overall size but with more balanced distribution. Economic development level, on the other hand, usually reacts much more sensitively on the latter than on the former.

Welfare is mentioned with increasing frequency in economic literature. Its appearance and spreading is a characteristic manifestation of the realization that economic growth does not automatically involve the improvement of social welfare. Important

*This is in fact the already well-known "stock-flow" dilemma, whose discussion would be a too far deviation from our subject. In the said concept economic development level is much nearer to the national wealth than to national income or GDP. This does not mean, however, that the international comparison of economic development level is reduced to a comparison of the national wealths of countries.

welfare elements (like leisure activities) are not expressed in the traditional national accounts indicators while the production of certain goods and services does not increase but decrease the degree of welfare ("regrettable necessities").

There are two distinct types of experiments with measuring and comparing economic development level or welfare:

1. Modifications of the GDP standard indicator to varying extents [15], [17];

2. Inserting elements into the method of comparison by means of which the summary end results more or less differ from the GDP proportions and show rather the proportions of development level or welfare [3], [6].

Thus, the results of various comparisons may be different also because different authors attribute to the GDP different interpretations, wishing to use it for measuring different objectives (economic development level, welfare, the GDP in itself, etc.), defining these objectives in different ways and using different methods for attaining these objectives. It is still an open question how realistic these objectives are, or whether the methods used are suitable for attaining them. Here and now we rest satisfied with casting light on the problem itself and determining its place in the complexity of comparisons of levels.

The measuring scale

Even though in the aforesaid the problem of the measuring scale could be somewhat narrowed and delimited from factors which in our opinion do not pertain to the problem of scale, we are still facing a rather complex notion. The delimitations still do not justify that the problem of scale should be studied purely from technical aspects, abstracting it from the economic considerations in whose context the whole problem is actually raised.

The term scale normally means a sequence of numerical values calibrated according to some system, usually along some function. By the scale of economic development level the numerical sequence is meant which can be assigned to an indicator (per capita GDP, per capita national income) expressed in a currency chosen for this purpose and the countries are positioned at its points. However, unlike technical equipment and instruments where calibration is *ab ovo* given and the results of measurement can be read, with most of the economic-type scales the case is the contrary. Here the scale itself is not known but some results of measurement are known. For obtaining the scale the scale must be somehow traced back from the points measured – and from the methods of comparison. Moreover, these points are usually condensed in certain intervals while blank spots are left in other intervals. Therefore, our statements about the scales and the comparison of different scales cannot by necessity be but some kind of estimate or approximation.

Theoretically every scale is determined by the unit and by the zero point. The difference between any two scales is due to either or both of these factors. If the two scales only differ in the unit, the case is quite simple, because in such cases the compu-

tation of some suitable coefficient is usually enough for shifting from one scale to the other. Besides, the indexes between countries are not affected by the measuring scale. This is important because for perceiving or "reading" the results of international comparisons the indexes between countries are almost always necessary as these figures informing about "how many times" or "by how many per cents more or less" are often more important or clearer expressions of proportions than the absolute data.

The difference in the position of point 0 already affects the indexes between countries too. The higher that point the bigger the indexes (the bigger will be the differences between countries expressed as quotients or per cents). But finding the position of point 0 is one of the most difficult problems. This problem is never encountered in case of some homogeneous, clearly defined indicator showing a quantity of production or consumption: for instance, there is no need of special explanation or interpretation to state that the number of television sets in a given country is zero. But the more complex is an indicator, the harder it is to give economic interpretation to zero point. What does it mean e.g. in the case of food consumption expressed in calories? Calory consumption may have a very low but still positive value which is no longer sufficient for survival. The range between this value and zero calory consumption cannot be interpreted economically.

The problem is even more intricate from the point of view of national income or the GDP. Let us assume for example a country with a very low level of development and that the level of per capita GDP can be estimated (forgetting now about the technical aspects of estimation, such as the collecting of data, the high proportion of production and consumption outside the social division of labour and its interpretation* etc.). This level, however low it is, certainly is not zero because some little quantity is surely produced and consumed. Let us now go back in time and estimate the time series of the GDP (again disregarding the technical problems). No matter how far we go back in history we cannot reach zero GDP (or the country herself and her history disappear from sight before reaching point 0.) All this does not mean that there is no zero point on the scale of development; it only means that this zero point is difficult or impossible to interpret economically and does not appear explicitly among the data.

In case of comparing two or more measuring scales the scales are often claimed to be "expanded" or "compressed". In an "expanded" scale the development differences between countries appear to be bigger than on a "compressed" one. No scale is "expanded" or "compressed" in itself, but can show the values in a broader or narrower

*At a low level of development unmarketed production, goods produced and consumed outside the sphere of the social division of labour amount to a very high proportion of total output. Strictly speaking, their value is not expressed in the national economic accounts. However, bearing just the developing countries in mind, the specifications of accounts sometimes relieve this strict principle; but even so only a certain fraction of production and consumption outside the social division of labour can be grasped. The problem is only noted here, its detailed discussion would by far exceed the scope of the subject.

range only relative to another scale. But the aforesaid also show the incurracy of these adjectives: a scale with a bigger unit and, consequently, a bigger dispersion of data "expands" differently than the one whose zero point is set higher.

Standardization of scales

This paper is not aimed at describing and characterizing the scales – as seen above, that would meet with many unsolvable difficulties – but at making comparable the levels of development measured along different scales, that is, at showing how far the deviating results can be explained by differences in scale and how far other causes account for them.

The so-called *standardization* is a relatively simple approximation to filtering out the differences in scales. Standardization means a transformation in which the mean of a variable is deducted from each value of this variable and this difference is divided by the dispersion of the variable. Thus the mean of standardized variables is 0 while the value of dispersion is 1. Denoting the transformation with L, the standard (z_j) of variable x_j will be:

$$L(x_j) = \frac{x_j - \bar{x}}{S(x)} = z_j \qquad (1)$$

where:

$\bar{x}$ is the arithmetical mean of variable x,

$S(x)$ is the dispersion of the indicator.

If the x_j elements of variable x are arranged in a vector x, then the standard of this vector (vector z) is:

$$L(x) = \frac{1}{S(x)} (x - \bar{x}1) = z \qquad \underline{1} = [1, 1, \ldots, 1]^x. \qquad (2)$$

Let us assume that vector y_1 is a result of the comparison of the per capita GDP (according to this comparison the per capita GDP of country j is y_1^j and y_2 is the result of another comparison of the same, and that $y_1 \neq y_2$. If both vectors are standardized, the results are reduced to a common scale. In the ideal case when $L(y_1) = L(y_2)$, it may be stated that the two comparisons give different results only because of their being measured along different scales.

Through standardization the data scale is quasi-neutralized, it is deprived of the original unit of measurement. But the economic interpretation of standardized data is clumsy. Among other things, they are not suitable for expressing the indexes between countries. This necessitates further transformation.

Let us first define the inverse of the transformation L:

$$L^{-1}(z_j) = S(x)z_j + \bar{x} \qquad (3)$$

or as a vector:

$$L^{-1}(z) = S(x)z + \bar{x}1 \tag{4}$$

But these two latter expressions are not quite correct yet. Namely, while in the first two formulas vector z follows unambiguously from vector x, this unambiguity does not exist conversely. From a given vector x only a single standardized z is obtained through L transformation while the same vector z can be the standard of an infinite number of vectors, that is, from vector z an infinite number of vectors can be obtained through the transformation L^{-1}. Namely, the average and the dispersion unambiguously follow from vector x, but they do not from vector z itself. The non-standardized vector obtained from vector z through the transformation L^{-1} depends on the mean and the dispersion figuring in formulas [3] and [4], resp.*

The inverse transformation L^{-1} becomes unique if the vector from whose values the mean and the dispersion have to be used is also identified. For convenience, the identification will be the following: after the symbol L^{-1} the standardized vector will follow first in brackets, then in the second place comes the vector into the metrics of which the standardized vector is transferred, i.e., whose mean and dispersion is used. If this latter is e.g. vector p, then

$$L^{-1}(x, p) = S(p)z + \bar{p}1 \tag{5}$$

and if it happens to be vector x, then formula [4] will be obtained which according to the agreed identification will become now the following:

$$L^{-1}(z, x) = S(x)z + \bar{x}1 \tag{6}$$

(6) is the unique inverse of (2).

$$L^{-1}(z, x) = x. \tag{7}$$

However, as we have seen above, this is not the only possibility, (6) and (7) are only special cases of (5), countless other vectors can be also written beside z. But why should we do so? Because this way a vector, a result of measurement is transferable into the metrics of another measurement and, therefore, not only the deviations deriving from

*There are variables in economic computations which are formulated *ab ovo* in standardized form, without metrics of their own. Such are e.g. the factor scores obtained as a result of factor analysis. For more details see [19].

different scales are eliminated but the necessary index computations can be done also with the transformed values.

The complete operation of "scale transfer" can be described as follows: if y_1 and y_2 are the results of two comparisons on two different scales, then the second one is transferred to the first scale, i.e.,

$$y_2^{(1)} = L^{-1}[L(y_2), y_1] = S(y_1)\left[\frac{1}{S(y_2)}\ (y_2 - \bar{y}_2\ 1)\right] + \bar{y}_1\ 1. \tag{8}$$

Practical problems of scale analysis

For a comparison to be analysable from the aspect of scale a rather big number of points plotted over the widest possible range, i.e., data of many countries on different development levels are required. Without that random fluctuations, or those due to shortcomings of computation, might obscure the pattern of the scale which is hard to recognize anyway, and, again, information about certain short sections of the scale are not enough for describing the entire scale.

The deviations of the measuring scales are in some cases relatively clear while in other cases they are more latent. E.g. if a comparison expresses the level of economic development with the level of the GDP, while another one does it with the level of the national income, then the case is a characteristic but easily traceable difference in scale. The problem is easy also when the common currency of comparisons is different, e.g. the results are expressed in one computation in dollars while in the other one in rubles or forints. But such differences are not encountered in practice: in the overwhelming majority of cases the instrument of comparisons covering many countries is the dollar. But the dollar – if regarded not as a means of payment but as an instrument of measurement – is not a unique unit of measurement at all, and this circumstance accounts for such differences in scale which are not always visible to the naked eye. For instance it is not the same which year's dollar is used. It can happen that a measurement for some period t is computed according to one of the methods at the prices, i.e., price level, of the given year t, while according to another method at the prices or price level of a previous year.*

Discernibility and interpretability is probably the most difficult in the case of those scale deviations which are due to the dollar's being liable to various interpretations as a measure of international comparisons. This problem will not be given a full theoretical

*In practice this occurs mainly if two comparisons were originally made for two different years and for the sake of collation the results of the earlier year are updated.

treatment here* but for practical illustration two international comparisons have been selected which differ, among other things, exactly in this respect:

1. The estimate [14] of three American authors: I. B. *Kravis,* A. *Heston* and R. *Summers* denoted with the initials of the three authors as K–H–S;

2. The paper of the Institute for Economic Planning, (National Planning Office) [6] published in 1977 and prepared by a research team led by É. Ehrlich, and to be denoted hereinafter as IEP.**

Our purpose is not to review nor to criticize the two methods. Therefore, we will only stress the common and the different traits most important for us and their consequences, without judging either of the methods to be "better", more "reliable", etc. than the other.

Both comparisons

– cover the same period, namely, 1970 (a bit remote now but the "gestation period" of comparisons covering many countries is known to be long);

– compare the per capita GDP of the countries;

– express the results in 1970 dollars;

– were made with so-called short cut method, the essence and the common features of which may be summarized as follows: through certain basic data a relationship is established between the elements of a system of indicators abd the GDP, and then the countries' GDPs are estimated by means of this relationship and the corresponding indicators.

Both methods establish a stochastic function***

$$y = f(x_1, x_2, \ldots, x_k) \tag{9}$$

where

$y \lessapprox$ vector of the countries' per capita GDP expressed in dollars,

$x_1, x_2, \ldots, x_k$ = vectors for various indicators.

Beside these common features the two papers are strongly different. In constructing the function (9), the IEP uses 43 physical indicators as vector $x_1, x_2, \ldots, x_k$ (i.e., $k = 43$), and for the original data of GDP (vector y) the GDPs of the countries calculated in dollars at the official exchange rate are used. As a result, the measuring scale of IEP is a dollar scale obtained *via* official rates of exchange. This does not mean that the IEP's results are the values of the countries' GDPs recalculated in dollars at the official exchange rate. These are only original data which are modified in the course of computation (the

*For more details see [20], [21].

**The method was elaborated by F. *Jánossy* [9]. [6] also contains some improvements especially with respect to structural analyses and their use in long-range planning.

***The problem of the concrete form of the function will not be treated here; for that, see [6], [12].

authors call the results "corrected GDP"), but this modification takes place along the same scale on which the original data are plotted. As F. Jánossy writes, "The exchange rate scale accepted as reference for measuring the level of development is also preserved... the corrected values obtained as results measure the level of development invariably on the scale derived from the exchange rate. Hence the exchange rate scale preserved this way remains the measuring scale of our method all over." [9] This unit of measurement of the scale is called "dollar of international purchasing power", or N-dollar.

The original GDP data (vector y) of the K–H–S study are the results of the international comparison carried out under UN auspices (International Comparison Project – ICP; [13]). These GDP data are based on detailed recalculations made with the purpose of estimating the real purchasing power of each currency, and in which official exchange rates are not involved.

16 countries at different levels of development participated in the computation. The unit of measurement of the ICP and thus of the K–H–S study was not the N dollar but another particular product of international comparisons, called I dollar, whose general level corresponds to the price level prevailing on domestic US markets (but its price proportions may be assumed as the mean of domestic price proportions for 16 countries.) [20]

It has long been known that until the monetary crisis in 1973 the official rates of exchanges had valued the dollar appreciably higher than its actual value on domestic US markets.* Therefore, the purchasing power of the N dollar was markedly higher than that of the I dollar. However, the ICP also showed that the so-called exchange rate distortion is the higher the lower the development level of a given country. In the following table the exchange rate deviation ratios are shown for 1970. The 16 countries are in a sequence corresponding the level of per capita GDP. (See p. 341)

The economic background of this behaviour of the deviation is actually the following: international trade works towards levelling the prices of competitive commodities, while in the economically more advanced countries the productivity of labour and also wages are usually higher. However, owing to internal factor mobility, the higher wages have to be paid also in the non-competitive – mostly service – sectors, although in these sectors the productivity differences by countries are not so high. Therefore, the level of these non-competitive prices is usually higher than that of the competitive goods. But the exchange rates are influenced essentially only by the international relative prices of the competitive goods.

From this the most important point for us is now the functional relationship between the N dollar scale and the I dollar scale. This functional relationship is used also by the K–H–S study when it makes the exchange rate deviation index the most

*At present the dollar is usually not overvalued vs. the currencies of the developed countries but is overvalued (though less than earlier) against the currencies of developing countries.

Ratio of actual purchasing power relative to the dollar and of the official rate of exchange

Country	Ratio
United States	1.00
Federal Republic of Germany	1.22
France	1.26
Belgium	1.31
The Netherlands	1.35
United Kingdom	1.39
Japan	1.49
Italy	1.37
Hungary	1.98
Iran	2.42
Malaysia	2.36
Columbia	2.50
South Korea	2.24
The Philippines	3.11
India	3.34
Kenya	2.12

important variable of this function.* Then, substituting the nominal GDPs of the other countries not covered by the ICP into the function established on the basis of the points of 16 countries, an estimate is obtained for the GDP of these countries expressed in I dollars.

The IEP compares 38 countries and the K–H–S project compares more than one hundred, but only 32 countries are figuring in both comparisons. Collation of the two comparisons is limited to these 32 countries lest the results of the analysis should be influenced by the difference of coverage.**

Table 1 presents the results of the two computations in both kinds of dollars and the indexes relative to Spain. The role of the reference country is bestowed to Spain for the sake of convenience: according to the K–H–S scale this country is the nearest to the average.

The differences in order of magnitude between the two types of measurement are discernible at first glance. The IEP data are, as a rule, smaller, expressing that the two kinds of units of measurement are different on the two scales.

*The other variables are irrevelant for our purposes and have little importance in the function anyway. The K–H–S study uses altogether three variables ($k = 3$): beside the nominal GDP the so-called "openness" indicator (ratio of export plus import to GDP) and the so-called price isolation indicator (mean squared difference for the years 1963–70 between the county's GDP implicit deflator and a world average GDP implicit deflator).

**From the socialist countries only Hungary is included in the K–H–S study, thus, the other socialist countries cannot be considered in the collation of the two comparisons.

Table 1
Per capita GDP in 1970

Country	According to		Index: Spain = 100	
	K–H–S	IEP		
	in I dollars	in N dollars		
	y_1	y_2	K–H–S	IEP
United States of America	4790	4540	252	417
Sweden	4147	3470	218	318
Canada	3924	3250	206	298
Federal Republic of Germany	3747	2520	197	231
Denmark	3518	2700	185	248
France	3504	2140	184	196
Switzerland	3468	2650	182	243
Belgium	3449	2380	181	218
Australia	3335	3060	175	281
The Netherlands	3289	2720	173	250
Norway	3276	2600	172	239
New-Zealand	3093	2700	162	248
United Kingdom	3039	2690	160	247
Finland	3022	2130	159	195
Japan	2835	1930	149	177
Israel	2694	1430	141	131
Austria	2495	2060	131	189
Italy	2356	1480	124	136
Ireland	2134	1570	112	144
Argentine	2013	1260	106	116
Hungary	1910	1050	100	96
Spain	1904	1090	100	100
Greece	1853	800	97	73
Chile	1473	640	77	59
South-African Republic	1297	870	68	80
Portugal	1297	750	68	69
Mexico	1243	580	65	53
Brasil	1101	510	58	47
Turkey	881	280	46	26
Peru	781	390	41	36
Egypt	514	300	27	28
India	331	110	17	10
Average*	1939	1442	–	–
Dispersion*	1630	1540	–	–

*Weighted with the population of the countries.

The ratio of the two averages is 1.344 which could be taken as the average "purchasing power ratio" of the I dollar to the N dollar in the year 1970.* In the variance (relative dispersion) – 0.841 according to the K–H–S study and 1.068 according to the IEP comparison – the "expansion" of the IEP scale against the K–H–S scale is already expressed. Furthermore, it is probable – though it cannot be traced with parameters – that the zero point of the IEP scale is higher, and this is also expressed in expansion. This is striking in the comparison of the two index series.

Of course there are many other differences between the two data series with respect to the countries, for example the order of the countries is somewhat different. These cannot be explained with scale deviations any longer. The purpose of our computation is just to confront the two results from the scale aspect on the one hand and rid them from scale effects on the other. Towards this end standardization is carried out firs according to operation L on the basis of formulae (1) and (2), respectively. The scale is thereby neutralized and both data series are "deprived" of their own metrics. (See Table 2, p. 344)

In this "neutral" metrics neither data series seem to be more "expanded' ' than the other one, and there are no scale differences in the deviations of results either. Here it is already shown that certain countries are uprated by the IEP study (e.g. the United States, Australia, the United Kingdom, Brazil) while others are uprated by the K–H–S project (e.g. the Federal Republic of Germany, France, Belgium, Japan, Italy, Hungary, Greece). But the extent of these differences is not felt, and much less are the proportions between the countries. Therefore we revert to the dollar scale by means of operation L^{-1} ((3) and (4), resp.). There are several alternative ways for doing that: the common scale can be either y_1 or y_2 (or any third version). The numerical data will be of course different, depending on the selected solution, but from the viewpoint of collating the methods of comparison it is indifferent which one is the common scale. Let us now choose the K–H–S scale, that is, let us transpose the IEP results (y_2) to this y_1 scale ((5) and (8), resp.). In Table 3 the original K–H–S results are compared with the IEP results measured on the same scale (y_2). (See Table 3, p. 345)

After the aforesaid it will not be surprising that the two data series are much more similar than before the scale transposition. However, the overall similarity makes the differences even more apparent which are no longer the outcomes of measurement on different scales but which remain differences also when measured on the same scale. These are the following:

– The IEP study puts the level of the United States appreciably higher than the K–H–S project, i.e., it finds the gap between the most advanced economy and the other countries wider;

– in the about 10-country group of advanced western countries, with GDPs between 3000 to 3800 dollars per capita, rather big deviations are shown by the two computations which becomes also manifest in their highly different rankings;

*The obtained index is practically in agreement with the result of an estimation made in another way [21].

Table 2
Standardized values of per capita GDP

Country	According to	
	K–H–S	IEP
	(z_1)	(z_2)
United States	1.748	2.012
Sweden	1.354	1.317
Canada	1.217	1.174
Federal Republic of Germany	1.109	0.700
Denmark	0.968	0.817
France	0.960	0.453
Switzerland	0.937	0.784
Belgium	0.926	0.609
Australia	0.856	1.051
The Netherlands	0.828	0.830
Norway	0.820	0.752
New-Zealand	0.708	0.817
United Kingdom	0.674	0.810
Finland	0.664	0.447
Japan	0.549	0.317
Israel	0.463	–0.008
Austria	0.341	0.401
Italy	0.256	0.025
Ireland	0.120	0.083
Argentine	0.045	–0.118
Hungary	0.064	–0.255
Spain	–0.021	–0.229
Greece	–0.053	–0.417
Chile	–0.286	–0.521
South-African Republic	–0.394	–0.371
Portugal	–0.394	–0.449
Mexico	–0.427	–0.560
Brazil	–0.514	–0.005
Turkey	–0.649	–0.755
Peru	–0.710	–0.683
Egypt	–0.874	–0.742
India	–0.986	–0.865

– in the 1400–2400 dollar zone (here belongs Hungary) K–H–S estimates of almost every country are higher than those of the IEP;

– the countries below 800 dollars per capita GDP show higher values according to the IEP (by the way, these have been shifted the most by the scale transposition).*

*This shift, that is, that the IEP values for these countries are on the K–H–S scale multiples of the values measured on the own (IEP) scale suggest that IEP's zero point is higher.

Table 3

Per capita GDP in 1970 according to common measuring scale

Country	According to		According to	
	K–H–S	IEP on K–H–S scale	K–H–S	IEP on K–H–S scale
	in I dollars		Index: Spain = 100	
	y_1	y_2 [1]		
United States	4790	5221	252	333
Sweden	4147	4087	218	261
Canada	3924	3854	206	246
Federal Republic of Germany	3747	3081	197	197
Denmark	3518	3272	185	209
France	3504	2678	184	171
Switzerland	3468	3218	182	205
Belgium	3449	2932	181	187
Australia	3335	3653	175	233
The Netherlands	3289	3293	173	210
Norway	3276	3166	172	202
New-Zealand	3093	3272	162	209
United Kingdom	3039	3260	160	208
Finland	3022	2668	159	170
Japan	2835	2456	149	157
Israel	2694	1926	141	123
Austria	2495	2593	131	166
Italy	2356	1980	124	126
Ireland	2134	2074	112	132
Argentine	2013	1747	106	112
Hungary	1910	1523	100	97
Spain	1904	1566	100	100
Greece	1853	1259	97	80
Chile	1473	1089	77	70
South-African Republic	1297	1344	68	85
Portugal	1297	1207	68	77
Mexico	1243	1026	65	66
Brazil	1101	952	58	61
Turkey	881	708	46	45
Peru	781	825	41	53
Egypt	514	729	27	47
India	331	528	17	34

The study of the problem which of these deviations – and to what extent – derive from the differences in the concept of the two approaches and which can be reduced to the deficient solutions or errors of one method or the other (i.e. whether these are of the B or C type ones from the types of deviations presented earlier), is beyond the scope of this treatise.

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ШКАЛЫ ИЗМЕРЕНИЯ В МЕЖДУНАРОДНЫХ СОПОСТАВЛЕНИЯХ

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Авторы сопоставляют полученные различными методами и отличающиеся друг от друга результаты международных сравнений уровней экономического развития и констатируют наличие трех видов причин расхождений: 1. различие в шкалах измерений; 2. различие в предмете измерений; 3. ошибки, искажения в методе или использованном числовом материале.

Часть международных сравнений ставит в фокус сопоставления валовой внутренний продукт, приходящийся на душу населения, в качестве одного из важнейших показателей национальных счетов. Однако другие сравнения выходят за этот предел и считают валовой внутренний продукт только средством, измеримой категорией для количественного определения таких более абстрактных категорий, как например, уровень экономического развития или общественно-экономическое благосостояние. Авторы приводят обзор вопросов и возможностей статистического приближения этих двух понятий.

В отличие от шкалы технических приборов измерительная шкала международных сравнений не отражается явным образом в результатах сравнения. Видимые данные являются лишь отдельными измерительными точками на шкале, на основании которых – а также методов сравнения – следует сделать выводы относительно шкалы. Теоретически каждая шкала определяется единицей измерения и точкой.

Шкальные различия сравнений можно устранить стандартизацией. Авторы наряду с операцией стандартизации интерпретируют ее инверсную форму. Таким образом стандартизованные величины становятся пригодными для интерпретации и выражения в индексной форме. Измеренный на данной шкале ряд результатов можно перемещать из одной шкалы в другую путем стандартизации и инверсной стандартизации параметрами другой шкалы.

Авторы демонстрируют практические вопросы перемещения шкалы на примере двух фактически выполненных сравнений. Для этого они используют выраженные в долларах величины средне душевого валового внутреннего продукта на основании сравнения, проведенного в Венгрии и в США. После стандартизации и инверсной стандартизации результаты двух измерений значительно приближаются друг к другу, и вырисовываются те расхождения, которые обясняются различной интерпретацией уровня развития или неточностями в методологии.

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FUNDAMENTAL ECONOMIC INTERRELATIONS UNDERLYING THE DEVELOPMENT OF THE WORLD MARKET PRICES OF PRIMARY ENERGY

The study explains the internal relations between the crude oil prices and the costs of coal extraction. Under the effect of technical progress the world market for primary energy is becoming increasingly homogeneous. This is a consequence of the fact that various kinds of primary energy may be substituted for each other.

The authors also search for an economically justified price for energy. Centre of the energy world market price is determined by the producer whose inputs are highest but whose products are still needed in substantial quantities. They find this marginal producer in the Ruhr area and state that it is the extraction costs of coal mined there that is also the highest price attainable for imported oil – considering, of course, the differences in utility value – in terms of per calory price.

The explosion-like rise in the price of oil has had two main causes: 1. the market price of oil lagged much behind the price centre computed for the aggregate of kinds of primary energy; 2. the price centre (the cost of coal extraction) increased considerably too.

Up to the 1970 there was little or no interest towards factors forming or influencing the development of the world market prices of primary energy. The given – and low – world market prices of primary energy, among them that of crude oil, were taken as assured as well as permanent by consumers and also by the producing and trading corporations. It is easy to understand why: everybody is critical only with such prices that are conflicting with his own interests. Hungary, in this case, was no exception. As early as in 1964, in one of the first studies of the National Technical Development Board on the Adriatic pipeline, we started from that very assumption, since the price of $16 per ton of crude oil (about $2,2/barrel CIF Adriatic port) had been an obvious choice for the long term in those years.

Since energy prices took a turn unfavourable for us, general interest for forces influencing prices has suddenly grown. Articles and books on oil prices and the world market of oil are mushrooming. In these works, however, we may often meet with a superficial treatment of these phenomena, and under the effect of daily events, a more deep-reaching analysis is usually missing. This is what leads to such statements as:

- the old oil prices were kept on an *artificially low* level and brought *unduly low revenues* for producers;
- the present oil prices are *exaggeratedly high,* because *their rise was overdone*;
- a certain extent of rise in oil prices was justified, but by no means such a *sudden steep rise*;
- the rise in prices was caused by the "policy of OPEC"; and so forth . . .

There is, of course, a certain amount of truth in these statements, but they usually reflect only one aspect of the whole truth; moreover, the statements are too general and of a qualitative character.

Today we need more: the most exact quantification possible by describing the relationship between causes and effects; without this, no meaningful lesson can be drawn for the future. That is to say, we ought to be able to define numerically the specific size of the qualitatively differing measures, such as exactly at what level the price is to be considered "artificially low", or "exaggeratedly high". Also the role of the OPEC ought to be realistically appreciated, e.g. by assuming, that if the OPEC had not existed at all – whether some other factor could or could not have caused a similar rise in prices. And, if we come to the conclusion that it is the OPEC alone that could cause such a significant rise in prices, the question still remains to be answered: what circumstances have enabled the OPEC to do so?

By now the turmoil on the world market of energy did subside and we may have such perspective in which to study, through unbiased scientific approach, the fundamental interrelations causing or permitting the actual events as well as the motivating forces working in the long run. These must be separated from the short-term phenomena, since the correct energy policy of a country must rely mainly on factors asserting themselves in the long run.

In examining the interrelations of international prices we should start from the following principles:

– on one market, at one time, and for one product only one price can be valid for a longer period of time;

– in the extractive sectors this price is determined by the inputs of the marginal producer, thereby a "differential rent" accumulates for the other producers.

These are fundamental theorems of Marxist political economy. Some seem to forget, however, that the second theorem holds true not only on the world market of agricultural products, but also on that of mining products.

This negligence might perhaps be excused because Marx always illustrated the price-determing role of the marginal producer with examples taken from the sphere of agricultural production. According to him, the price of wheat will be determined – on whichever kind of land it was grown – by the costs incurred in the course of production on the worst land still used (still wanted by the market), without regard to the fact that the production cost of wheat grown on better lands is lower. [1]

However, in the "introduction" to the description of land rent he stresses that:

"(Or, instead of agriculture, we can use mining because the laws are the same for both.) [2]

Such references are made several times also further on. The most definite one is the following:

"Mining rent proper is determined in the same way as agricultural rent." [3]

On the world market of primary energies prices develop clearly in accordance with the above-mentioned Marxian theorems, *only it has to be recognized that there exists a homogeneous world market for energy and one has to find out, which is the producer whose price of production constitutes the price centre* (around which the market prices of the different primary energies fluctuate – under a host of indirect and direct influences). The short-term and often seemingly irrational changes in market prices must not mislead us; behind the market prices fluctuating in the short term there lies a definite price centre.

Traders' attention is, of course, always centered on the current market price. But a long-term industrial development and energy policy must be based on the lasting, long-term tendencies dictated by the logic of the deeper-lying laws of motion of the world market, and not on the interpretation of the fever curve of stock exchange quotations.

Homogeneity of the world market of primary energies

In the following we wish to prove that, as a consequence of technological developments in the past 30–40 years, the *mutual substitutability of the different primary energies has become decisive* in the production, transport, transformation, and consumption of primary energy. This mutual substitutability is expected to become even more complete as a result of further technical progress.

Of course, this statement must not be interpreted in extreme terms. A certain degree of substitution has always existed among the different primary energies, even when only kerosene was extracted from crude oil for the purpose of lighting (and petrol was simply dumped), since lighting gas could also be produced from coal. Yet these substitution relations were not of decisive importance in the beginning and, therefore, the markets of the different primary energies were quite clearly separated. This separation was further enhanced by certain effects of earlier technological developments – about 50–100 years ago – on the consumption side (e.g. the invention of the internal combustion engine), as well as by the relatively slow technological development of energy production, and the underdeveloped state of its transport. From this state we have arrived gradually, without sudden leaps, to the point where mass substitution among the various primary energies has become possible technically as well as economically. This statement of ours has to be proven, of course, since there are many who consider that substitution possibilities among primary energies are constrained between much too narow limits in time and space.

Such views are e.g. the following:

– the market of coking coals is fairly separated from that of coals used for generating energy (boiler coals);

– coals for energy have a closer substitution relationship only with fuel oil, while petrol and diesel oil are directly irreplaceable by coal;

– coals for energy are usually of poor quality, first of all the lignites, thus they have but local markets, while their importance on the world market is negligible.

Substitution relationship of coking coals

In spite of the fact that coking coal is considered in general as a relatively scarce resource, about *one-quarter of the total output* is not used today for coking but *for heating*. The rate of coking coal used for heating is increasing: it is expected to surpass one–third of the total by 1985 – at that time 310 million tons will be burnt out of 880 million tons. [4]

Coking coals are used for generation of energy mainly in the power stations of the United States: for reasons of environmental protection. From the 700 million tons of hard coal expectably used in the power stations of the U.S. by 1985 about 260 million tons will be coking coal poor in sulphur and ash. The use of coking coal in power stations is less in volume but much higher in proportions in the Federal Republic of Germany: 30 million tons from a total of 35 million tons. The use of coking coal in power stations is quite considerable also in the United Kingdom.

We think that the main cause for this trend is that coking coal can be fairly easily substituted for some of the more expensive oil products, (should their prices continue to rise). Besides, the above-mentioned three countries – and perhaps many others – are trying hard to reduce their dependence on foreign energy supplies by an increased use of their domestic coking coal. What is more, the boosting of domestic coal production seems to be a suitable tool for accelerating economic growth and for reducing unemployment at the same breath on a fairly large scale.

In the light of what has been said, it is understandable that if there is a shortage of coking coal on the world market – e.g. as a consequence of a possible boom in steel production – its repercussions may reach also the market of coals used in power generation. The first ominous symptom of the present energy crisis was exactly this, as early as 1969. We have to emphasize that it was merely its first symptom but not its cause. It was a symptom comparable to the first cracks in the wall of a house or a dam before its collapse. In both cases it is not the crack itself that is dangerous, but what it signals.

But in 1969 it was thought that the problem was only a temporary shortage in coking coal and the concomitant rise in its price, all caused by the boom on the steel market. But then not only did not the shortage and the rise in prices disappear, but *they spread over to the market of the regular heating coals,* too.* Between 1968 and 1970 the FOB coal prices of the U.S. – by far the largest coal exporter of the world market – had gone up by about 70 per cent and had been fluctuating around that level until the first rise of oil prices followed in 1971–1972. (See *Figure 1.*) It may also be attributed to the increasing use of coking coal for power generation that its world market price remained surprisingly steady and was even rising at the time of the great steel depression of 1975.

There are two reasons for the spreading use of coking coal for power generation:

– on the energetics side: regulations of environmental protection (restriction of permissible pollution levels of sulphur, flue-ash and ash),

*inclusive of boiler fuel, household coal and gas coal

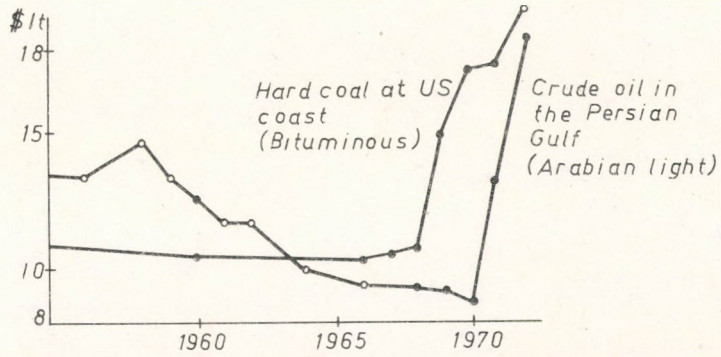

Fig. 1. Changes in the price of hard coal and crude oil. (Real market prices)
• = black point = reliable data of identical content (the rest are proportionately estimated)

– on the coking-process side: the partial substitution of blast-furnace coke by fuel oil and natural gas; the massive application of oxygen intake; the spreading of other coke saving technologies (e.g. increasing the size of blast furnaces as well as the use of recently developed methods for the production of foundry coke from coals earlier assumed to be suited for power generation only).

Substitution relationship between boiler fuel coals and crude oil derivatives

It is well-known that in the United States and other advanced countries 60–70 per cent of the consumed total of oil products consists of refined goods of engine fuel quality (gasoline and light oils, so-called "white spirits"). Many are of the opinion that engine fuels are simply impossible to replace by coal, since internal combustion engines cannot be run on coal. However, there are countries where about 60 per cent of the "white spirits" retailed consists of diesel fuel partly used also for home heating. This is the situation for instance in the two largest coal producing advanced capitalist countries of the Continent: West Germany and France. The aggregate share of diesel fuel used for heating and of the residual fuel oil – products not used for internal combustion engines – amounts to about 60–70 per cent, within the total volume of oil products consumed; while the engine fuels represent only about 25 per cent. The remaining 5–15 per cent of crude oil products are used for purposes other than energy; namely lubricating oil, bitumen, and naphtha which is used for gas-making and as petrochemical feedstock. In a few Hungarian towns, too, municipal gas – similar to what can be obtained from coal – has been produced by the conversion process of petrol. Just before the steep rise in oil prices a few power stations in Japan used naphtha instead of fuel oil, partly with a view to greater efficiency and partly to better

environmental protection. (It must be mentioned at this point that motor gasoline is made from naphtha, i.e. straight-run petrol obtained in the firts phase of the distillation.) It depends on economic – and specifically on investment – decisions, how much naphtha will be further processed into motor gasoline, and how much is left for the chemical industry, gas-manufacturing, etc.)

When oil was still relatively cheap, on the energy market not only fuel oil, but also diesel oil (usually to a larger extent) and petrol (to a smaller extent) were directly competing with coal. In this competition up to 1973 these oil products squeezed out coal. Now, since relative prices have changed (coal has become relatively cheaper), coal may regain its position in several fields. What is more, about 75 per cent of oil products – computed on a world average – is relatively easy to substitute by coal (save environmental protection regulations).

The ratios and the fields of application where direct competition is possible will probably be further augmented by the trends in current technological developments, such as the increasing efforts towards the gasification and liquefaction of hard and brown coals. The latter has been perfectly developed technologically on an industrial scale since the 1930s, only economically it has not yet reached the level of competitiveness (except where coal is extremely cheap). At present petrol (motor-fuel) is produced from coal on an industrial scale – with government subsidies – only in the Republic of South Africa (using the "Sasol" method which is an improvement upon the original German Bergius and the Fischer–Tropsch methods). There are, however, several other advanced countries – first of all the U.S. – which are intensively engaged in rendering the liquefaction of coal profitable; this is further stimulated by their fear from an open-ended rise in oil prices and from a possible repetition of an oil embargo. In order that the final product should be competitive, the per calory cost of the coal to be liquefied must not surpass one-third or one-quarter of the per calory cost of the oil product. [5]

The product of coal gasification today is generally the substitute natural gas (SNG), as distinct from the traditional gas production process whose products are municipal gas and household coke. There are today several processes for coal gasification, among them one that for gasifying coal uses the very high temperatures yielded by a certain type of atomic reactor (HTR), and this is said to be much more economical than other processes. Large-scale manufacturing of SNG is so well-prepared in the U.S. that, by the time their natural gas resources will have been exhausted, they expect to fill the existing system of pipes with gas produced from coal. In 10–15 years from now they wish to gasify about 300 million tons of coal each year.

The next step leads to the problem of the broader use of coals and lignites of low heating value. There are some procedures in the course of development aimed at the production of SNG from lignite. Yet, apart from this, lignites obtained cheaply, mostly through open-cast mining, are already affecting – through electric energy production – the energy markets on a larger geographic scale. Lignite mining in West Germany (lignite is called "brown coal" there but, considering its average calorific value of 1900 kcal/kg it

is nearer to the Hungarian concept of "lignite") did not fall considerably even at the time of the coal crisis, exactly because it helped to substitute fuel oil or hard coal, at a lower per calory cost. In the West German press references are regularly made to the importance of lignite mining for saving oil and foreign exchange. The West German lignite output corresponds in heat-value to about 25 million tons of oil, which is of a value of about $2 thousand million. This is an amount that makes some dents on the world market of primary energies. It is in this awareness that the further development of lignite mining is carried on, especially in the Rhineland. If we consider also the 250 million tons of lignite produced (with a heat-value corresponding to 70 million tons of oil) by the German Democratic Republic – the greatest producer of the world – upon which 70 per cent of the energy supply of the country is based, as well as the similar size of brown coal and lignite produced by the Soviet Union which helps it to export larger quantities of other primary energies (such as crude oil, natural gas, fuel oil), the world market importance of lignite resources will become obvious.

Today – in the age of international electric grids, crude oil, oil product and natural gas pipe-lines – a primary energy need not appear physically in international trade in order to obtain a role in shaping supply and demand on the world market. Even if it does not participate directly in foreign trade, it has an effect on international trade relations.

In addition to the above reviewed facts, there are several developments under way that exert their effect toward increasing the homogeneity of the world market of sources of energy. Such is e.g. the transport of coal-slush by long-distance pipe-lines (one is planned between Katowice and Trieste); the development of the electric car; the gaining ground of central heating systems which may use different fuels; district heating; production of new liquid, solid and gaseous engine fuels (hydrogen, alcohol, nitrates, etc.) for internal combustion and reactive (rocket) engines, etc.

Interpretation of the homogeneity of the world market of energy

The homogeneity of the world market of energy is interpreted, *from the aspect of the products,* as the trade in which the consumers of the different primary energies buy products prepared or refined for direct utilization. For obtaining energy, energy consumers are supposed to make their choices not so much between pit coal, crude oil, natural gas or uranium ore, but basically from among certain processed (selected, categorized, washed, floated, etc.) coals, various oil derivatives (petrol, diesel oil, fuel oil, propane, butane, etc.), natural gas components (methane, propane, butane, etc.) and uranium ore concentrate (yellow coke). It is first of all from their point of view that we can speak about a uniform energy market, since buyers make their choice from among these and the secondary products (SNG, electric energy) on the energy market. The market relations of the original (primary) mineral products develop under the influence of the market of processed goods: the homogeneity of the market of fossile energy asserts itself indirectly, as a function of the processed goods. When, for the sake of simplicity, in

this article we speak about coal and oil, thereby we always mean the aggregate of their products rendered suitable for utilization.

From the aspect of price, the homogeneity of the world market of energy is understood in a way that the prices of the various processed, refined, etc. primary energies related to some general unit of measurement of energy e.g. gigacalory (Gcal = 10^6 kcal, about the heat-value of 0,1 ton of crude oil) are in mutual relationship according to quality and use-value, inclusive also of transport costs and losses incurred in the process. That is, the homogeneity of the market of primary energies *does not mean a kind of uniform $/Gcal price.* At different places of the world processed primary energies may have different prices. Yet these prices scatter – according to quality, corrected for transport-costs, and of course, in their tendency – closely around the same price centre.

The assertion of this tendency takes place obviously in time, and the time requirements of the process depend on the production elasticity of the primary energies, as well as on the utilization elasticity on the part of consumers. That is to say, on the time needed for the establishment of new and/or the conversion of existing equipment of the various energy producers and consumers. Today the economic horizon for a new coal-mine, a new atomic power-station or a new hydrocarbon producing field spans 10–30 years from the feasibility study phase to the full exploitation or economical operation and from there to technical obsolescence. This time requirement shows a rising tendency, partly because of growing plant sizes, the increasing depth of pits and prospecting holes, and the excessive time requirements of scientific (e.g. nuclear) research. Therefore, the homogeneity of the world market of energy must be interpreted in a way that, because of the changed technical and economic conditions, lasting deviations from the price centre may regularly occur. In some cases these individual effects will be present even as long as 20–30 years. In addition, the considerable impacts of non-economic (political, military) forces will also entail such deviations. Nevertheless the fundamental determinants of price formation are always the long-term economic regularities.

The marginal producer on the world energy market

If the world market of primary energies is assumed to be a homogeneous one, the price centre of this market will be determined – in accordance with the quoted Marxian theorems – by the primary energy producer working with the least favourable inputs, but whose products are still needed on the world market of energy.

But who is this marginal producer? In this context it has been long believed that the world market price of oil is determined by the production costs of oil produced in the United States at the highest cost, i.e. its price of production. Most recently the opinion has been formed that it is the production costs of oil extracted from below the North Sea and from Alaska that are the price determinants. However, the truth is that there has never been, anywhere, such oil production of any important volume, whose production cost would not have been significantly lower than the theoretical world market price of

Table 1
Production costs of the main oil exporting countries and average oil prices in 1960–1961
($/ton)

Country	Production cost	Actual export price
Kuwait	1.45	11.63
Saudi Arabia	1.48	13.32
Iran	1.48	13.17
Iraq	1.49	12.95
Venezuela	4.47	20.85
Algeria	5.72	20.20
Lybia	4.55	16.82
United States	11.20	20.80

oil. That is to say, every oil producer – even the one producing at the highest costs by oil industry standards – earns a substantial rental income in addition to the average profit and the technical extraprofit he may be reaping.

Of course, it is not easy to support our statement with authentic data, since oil producing firms usually handle the production costs of their individual operations as a closely guarded business secret.

It was Enrico *Mattei,* the most successful opponent of the large American and British-Dutch oil companies (who, at the peak of his successes, fell victim to an accident of his private aeroplane in 1962, for so far unaccountable reasons), one-time president of the Italian National Hydrocarbon Company (ENI) who first revealed to the public that the production costs of crude oil in the most important exporting countries amounted only to 12–20 per cent of (the then so low) world market prices; the profit of large international oil monopolies amounted to about 30–40 per cent, and the taxes and royalty paid by oil companies in the different producer and consumer countries were as high as 40–50 per cent. [6] From the latter, taxes and royalty paid to the governments of producer countries had only a small part in 1962, the greater part was made up of the customs duties and tax revenues of the consumer countries.

Soon after this statement, containing approximate data, the American Petroleum Institute (API) published a statement of the production costs of the biggest crude oil exporting countries consisting of various laundered tax accounts and company reports. In this statement the oil produced in the United States – at the highest production costs – was not included; such data are to be found in Professor *Adelman's* study published in 1966 and drawn up in a similar way. [7] Relying upon these two sources we present the oil production costs and prices of 1960–1961 in Table 1.

It may be seen that the production costs of the country producing at the highest costs was still far below the export prices. From other sources it was learnt that in the next ten years the costs of oil production did not change much in these countries, except for the

United States, and the price too, stayed at the same level, or even fell a little. The production costs of oil in the United States rose to $15,70 per ton in 1971. [8]

The primary reason for rising production costs of American producers is the low level of the yearly yields per oil-well. In 1971 this was 1 thousand ton p.a. in the United States, as opposed to 20 thousand tons in Venezuela, 73 thousand tons in Algeria, and to the average of 275 thousand tons in the Middle East, where e.g. the Iranian yield was 800 thousand tons per well, per year.

At that time, however, the United States changed from net exporter into net importer of crude oil and products, her main oil supplier being Venezuela. The price of Venezuelan oil inclusive of transport costs can be estimated at $22 per ton at that time. Norvegian oil production on the Ekofisk field of the North-Sea started in 1971 at an estimated production cost of $4,4 per ton. [9]

Thus the main European production field, considered to be the most expensive one, has guaranteed already at the start a large pre-tax profit. (The primary reason for the relatively low production cost on the North Sea was the large well capacity: 600 thousand ton/year, or about 12000 bpd). The profit earned on the oil-wells of the North-Sea is considerable even today;* production costs vary between $20–70 per ton, while price floats above $100/ton. [10]

In any case, in the early 1970s it was the production costs of the United States oil that came nearest to the world market price. Pre-tax profit amounted there "only" to about 40 per cent of the production costs, which oil producing companies felt to be too modest as compared to the 700–800 per cent price/cost ratio realizable in the Middle-East. No wonder that it was not in their own country – where the oil-fields are nearing exhaustion, anyway – that U.S. oil companies tried to develop oil production on a larger scale. (Although the production cost of oil is the highest in the United States – among countries producing considerable quantities – the American industrial, transporting, and private consumer received petrol and other primary energies much cheaper than their European counterparts or competitors because of the considerably lower turnover taxes and direct taxes included in the prices of the products sold.)

Thus the world market price of oil has so far always remained much above the production costs, even of the oil-field working at the highest cost – assuming it produced a volume significant on the world market level. This is most generally explained by *the monopolized state of the oil market,* referring to the international oil cartel called the "Seven Sisters" whose close cooperation was first established in 1928, in the so-called Achnacarry Castle agreement between Walter *Teagle* of EXXON, Henry *Deterding* of Shell and John *Cadman* of the BP (then Anglo–Persian Co.). Officially, the large international oil companies, the majority of which is American, did not unite in a trust because of the prohibitive laws of the United States.

In fact in the wake of World War II, the role of this cartel on the oil market has been fast decreasing: in 1952 it had still controlled nine-tenths of production and 75 per

*at the time of writing, i.e. in 1977–78

cent of processing and sales; by 1970 these proportions fell to 56–57 per cent. As regards the whole energy market, the oil cartel enjoyed even less of a monopolistic position, since in various fields other primary energies – not in their hands – could be used as well. (Nevertheless, they have been trying hard to extend their activities to other fields of energy production, but it is impossible for them to create a monopolistic position if only on account of the increasing role of the emerging developing and socialist countries.)

It is not the "quasi-monopolistic" position of the international oil cartel that guaranteed – for every oil-producing company, even for those outside the cartel – prices much above the production costs of oil produced even at the highest costs; but the fact that the energy market always needed the other great primary energy: i.e. coal, which has less favourable qualities than oil or natural gas, moreover, it could be produced only at higher costs.

But coal is not expensive everywhere – it is exactly in the United States where it had been produced for a considerable time almost at the lowest costs – so it was in Western Europe and Japan, where imported oil as well as coal from the United States were most needed. Oil and coal-exporters – as a rule – state the FOB price of primary energies delivered to European ports by "countdown". Its basis is the price of the Rhineland black coal which the West-European industry needs constantly and in great volumes in spite of its high production cost and subsidized, but still relatively high price. Starting from this point, every coal-exporter of the world asks a price that is near the per calory price of the Rhineland coal. Similarly, every oil exporter asks such prices for oil and its derivatives (particularly fuel oils) – taking into consideration their higher use-value – as are in harmony with the price of coal on sale there.

It is an empirical fact that, in relatively balanced situations of the world market of energy, the caloric price of crude oil ($/Gcal), delivered to a major West European port, fluctuates around the caloric price of coking coal on sale there from local production or imports. Similarly, the price of fuel oil obtained from West-European oil-refineries and that of hard coals to be used for electricity production on sale there also fluctuates, of course, taking into consideration the differences in use-value. (For large modern power stations one calory represents, on average, a 5–10 per cent higher use-value in the form of fuel oil than in that of a good quality coal usable for power generation. From the point of view of other consumers the difference in utility is even larger.)

For the crude oil produced in the Arabian Gulf – whether an oil producing state, or some oil company – the price demanded will be derived by "counting down" from West-European port prices, deducting sea freight and other costs, considering, of course, also the price factors of the quality parameters (sulphuric content, viscosity, bituminous content, etc.) of the oil. This mechanism could be clearly observed at the time of the 1967 closing down of the Suez Canal. The putting out of operation of the Canal increased, on average, West-European freight by $4–5 per ton (in a normal freight market situation), and yet this caused only a transitory and slight rise in European CIF prices, lasting for about a year. The rise in freight charges was mostly compensated by the reduction of FOB prices. What is more, the 1976 re-opening of the Suez Canal

did not render oil cheaper for Europe: the freight saved has disappeared for the European consumer.

Adjustment to such development of CIF consumer port prices is furthered by the fact that the transnational oil companies use – within their integrated system of production, transport, refining and distribution – the so-called transfer-prices of which the price of crude oil is but an internal element (having a major role in the determination of the revenues of the producing states only). By manipulating their internal transfer prices, integrated oil companies can put on the market products of different "costs" and thus of different "prices" in every country, from the same oil, depending on the solvency and taxation system of the country in question.

Numerical conclusions – preliminaries of the "price explosion"

It is a widerspread belief that the rise in crude oil prices was later followed – as a consequence – by the rise in coal prices. As a matter of fact, *the OPEC measures had been preceded by the rise in coal production costs and prices.* The costs of coal production in the advanced industrial countries stayed at a low level until 1967, in spite of the fact that the growth of production had slowed down since 1960, and in 1965 also reduction of output had begun. Yet production costs did not start to rise immediately, because the reduction took place by closing down plants producing at the highest costs and by concentrating on plants that remained in production. However, the reserves for such negative and positive rationalizations began to be exhausted from 1968 on. New coal-mines were generally not opened, and production costs started to rise simultaneously with the gradual *exhaustion* of old mines. Large amounts of money were spent also on the gradual fulfilment of *environmental protection* measures. *Coal-miners demanded higher wages and more social allowances, increased security and better working conditions* – and they succeeded in getting what they demanded. (Important strikes: in the United States in 1968 and 1971, in Great Britain in 1972 and 1974.)

In Table 2 we show the changes in coal production costs in a few important capitalist countries. We do not possess complete time series of each country, but even the deficient series show that the rise in coal production costs started almost simultaneously – between 1967 and 1970 – in the capitalist world, preceding the rise in oil prices by years. Let us take for example the production cost of West German hard coal, which is compared with the price of fuel oil at three different dates. (See Table 3.)

These figures show that the 50 per cent rise in the price of fuel oil up to 1972 was lower than the rise in coal production costs. Thus, the gap between the price of fuel oil and the natural price centre was not decreasing but increasing until 1972; and has only recently come near to the level justified by the production cost of the marginal producer. Since here the coal production costs include also the production

Table 2

Changes in production costs of hard coal in some industrialized countries (1967 = 100)

Year	USA	Federal Republic of Germany	Great Britain	France	Belgium
1960	102	91	88	71	78
1965	96	104	97	92	91
1967	100	100	100	100	100
1970	135	121	129	114	119
1971	153	135	158	117	–
1972	165	162	155	132	–
1975	330	218	336	258	258
in 1975 National currency/ton	17	133.9	16.69	264.8	2867
Dollar/Gcal	2.4	8.0	5.3	9.2	11
Production (million tons)	568	92	129	22	7

N. B.: The index numbers indicate the changes in production costs computed in national currency, thus, they cannot be related to $/Gcal data because of the different changes in rates of exchange.

Table 3

Changes in the production costs of West-German hard-coal mining

Year	Coal cost		Fuel oil price		Fuel oil price in percentage of coal costs
	$/ton	$/Gcal	$/ton	$/Gcal	
1967	15.1	2.3	12	1.2	52
1972	31.2	4.5	16	1.6	36
1975	53.3	8.0	72	7.2	90

costs of cokable coals, it is not important that the price of fuel oil should be above the average production cost of coal: the 90 per cent rate roughly corresponds to the relative use-values.

In the final analysis we may conclude that there were two fundamental causes of the high rise in oil prices:

1. The market price of oil – represented above by the price of fuel oil – had stayed permanently and largely *below the price centre* valid for all sources of energy.

2. The price centre itself rose considerably.

The *simultaneous* assertion of these two fundamental causes was given free way by the energy shortage due to the overheated character of the world economy, and

becoming a chronic issue from 1970 on. Along this way, the conflict of 1973 only worked as an accelerator but not as the *deus ex machina.*

In the 1960s the price of fuel oil – permanently at a low level in comparison with the price of coal – *gave rise to such increasing demand (social need) among coal consumers for fuel oil, as could not be for long satisfied by the oil industry.* In the mid–1960s in Western Europe crude oil as well as coking coal could be bought at $16–17 per ton. At the same time, the price of fuel oil and hard coal usable for power generation (of 6000–7000 kcal/kg) fluctuated around $10–12 per ton. The identical price related to physical weight meant that oil was 20–30 per cent cheaper than coal if related to an identical fuel value. Adding also the difference in efficiency for the average buyer, crude oil or oil derivatives still were 25–40 per cent cheaper than coal.

How could this situation develop? To answer the question would require a separate study. At this point we only wish to point out that the low price of oil and of oil derivatives shifted demand from coal to oil derivatives. Therefore, by 1965 the growth of coal production had gradually slowed down and practically stopped in the capitalist world, and from 1970 on there has been a shortage of oil products. This shortage began to force prices upwards, first slowly and then faster.

We think it is an important lesson from this analysis that the so-called energy crisis did not begin by a *rise in prices, but by a shortage* induced by an overheated world economy and a previously relatively underpriced commodity: oil. It was not the oil producing but the oil consuming countries – first of all the United States – that were the cause of shortage. Most obviously, the oil producing developing countries have exploited the situation, as they learnt how the system of the market economy was working and as they gained enough power to strike with impunity. The production cuts and the oil embargo were purely politically motivated; but together with the price rise they proved to be the most deadly combination to bring down the house of cards that had been built on and prospered by the indiscriminate squandering of the highest quality source of energy and chemical feedstuff mankind has ever known so far. The OPEC cartel has simply used the laws and potentialities of the capitalist market against its very masters, the industrialized consuming countries – but, in the course of events, hitting even harder the other developing, non-oil-producing countries, too.

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ВАЖНЕЙШИЕ ЭКОНОМИЧЕСКИЕ ВЗАИМОСВЯЗИ ФОРМИРОВАНИЯ ЦЕН НА ЭНЕРГОНОСИТЕЛИ НА МИРОВОМ РЫНКЕ

Ф. ЧАГОЛИ – Э.МУРАКЕЗИ

Авторы статьи в поисках объяснения формированию цен энергоносителей на мировом рынке выявляют внутреннюю взаимозависимость между ценами на нефть и издержками по добыче угля. На богатом арсенале примеров они доказывают, что под влиянием технического прогресса мировой рынок энергоносителей становится все более единым, однородным, в тесной взаимозависимости с тем, что различные энергоносители способны взаимозаменять друг друга, и что эта взаимозаменяемость все более усиливается.

Авторы, доказав, что мировой рынок энергоносителей становится все более единым, ищут метод определения экономически обоснованной цены на энергию. По их мнению, центр цен энергии на мировом рынке определяется издержками того продуцента, затраты которого являются наиболее высокими, на продукты которого, однако, на мировом рынке энергии ещё имеется значительный спрос. Этим энергоносителем не может быть нефть, так как даже при самых высоких издержках добычи нефти, её производство приносит огромный доход, носящий характер ренты. Источником этой ренты является обстоятельство, что энергетический рынок всегда нуждался в другом энергоносителе, добываемом дороже нефти (и природного газа) – в угле. Наибольшим рынком угля является Западная Европа, где наблюдается и наибольшая потребность в импортируемой нефти. Поэтому издержками по добыче угля на Руре определяются и верхние лимиты цен на импортируемый уголь и на импортируемую нефть. (Естественно, с учетом различий в их потребительной стоимости.)

Таким образом, «взрыв» цен на нефть произошёл по двум причинам: 1) рыночная цена на нефть в большой мере отстала от центра цен, расчитываемого по совокупности энергоносителей; 2) значительно повысился и центр цен (издержки по добыче угля). В такой ситуации наступило и нарушение рыночного равновесия, в конце концов вынудившего повышение цены на нефть до уровня центра цен.

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M. HEGEDÜS

INTERDEPENDENCIES BETWEEN ENERGY ECONOMY* AND SECTORAL STRUCTURE

The changes in the macro-structure of the national economy of Hungary have tended to result in higher per unit needs for energy. However, as to the trends within the individual sectors, the per unit consumption of the energy in industry and transportation has decreased to a great extent, while agriculture has shown a rapid increase. The aggregate result of these trends is an increased per unit consumption of energy by the national economy as a whole. This also means a failure in reaching the objective set up by our economic policies by which the overall needs for energy should have been moderated through the promotion of less energy-intensive branches, sub-branches and activities.

There are various interdependencies between economic development and the demand for energy. On the one side, parallel with economic development – in general and considering a long period – the energy needs of the economy are growing. On the other side, the natural, geographical and economic conditions of energy economy, in other words, the efficiency of energy production influence the efficiency of the whole economy, the possible directions, extent, and ways of development. These interdependencies hold particularly for the development of industry – the main carrier of modern economic growth – and, following a wide and thorough industrialization, for the whole of the economy. It need not be specially proven that the interdependencies between economic development and the energy situation gain particular importance in an economy where the available sources of energy are relatively scarce, and of rather poor quality, and in a development period in which it is intended to eliminate the existing, quite considerable, economic backwardness through fast economic growth within a historically short period.

This study wishes to trace first of all the interdependencies between energy utilization and long-term sectoral structural movements in Hungary between 1960 and 1976. In consideration of the purpose of the study and the applied method of examination, I could not undertake to investigate every factor affecting more or less one or another aspect of energy utilization. Nor could I undertake to demonstrate the actual effects of changes and measures implemented during the last one or two years, since these effects can hardly be grasped with such methods. At the same time, the character of energy utilization as well as its main character are formed on the national level basically by the structural changes examined in this study, and these cannot be altered drastically. In this respect only a slow and gradual transformation is possible; I think, therefore, that

*For lack of a better term, energy economy is used here to cover the production, exports and imports as well as the different uses, transformation, transportation, etc. of all kinds of energy.

the processes shown could have been hardly modified to any considerable extent by what has happened after 1976, what is more, the development characteristics of the period between 1960–1976 cannot be undone by the last few years.

As a consequence of the close relationship between economic growth and the need for energy, a particularly contradictory situation established itself in the Hungarian economy in the early 1950s. Relying upon international examinations and experiences it may be asserted that the demand for energy of the economy rises suddenly in the period when a dynamic economic growth and the development of a modern economic structure is started. Difficulties of and tensions in energy supply, necessarily accompanying even "normal" development tendencies, were further aggravated in Hungary by a number of circumstances owing partly to natural conditions and partly to economic policy. The aggravating factor following from natural conditions was the *relative scarcity of our energy resources.*

Among the economic policy factors first the extremely fast rise of investment activities is to be stressed (the rate of accumulation in the national income produced doubled within a short period), and, second, the fact that masses of labour were drawn mainly into industry from households and agriculture, and finally, the fundamental direction of development that may be described with the slogan: "the country of iron and steel". This economic policy necessarily sharpened the contradictions between economic growth and energy supply, since it set the development of heavy industry as primary aim within industrialization. The ratio of construction works grew suddenly within investments – and the building materials industry is highly energy-intensive, much more so than the industry on average. The physical distance of manufacturing industry from primary producing sectors, the high import requirements of development and, parallel with it, the dynamically growing volume of the counterbalancing exports, required a faster growth than that of production in the transporting sectors equipped with rather backward technology and these are among the most energy-intensive activities of the economy.

Thus the economic development strategy, *by its choice of development structure,* did not mitigate but rather sharpened the tensions and disproportions necessarily appearing in any case between economic development and the energy situation.

As regards imports, the international situation characterized by the cold war, the economic development strategy of the CMEA countries, etc. did not provide any realistic grounds for a considerable growth of energy imports. Recognizing the close relationship between economic development and the demand for energy, economic policy set the target of a large-scale development of coal-mining. *In spite of the considerable growth, however, the increasing energy requirements of economic development could not be satisfied.* The underlying cause was – beyond the above-mentioned industrial development conception, the insufficient knowledge of interindustry relations and the overambitious targets – that the development of the major energy-consuming sectors *preceded* that of coal-mining and generally of power generation *in time as well as in extent.* In addition to its *inability to create a balanced situation in energy-supply,* and particularly in

satisfying electric power needs, the energy development conception implemented in the early 1950s caused difficulties for energy production also in the long run.

In the late 1950s important changes took place in economic policy generally, and also the long-term strategy of energy economy and economic development underwent a qualitative change: the system of interdependencies and interactions between the two fields were thereafter better observed.

Important interrelations between Hungarian economic development and energy consumption*

The most important interrelation between economic development and energy consumption is the relationship between the value created in the course of production and the energy consumed, i.e. the development of the energy intensity of the economy. The most important relevant indicators of Hungarian economic development between 1950 and 1976 are shown in *Figure 1.*

In the figure the interrelation between fuel consumption and a few indicators representing economic development is clearly seen, and, within fuel consumption, also the different development of electric power consumption, considered to be the most important indicator, becomes conspicuous. In the 25-year period under examination fuel consumption grew somewhat slower than national income, while the rate of electric power consumption exceeded it almost by half: the average yearly growth rate of national income was 5.8 per cent between 1950 and 1976, that of fuel consumption 5.1 per cent, and that of electric power 8.9 per cent. Consumption of the national income grew by yearly 5.2 per cent: it practically coincided with the growth of fuel consumption. Yet development was not even: as a consequence of the economic policy of the 1950s energy consumption increased between 1950 and 1955 much faster than national income or consumption; in 1956–1960 the situation improved: the economy developed with a decreasing per unit energy consumption; and in 1961–1965 again a period of *increasing energy needs* emerged. The development lines of national income and energy consumption intersect somewhere in 1967–1968, indicating that it was in these years that the per unit energy-need of the economy reached the level of 1950. In 1950 0.773 thousand million kcal of energy consumption** was needed to produce 1 million Ft of national income (at unchanged prices of 1968), in 1968 0.754 thousand million kcal and in 1975 0.659 thousand million kcal. If I take for basis the per unit energy requirement of 1951, which

*Partly because of the different character of each field, and partly because of limited data supply the study has a changing time horizon: examination of the general interrelations of economic development and energy consumption as well as a few important indicators cover the period of 1950–1976; that of the characteristic processes of energy consumption in particular sectors and fields, such as industry, agriculture, the population, etc. are discussed in the period of 1960–1976; and finally, the energy consumption of industry and of some of its more important subsectors cover the years 1965–1976.

**1 kilogramme calorie = 39.683 B.T.V. (translator's note)

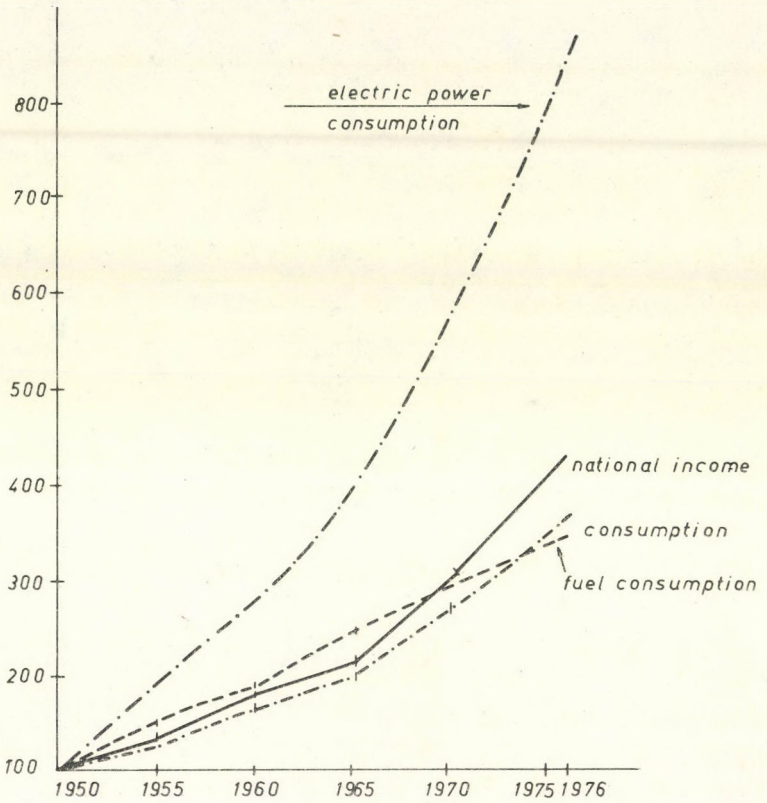

Fig. 1. Development of a few indicators of the economy and energy economy in Hungary between 1950 and 1976

was 0.723 thousand million kcal, the *Hungarian economy reached the level of 1951 in 1971.* As regards the per unit energy needs of consumption, the Hungarian economy went back to the level of 1951 again in 1974–1975.

The development of the actual energy needs of the Hungarian economy is not quite exactly expressed by the above data. The gross energy consumption is obtained, namely, through conversion and addition of the different primary energies according to their calorific content. The efficiency of utilization of each kind of primary energy changes considerably with the place where and the mode how they are used. E.g. the thermal efficiency of coal is estimated to be between 5–15 per cent, of hydrocarbons between 30–45 per cent, and of electric power between 80–90 per cent. Therefore, in case of major structural transformation of primary energies the gross i.e. "apparent" energy consumption and real energy consumption corrected by efficiency indicators may develop in opposite direction. In the Hungarian economy the ratio of solid fuels usable with a lower

efficiency fell back between 1960 and 1976 from 76 to 37 per cent, while imports of electric energy usable at high efficiency rose from 1.8 to 4.6 per cent within total consumption. The favourable structural transformation of primary energies considerably reduced the growth of gross demand for energy of the Hungarian economy: in my opinion the useful energy consumption of the Hungarian economy grew at a rate 20–25 per cent faster than national income in the period under examination (1950–1976), so that a 1 per cent growth of national income was accompanied by 1.20–1.25 per cent actual growth in energy needs.

Such development of energy consumption in the Hungarian economy agrees more or less with what is found in advanced and fast developing countries, and in some respects it shows an even more favourable picture. According to various estimates, the energy elasticity indicator of the gross national product was higher than 1 in most advanced capitalist countries between 1950 and 1974, since a radical structural transformation of primary energies – often more thorough than in Hungary – took place also in advanced capitalist countries. Thus the useful and actual growth of energy consumption falling to 1 per cent growth of gross national product may be estimated at 1.4–1.5 per cent.

The data given related to physical indicators expressed in calories; value indicators, i.e. the energy costs of the production of a unit of national income expressed in forints, developed somewhat differently. The application of value indicators for a longer period presents difficulties, yet a few factors render it likely that value indicators developed somewhat more favourably than those in physical terms:

– the decreasing role of the technically outdated coal mining working under quite bad geological conditions and the growing importance of hydrocarbons most certainly contributed – not only through improved efficiency of energy transformation and utilization but also through more advantageous cost relations – to raising the efficiency of the energy economy;

– imports of relatively favourable price level, and the presumably higher efficiency of sectors producing the counter-balancing exports further improved the value indicators;

– the extensive technical modernization of energy economy may also have contributed to a considerable improvement of efficiency – though this is a disputable assumption.

The gradual and slow reduction of the per unit energy costs of Hungarian economic growth was broken by the oil price "explosion" of 1973. The rise of world market prices to about fourfold directly affected Hungary, since in the average of 1975 and 1976 she imported annually already 16×10^{12} kcal of primary energies for convertible currencies, which amounted to 11–12 per cent of total imports. World market prices made also CMEA prices grow. In 1976 the price index of energy imports from socialist countries was 80–85 per cent higher than in 1974. Considering that the ratio of hydrocarbons in total energy consumption was 55 per cent and that of imports 46 per cent in 1976, the cost level of the Hungarian energy economy was about 38–40 per cent higher in 1976 as a consequence of the rise in oil prices. In my opinion, because of the rise in prices, *the same or rather more energy input is needed for the production of a unit of national in-*

come in the Hungarian economy than twenty-five years ago. Of course, I cannot assert this in full certainty, since also the development of the price index of the counter-balancing exports would have to be examined more thoroughly. As much is certain, however, that, as regards the rationalization of the *energy economy* – structural transformation, imports, technological development – *a considerable part of the economic results achieved in the last 10–15 years have been "lost" in our days because of the steep rise in prices.*

Between 1950 and 1976 an important transformation took place within the energy economy. Between 1950 and 1955 the increasing demand for energy – total energy, electric power – were basically satisfied from home production through increasing coal and crude oil production, while the ratio of imports remained unchanged. In 1956–1960, in accordance with the above-mentioned economic policy aims, the role of imports grew suddenly. In the years 1961–1965 the production of coal and partly also of crude oil and natural gas was again growing at a fast rate. From the late 1960s on the growth rate of domestic coal mining was slowing down, and later a decreasing tendency developed. What is more, in spite of increasing hydrocarbon production the home production of primary energies showed a decreasing tendency even in absolute terms; thus *imports cover the entire increment of the energy needs of the Hungarian economy.* Among the conditions of the Hungarian energy economy the increasing role of imports cannot be separated from the *change* that took place *in the structure of primary energies*: the *overwhelming part of imports is made up of hydrocarbons.* In the years 1960–1976 energy imports grew by 37×10^{12} kcal, while the volume of solid fuels – coke, coal, firewood – stagnates at the level of $20–25 \times 10^{12}$ kcal. *The increasing weight of imports led* – apart from all other factors – *to the gaining ground of hydrocarbons in the Hungarian energy economy.*

The interdependencies between economic growth and the demand for energy are manifold, and in some cases also contradictory. The development of energy-intensity of the Hungarian economy as outlined above was also influenced by a great many factors. One group of these factors is to be found within the energy economy: *they are connected with its technological and economic conditions; the other group of factors* is related to the effect on energy economy of tendencies asserting themselves in the whole of the economy.

The interdependencies between economic development – and within it structural development – and the energy economy have to be examined from two aspects. One is the changes connected with the internal development of the energy economy: on what development conceptions each large-scale development decision was based, to what extent they proved to be reasonable, in what way they are linked to the planned development of the whole economy, etc. The other is *the global development strategy of the economy, with special regard to structural transformation*: to what extent it accounted for the conditions of the Hungarian energy economy and the fact that certain developments are particularly energy-intensive, so that if we wish to satisfy their needs from home production, it can be done but with low efficiency, and a high investment require-

ment is to be reckoned with, or, increasing imports hit the constraints of export expansion. The latter problem has become conspicuous particularly in the last 2–3 years, since the terms of energy imports have grown harder on the world market, as well as in the CMEA. Counter-balancing exports have become definitely more difficult both on the world market and on the Soviet market, and they infer the fulfilment of much higher technological and economic requirements.

The energy-intensity of the economy, the increasing energy needs accompanying economic development are influenced by several factors:

a) On the side of energy economy: the geological and technological conditions of extracting primary energies, the structure of primary energies used, the operational efficiency of the energy sector (partly as related to the preceding, and partly the efficiency of transformation which is depending on technological and economic conditions), import possibilities.

b) On the side of consumption: the sectoral structure of consumption, the technological conditons of the consuming sectors, the effective use of energy consumed.

Several studies have examined in recent years the home development of energy economy, yet I deem it essential to mention a few important circumstances:

– Hungarian and international examinations have made it quite clear that the energy economy – production of primary energies, conversion of energy, transport and trade of energy – has a characteristically "rigid" structure. This rigid structure is demonstrable in several aspects: on the one side, the implementation period of investments and developments is very long: it is estimated at 8–10 years on average; on the other side, the projects are operated for a long time: for 20–30 years; and finally, existing capacities are convertible but with great difficulties and at the price of serious sacrifices. As a consequence of the long operation time of the projects improving the efficiency of energy economy is a slow process. Because of the fast increasing requirements there is generally no possibility to reduce, parallel with introducing new capacities, the production with old and outdated equipments – old and new coexist for a long time. As for sudden massive development, it can be considered as almost totally excluded already on account of the huge capital requirements.

– A large-scale structural transformation of the energy economy infers – exactly because of its organic unity – a corresponding direction and rate of change in the adjoining fields of the economy. The emergence of internal processes of the energy economy depends basically also on the technological and economic development of each sector of the economy, and is determined by the latter.

The main characteristics of the development of the Hungarian energy economy may be summed up in the following:

A fast advance of hydrocarbons in energy consumption has been characteristic also in Hungary, and particularly in the last ten years. By the mid–1970s their ratio in energy production reached 45 per cent and in consumption 55 per cent. According to the conception formulated in the late 1950s – and strongly asserted in the late 1960s – the role of imports in the energy supply of the Hungarian economy grew considerably. Following

the structural changes in energy needs, the ratio of energies obtained through conversion – first of all of electricity – grew within total consumption. In spite of that, there are still considerable tensions in electricity supply and in the production of gasoline and light oils. These changes promoted – beyond a wider utilization of the more efficient kinds of energy – the rational development of Hungarian coal mining, a considerable improvement of labour productivity in this field, and a reduction of the heavy investment burdens on the economy. The balanced and increasingly efficient energy supply affected favourably the technical standards of the consuming branches, the establishment of a more up-to-date sectoral and product structure, the expansion of more competitive exports, and the changes in the one-sided regional structure of production. The structural transformation of energy economy also contributed – directly and indirectly – to the achievement of living standards policy aims.

Interdependencies between economic stucture and energy consumption in the period of 1960–1976

In the preceding I have examined the overall energy consumption of the economy, and thus started from the total quantity of energy consumed, without regard to the fact that a not negligible part of energy – at present 21–23 per cent – is lost in the conversion processes, ie. it does not do useful work. In what follows, I shall work with the data of *direct energy consumption, meaning the final use* (not serving conversion) of primary energies. Direct energy consumption does not contain the use of primary energies as basic materials, e.g. in the chemical industry. Tables 1 and 2 show the changes in the energy and electricity needs of the most important energy consuming branches.

Table 1 clearly shows the most important tendencies in energy consumption in the past fifteen years. According to it, the two most important sectors: industry and the population together have a 75 per cent share in direct energy consumption, and this was slightly growing in the period in question. On the other side, the total energy requirements of the producing sectors grew somewhat more slowly than total energy consumption. Within it the growth of energy needs was fastest in the building industry and agriculture. Agriculture becomes, by the end of the period, one of the most important energy using sectors as regards both its rate of development and production volume. The energy requirements of transportation diminished considerably as regards their weight, and even in absolute terms it works with much smaller energy consumption. The improvement was especially considerable in the years 1966–1970 and 1971–1976.

Electricity consumption (see Table 2) shows characteristics almost identical with those of total energy consumption: industry and the population are the largest users, in agriculture electricity needs grew very fast; transportation and the building industry increased their electricity consumption to a lesser extent. Demand for electricity grew faster than the total demand for energy, so that its role within the energy economy became more important.

Table 1

Direct energy consumption between 1960–1974

Sector	Thousand million kcal*				
	1960	1965	1970	1974	1976
Industry	51 100	67 140	81 176	89 100	103 061
Building industry	961	2 042	2 862	3 600	3 907
Transportation	17 034	19 146	17 375	16 600	15 727
Agriculture[a]	3 678	6 179	11 808	18 500	16 031
Population	23 221	40 051	45 792	47 600	53 535
Other	6 737	12 308	18 058	15 400	16 684
National economy total	102 740	146 866	177 071	190 800	208 945

Sectoral structure of direct energy consumption (per cent)

Sector	1960	1965	1970	1974	1976
Industry	49.7	45.7	45.9	46.7	49.6
Building industry	0.9	1.4	1.6	1.8	1.5
Transportation	16.6	13.0	9.8	8.7	7.5
Agriculture[a]	3.6	4.2	6.7	9.7	7.7
Population	22.6	27.3	25.9	25.0	25.6
Other	6.6	8.4	10.1	8.1	8.1
National economy total	100.0	100.0	100.0	100.0	100.0

Average yearly growth rate of direct energy consumption (per cent)

Sector	1961–65	1966–70	1971–76	1961–70	1961–76
Industry	5.7	3.8	4.1	4.7	4.5
Building industry	16.3	6.9	5.3	11.5	7.6
Transportation	2.3	−1.9	−1.6	0.2	−0.1
Agriculture[a]	10.9	11.0	5.1	12.4	9.6
Population	11.5	2.7	2.5	7.0	5.4
Other	12.8	9.6	−0.5	10.4	6.1
National economy total	7.4	3.8	3.0	5.6	4.7

[a]Agriculture to be understood without forestry and water economy

Source: Bányászati és energia adattár (Collection of data on mining and energy) 1974, Központi Statisztikai Hivatal, Energiagazdálkodási Évkönyv (Annual Yearbook of Energy Economy). Budapest, Vols 1974, 1976

*1 kilogramme calorie = 39.683 B.T.U. = 4186.8 Joule (translator's note)

Table 2
Electricity consumption between 1960–1976

Sector	Million kilowatt-hours*				
	1960	1965	1970	1974	1976
Industry	5 115	7 462	9 940	11 953	16 975
Building industry	61	99	179	273	326
Transportation	326	544	778	1 096	1 338
Agriculture	85	239	867	1 582	1 789
Population	554	993	1 817	2 870	3 592
Other	545	1 073	1 427	2 096	2 149
National economy total	6 686	10 410	15 008	19 870	26 169

Sectoral structure of electricity consumption (per cent)

Sector	1960	1965	1970	1974	1976
Industry	76.5	71.7	66.2	60.2	64.8
Building industry	0.9	0.9	1.2	1.4	1.3
Transportation	4.9	5.2	5.2	5.5	5.1
Agriculture	1.3	2.3	5.8	8.0	6.8
Population	8.3	9.5	12.1	14.4	13.7
Other	8.1	10.4	9.5	10.5	8.3
National economy total	100.0	100.0	100.0	100.0	100.0

Average yearly growth rate of electricity consumption (per cent)

Sector	1961–65	1966–70	1971–76	1961–70	1961–76
Industry	7.8	5.9	9.3	6.9	7.8
Building industry	10.2	12.5	10.5	11.4	11.0
Transportation	10.7	7.5	9.4	9.1	9.2
Agriculture	23.0	29.4	12.8	26.2	20.9
Population	12.4	12.7	12.0	12.6	12.4
Other	14.5	5.8	9.7	10.1	8.8
National economy total	9.2	7.6	9.7	8.4	8.9

Source: Bányászati és energia adattár 1974. (Collection of data on mining and energy) Központi Statisztikai Hivatal; Energiagazdálkodásunk fontosabb jellemzői összefüggésben a népgazdaság fejlesztésével 1960–1970. (The most important characteristics of Hungarian energy in connexion with the development of the national economy) 1960–1970, Központi Statisztikai Hivatal; Energiagazdálkodási Statisztikai Évkönyv 1976. (Statistical Yearbook of Energy Economy, 1976), Budapest 1978. Országos Energiagazdálkodási Hatóság.

*1 kilowatt-hour = 3412.14 B.T.U. = 3.6×10^6 Joule.

The actual effect of the economy measures that have become necessary because of the sudden rise in the prices of energy can hardly be demonstrated with any reliability in this examination. It seems, however, *that the yearly growth rate of energy consumption diminished demonstrably as regards the whole of economy.* This tendency asserted itself in all important sectors except for industry; what is more, even the absolute volume of energy consumption went down in the building industry, transportation and agriculture in 1974–1976. The accelerating rate of energy consumption in industry is due partly to the more intensive expansion of production, and partly to the fortunate improvement in efficiency and productivity. Another characteristic tendency to be mentioned is that, in spite of the slow growth rate of the total energy consumption in 1970–1976, *and particularly in 1974–1976, the electicity consumption of the economy grew suddenly.* The determinant role in this was again played by industry: 80–85 per cent of the increment in 1974–1976 was used by the industry. It seems likely that the accelerating rate of electric power consumption played an important – and maybe even decisive – role in that the growth of industry in the 1970s could be achieved practically with an unchanged labour force, through the fast increase of productivity.

The tendencies presented will stand out even more clearly, if we look at the increments in energy consumption of each period and their structure. E.g. agriculture had a 14 per cent share of the increment in energy consumption in 1966–1970, and 23 per cent in 1971–1976; the same indicators in electricity consumption are 13.6 per cent and 14.7 per cent, respectively.

Next I examined the changes in the per unit energy needs of each energy consuming sector in 1960–1976. The data characteristic of the main tendencies are summarized in Table 3.

According to the data of the Table, the energy needed to produce a unit of national income went down by about 34 per cent in 1960–1976, and in the productive sectors by 18 per cent.

Table 3

*Energy consumption necessary to produce a unit of national income in 1960–1976**

Sector	Thousand million kcal/million Ft				
	1960	1965	1970	1974	1976
Industry	0.927	0.864	0.725	0.639	0.619
Building industry	0.055	0.102	0.124	0.095	0.089
Transportation	2.043	1.712	1.043	0.769	0.693
Agriculture[a]	0.082	0.142	0.238	0.336	0.308
Population[b]	0.202	0.298	0.255	0.238	0.229
Other	0.245	0.355	0.336	0.298	0.218
National economy total	0.871	0.789	0.681	0.623	0.572
Producing sectors	0.519	0.572	0.505	0.466	0.426

Table 3 (cont.)

Changes in the energy consumption necessary to produce a unit of national income in 1960–1976

Sector	1960 = 100				
	1960	1965	1970	1974	1976
Industry	100.0	193.2	78.2	68.9	66.8
Building industry	100.0	185.4	225.5	240.0	161.8
Transportation	100.0	83.8	51.1	37.6	33.9
Agriculture[a]	100.0	173.2	290.2	409.8	375.6
Population[b]	100.0	147.5	126.2	117.8	113.3
Other	100.0	144.9	137.1	121.6	89.0
National economy total	100.0	90.6	78.2	71.5	65.6
Producing branches	100.0	110.2	97.3	89.8	82.1

Yearly average changes in the rate of energy consumption necessary to produce a unit of national income (per cent)

Sector	1961–65	1966–70	1971–76	1961–70	1961–76
Industry	−1.4	−3.5	−2.6	−2.4	−2.5
Building industry	13.1	4.0	−5.4	8.4	+3.1
Transportation	−3.5	−9.5	−6.6	−6.5	−6.6
Agriculture[a]	11.6	10.9	+3.3	11.2	+8.6
Population[b]	8.1	−3.1	−1.8	2.4	+0.8
Other	7.7	−1.1	−7.1	3.2	−0.7
National economy total	−1.9	−2.9	−3.0	−2.4	−2.5
Producing branches	+2.0	−2.5	−2.8	−0.3	−1.3

[a]Agriculture to be understood without forestry and water economy

[b]Computed on the basis of the material consumption of the population

*We are, of course, aware, that these indicators are strongly dependent on the price system. (Ed. note)

Energy-intensity diminished most in transportation, where today one-third of the energy input of 1960 is needed to produce a unit of national income, while in industry it is almost two-thirds; at the same time, the per unit energy needs rose to about fourfold in agriculture, and to 1.6-fold in the building industry.

The relative energy intensities of the diffferent sectors considerably shifted: in 1960 transportation worked with an energy intensity more than double of that in industry, but in 1976 its per unit consumption is only 11 per cent higher. In 1960 the

Table 4
Effect of factors influencing energy needs

Denomination	Unit of measurement: 10^{12} kcal Computed on the basis of national income
Changes in volume	+109.676
Structural changes	+10.189
Changes in energy-intensity	−43.974
Actual change	+75.974

energy intensity of industry was 11–12-fold of that of agriculture, but in 1976 it was only about the double of it. The situation has not changed insofar as transport and industry have remained the most energy-intensive sectors, above the average of the productive sectors, while agriculture and the building industry are below the average. The energy needs of the population on a unit of material consumption grew on average at the rate of 0.8 per cent considering the whole of the period under examination, despite the fact that it diminished on average by 2.0–2.5 per cent in the years between 1966–1976.

The changing energy intensity of the most important economic sectors reveals the tendency that the sectors working with a relatively high per unit energy consumption – such as industry and transportation – produce improving indicators, while the sectors which worked with low energy-intensity at the beginning of the period – such as the building industry and agriculture – show steeply rising per unit indicators. In the two latter sectors the process of "industrialization" became stronger practically in the period under examination, which intensively increased the specific energy requirements of production. In judging the increasing energy needs of agriculture it must be taken into consideration that the number of agricultural workers fell in Hungary by more than 1 million in the years 1960–1976 and that the substitution of machine power for animal draught power can be considered as completed.

The factors influencing the direct energy needs of the productive branches can be divided into three groups:

- changes in the quantity requirements of the consumers, i.e. the *volume effect*;
- factors delimiting the *energy requirements of* a unit of activity;
- *changes in the relative proportions* among fields working with different per unit energy needs.

According to my computations, the changes in macrostructure of the Hungarian economy taking place in the years 1960–1976 *worked clearly in the direction of increasing the energy needs of the economy.* The data make it quite obvious that the two determinant sectors of changes in economic structure from the point of view of energy requirements are *industry and agriculture. The growing weight of industry working with higher*

energy intensity increased the energy needs of the economy by about 22 × 10^{12} kcal (calculated on the basis of national income). The effect of agriculture is approximately of the same dimension, but with an opposite sign. The growth in energy needs to be attributed to the changes in economic structure amounts to 5–7 per cent of the total yearly consumption of the productive sectors.

During the period under examination the energy-intensity of the entire economy fell considerably: by 44 × 10^{12} kcal, i.e. 11 per cent, and that of the productive sectors by 28 per cent. The determining factor in this process was, on the one side, the *highly favourable reduction in industry and transportation, and on the other side, the sudden growth of energy intensity in agriculture.* The latter amounted in volume to about the same size of additional energy requirements as was the saving achieved in the transportation, thus *the character of reduction that took place in the economy is determined by the savings following from the changes in the energy-intensity of industry.*

The development of energy-intensity as presented shows, of course, not "purely" the changes in energy intensity, but also the rearrangement of the internal structure of the sector: thus in the case of transportation the effect on energy requirements exerted by the changed proportions between railways and public road transportation, and between the different methods of haulage. What is more, in the case of *transportation it is exactly this structural change that played the determinant role.*

A few aspects of interrelations between industrial development and the demand for energy

There are many and diversified interactions between the state and rate of development of industry, and the energy needs of the economy. The particularity of these interactions derives not only from the fact that industry is the largest energy consumer of the economy. The fundamental reason is that, on the one hand, *the larger part of the energy economy*: generation and conversion of energy, and its forwarding to the customer *belong to industrial activities,* thus it is an organic part of industry and the fulfilment of the energy-needs of industry as well as its standards and efficiency depend also on the degree of development of these fields of industry. On the other hand, the quality of energy and the mode of its utilization in the course of productive activities may considerably influence the successful functioning and efficiency of industry. According to the input-output table, in 1972 the value of direct energy inputs of Ft 100 of output was Ft 6.38 in industry as a whole, while it was Ft 32.33 in the electric power industry, Ft 10.95 in the building industry and Ft 18.24 in the chemical industry.

The ratio of those employed in the energy producing sectors within the whole of industry was 14.7 per cent in 1960, 11.2 per cent in 1970, and about 10 per cent in 1976. The value of gross output was 10 per cent of the total in 1976; in the national income produced in industry the energetic sectors had a total share of 8–9 per cent. [1]

The actual weight of the energy economy in the national economy and in industry is not really represented by these data, but rather by those showing its share in invest-

ments: the share of energy producing sectors in the total of industrial investments fell from 32.2 per cent in the years 1961–1965 to 27.6 per cent in 1971–1974. After the changes in the world economy important shifts followed also in this respect: the national plan covering 1976–1980 already reckons with a 22–24 per cent growth of total investments in the productive sectors, while the investment costs in energetics will grow by more than 60 per cent, so that the share of the energy sector in investments will grow again radically.

These are rates computed from the data of *direct investments.* Behind the decreasing direct investment rates in the years 1960–1974 there looms that the rate of energy imports was growing fast in the period under examination: in 1975 it reached 46 per cent of the total. According to computations of the Central Statistical Office the full – direct and indirect – investment rate was 35–36 per cent in 1961–1965, and 33,6 per cent in 1966–1970. (Items of indirect investment: the investment need of exports counterbalancing additional energy imports, construction of heating power stations and transmission lines, energy rationalizations.)

In the coming years the direct and indirect investment rate of the energetical sectors is likely to grow considerably, mainly because of increased imports, the investment contributions needed for imports, the investment needs of export capacities counterbalancing imports rapidly increasing in value as a consequence of the rise in prices, and because home production is gradually gaining ground. Another cause is that the advantages from the spreading of hydrocarbons will not provide for such extent and volume of savings in the coming period as they did in the past.

Thus the basic question of the development of the energy economy arises from the side of investments i.e. of development means: *how to provide for the energetical investments wanted for a fast and a smooth development of the economy?* This will be hardly promoted by a further expansion of imports: firstly, because there are apparently rather rigid limits to increasing imports, secondly, because *considerable investment contribution must be given* for the raising of CMEA imports: a larger participation in *joint investments* must be undertaken than before, thirdly, *exports compensating the increments of imports are hardly conceivable within the present price structure,* and for barter transactions including cereals, meat or machines again considerable investments are needed. It has to be mentioned at this point that, in spite of not negligible development in recent years, domestic power generation did not keep pace with technical and technological development in several respects, or at least, no clear technical-economic advantages can be demonstrated on the side of energy economy. This circumstance may cause difficulties also in the future in expanding the export potentials of the Hungarian industry within the CMEA. The Hungarian manufacturing industry – not highly competitive, anyway – may get into an even more difficult situation with an energetic background functioning with unsatisfactory economic efficiency. The relative backwardness of the technological basis seems to be contradicted by the fact that in 1960–1975 the amount of calories necessary for generating 1 kilowatt of electric power fell from more than 4000 below 3000. Behind this, however, there is a structural change of primary energies: in 1961 the ratio of solid

fuels used for electric power generation was 92.7 per cent, in 1972 it already fell to 65.3 per cent and ever since it has been decreasing further. [2]

It is beyond question that the higher rate of utilization of hydrocarbons is an organic part of the modernization process of industry and the economy: it is indeed inseparable from it. Yet *the favourable effect of this simple structural change must be separated from the effects concomitant with the technological development of the energy economy.* Otherwise, international comparison indicate that the high ratio of hydrocarbons in electric power generation cannot be considered as clearly favourable, particularly not after the price rises of 1973. It is quite possible that the structural change realisable through hydrocarbons might bring about much larger savings in other fields of industry, and especially in the consumption of the population and in that of the tertiary sector. In Hungary probably the unfavourable conditions of coal mining had a part in this, as well as the more advantageous investment costs of hydrocarbons (compared partly with the coal-fired boilers and partly with the consumption of the population and of the tertiary sector). It is to be mentioned as an important factor that we could not guarantee that hydrocarbons be introduced to a larger extent into other sectors, first of all because of the above-mentioned higher investment costs and the underdeveloped state of the technological background. Therefore, the statement can be made that *in the fifteen years analysed the changes in the structure of primary energies were faster than would have been required by the technical-technological development conditions of the consumers.* In my opinion the introduction of hydrocarbons into the different fields of energy consumption *did not take place in the most rational way, nor in an order of sequence providing for the best econimic results.*

The specific energy inputs of a unit of gross national product are almost identical in engineering, the light and the food industries: it is one-third and two-fifths of the industrial average respectively, but that of the building industry is its 4.5-fold, that of metallurgy 3.4-fold, and that of the chemical industry 1.8-fold. Energy intensity went down steadily by a yearly 2.4 per cent, but in "other industries" the reduction was 4.2 per cent, in the engineering industry 4.0 per cent, and in metallurgy 3.1 per cent, p.a. Energy intensity measured by industrial net product coincides more or less with that computed on the basis of the gross indicator: differences can be found in metallurgy and the food industry, which appear to be more energy-intensive sectors according to the net indicator. Food industry is the only large group of industries in which energy intensity shows a rising tendency.

To demonstrate the interrelations between the internal structure of industry and energy consumption we present in Table 5 the role played by the changes in volume, the structural transformation and the changes in the per unit energy needs in the development of the energy requirements of industry.

According to data computed on the basis of the gross indicator the *transformation of structure by sectors taking place in industry somewhat augmented the energy intensity of industry.*

Table 5

Factors influencing the energy consumption of industry between 1965–1976
(changes in volume, sectoral structure and per unit energy consumption)

Sector	A	B	C	D
	upon basis of gross national product			
Mining	3 819	4 295	6 721	7 310
Power generation and distribution	1 034	2 577	2 174	1 980
Metallurgy	25 954	32 584	35 198	49 428
Engineering	6 260	8 233	6 985	11 888
Building materials industry	9 725	13 320	14 742	18 292
Chemical industry	8 660	26 354	16 756	16 514
Light industry	5 300	7 022	8 399	10 153
Food industry	5 602	8 030	9 961	10 701
Other industries	258	646	364	487
Industry total	66 612	103 061	101 300	126 753
	E	F	G	H
Mining	+3 491	−2 426	−589	+476
Power generation and distribution	+946	+403	+194	+1 543
Metallurgy	+23 474	−2 614	−14 230	+6 630
Engineering	+5 628	+1 248	−4 903	+1 973
Building materials industry	+8 567	−1 422	−3 550	+3 595
Chemical industry	+7 854	+9 598	+242	+17 694
Light industry	+4 853	−1 377	−1 754	+1 722
Food industry	+5 099	−1 931	−740	+2 428
Other industries	+229	+282	−123	+388
Total industry	+60 141	+1 761	−25 453	+36 449

Comment:
A = energy consumed in 1965, in thousand million calories;
B = energy consumed in 1976, in thousand million calories;
C = production of 1976 upon the basis of the 1965 structure and the 1976 per unit indicators;
D = energy needs computed on the basis of 1976 production value, the 1965 distribution, and the 1965 per unit energy needs;
E = effect of production volume;
F = effect of structural transformation;
G = effect of changes in per unit indicators;
H = factual change between 1965 and 1976.

On examination of the energy-intensity of some subsectors of engineering and the light industry, the following may be said: between 1965 and 1976 the volume of energy consumed grew by about 35 per cent also in the whole of engineering, but the energy

necessary for a unit of output fell by 20 per cent. The structural change taking place within the engineering industry led to a reduction in the per unit energy needs of this sector: the ratio of precision engineering, the telecommunication industry and electrical machinery manufacturing, with energy intensities below the average, was growing, while the ratio of activities with energy intensities above the average was decreasing within engineering. Essentially similar tendencies asserted themselves in the light industry: the most important difference may be that the ratio of paper manufacturing with an energy intensity as high as that of the heavy industry grew from 5.6 to 8.3 per cent within the sector. However, the growth of energy intensity arising therefrom was counter-balanced by a considerable reduction of the textile industry with an energy intensity above the light industrial average, and by the dynamical development of the printing, clothing and shoe industries which are the least energy-intensive. In my opinion, the subsectoral transformation of structure in the light industry did not play any definitive role in the development of the energy intensity of the sector.

Among the Hungarian priority economic development programmes of recent years the public road vehicle manufacturing, the computer programme, and the light industrial reconstruction programme are of an energy intensity below the average, even if we consider cumulated consumption. As opposed to these, aluminium production and the olefine programme are highly energy-intensive. On the whole, the priority programmes had an unfavourable influence on the development of the energy needs of industry, as regards both the direct and the cumulated energy intensity.

Present and expected tendencies of energy consumption

Proper choice of the relationship between the raw material producing sector – and within it of the energy sector – and the manufacturing sectors is one of the most important and at the same time the most debated problems of socialist industrialization. Making up for economic backwardness is conceivable but through a fast rate of economic development, thus, the starting of socialist industrialization demanded in every socialist country the boosting of power generation and its large-scale modernization. In the early 1950s the centres of industrialization in Hungary were also in the energy and raw material producing sectors. In spite of that, one of the critical constraining factors of economic growth in that period was that the production of energy was lagging behind demands. From the late 1950s on the energy situation was practically balanced in Hungary: energy shortage did not constrain the rate of economic growth. The supply side was at the centre of interest also in Hungarian energy policy: the increasing energy needs accompanying economic development were considered as necessary and normal concomitants of economic growth, and energy supply was subordinated to economic growth. The above-mentioned smooth energy supply is undoubtedly the result of this economic policy, at the same time, however, this economic policy engaged huge development resources in the energetic sector, and the "smooth" supply led to high per unit energy consumption in-

dicators. In the late 1960s the strong increase of energy imports much cheaper than the home production of energy, and the restriction of domestic coal mining proved to be an important economic policy decision promoting a faster modernization rate of the whole economy. Between 1970–1977 the home production of energy grew by 6 per cent, while imports by 55 per cent: in 1977 the share of imports attained 46 per cent.

The energy price explosion of 1973–1974 directly affected the Hungarian economy through the large volume of imports. Yet the immediate effect was delayed by about two years because, on the one hand, the overwhelming part of imports came from the CMEA countries in which the rise in prices was implemented later, and on the other hand, central economic policy did not allow the high prices to spill over into the Hungarian economy, or only partly. Thus in 1974–1975 the actors in economic life hardly perceived in the home prices the high rise in the world market prices of energy. Under the combined effect of several factors it seems, paradoxically, that the Hungarian economy did not duly react on the drastic changes taking place in the world and, what is more, according to my computations the energy consumption of the economy was growing, and the energy intensity increasing. This is indicated by the following data:

Table 6

Growth rate of national income and of energy consumption in 1971–1977

	Growth rate of national income, in per cent		Growth rate of energy consumption, in per cent	
	1971–75	1974–77	1971–75	1974–77
Industry	7.8	6.4	3.2	6.1
Building industry	6.4	6.8	4.7	12.6
Agriculture	2.2	1.4	8.7	0.4
Transport and communications	5.4	4.9	−1.4	−0.6
Other	7.7	7.9	3.4	4.1
Subtotal	6.3	5.6	3.2	1.8
Population	–	–	3.4	4.1
Total	6.3	5.6	3.2	4.5

The data of Table 6 show that in the course of the last 3–4 years, while the rate of economic growth was slowing down, energy consumption rose to no small extent, especially in industry and the building industry. Energy consumption may be influenced in particular years by several incidental factors: such as an exceptionally cold winter, poor harvest, the putting into operation of a large chemical investment project, so that the data are not always suited for a thorough examination; it is, however, beyond question that the growth rate of energy consumption did not slow down in the Hungarian economy. The results of energy saving measures cannot yet be demonstrated, or, even if there are

results in certain respects, these have been over-compensated by the large-scale growth in other fields of the economy. Efforts made so far at constraining the demand side have not yet proved efficient enough and, since the volume of energy importable from socialist countries could not be augmented so as to satisfy domestic needs, the ratio of primary energies bought from the world market has been growing. Thus the further growth of energy consumption much contributed even directly to the deterioration in the balance of payments, i.e. to the increasing of foreign indebtedness. The fast rise in the world market prices of raw materials and fuels, and the insatiable hunger for energy of the economy *necessarily lead* to a reassessment of domestic energy and raw material resources, particularly in countries relatively poor in raw materials. I think, however, that from the changed energy and raw material situation the necessity of a faster development of such home sectors does not naturally follow. The changed conditions may justify only the rational development also of such sources of energy as could not be considered earlier. The same applies to sectors requiring high raw material and energy consumption. Since the world economy raises higher demands towards these sectors, it is inevitable to assert higher requirements also in domestic economic relations, and thus it may happen that a few such sectors will be judged unfavourably.

The revaluation of raw materials and particularly of primary energies in economic processes modifies not only the economic policy in respect of domestic natural and geographical resources, but has an effect also on the other and more general structure-modifying conditions. Thus e.g. a change in the energy situation directly influences technological standards and their expectable development. On the one side, the sphere of technological activities aimed at the soonest and widest possible use of new energy resources, e.g. of atomic energy, is expanding. A faster development may be expected in the exploration and application of procedures aiming at a rational utilization of traditional primary energies, such as coal. In other words, the technical-technological tasks related to the production and consumption of energy will obtain more important roles in the coming years than could have been expected a few years ago. On the other side, a more intensive technical progress is to be expected in the development of less energy-intensive technologies and manufacturing processes; energy consumption gets a more important role both with machines and equipments serving producer needs and with those serving consumer needs.

The change in the energy situation: the need to provide for the necessary sources of energy will certainly force that we spend a larger ratio of development funds on them. Since these are the most capital-intensive sectors, the capital-intensity of development is growing, and thus the determination of economic development deriving from former and present decisions will undergo changes.

The most important factors and tendencies of future Hungarian energy consumption are the following:

a) Energy consumption will be rising probably at a slower rate than economic growth. It is desirable that, with a 4.5–5 per cent growth rate of the economy, energy consumption should grow at a slower rate: at 2.5–3 per cent p.a. A faster growth rate of

energy requirements may endanger the keeping of the economic growth rate, first of all because of the extremely unfavourable sectoral allocation of development resources and investments. A large-scale engagement of development funds seems inevitable in the case of both increasing imports (involving investment contribution, counterbalancing exports, etc.), and home development: i.e. investments into coal mining, power station building. Therefore, it appears to be our basic interest to moderate th energy needs of the economy. The following may be of such effect:

– the ending or slowing down of the macrostructural transformation of the economy, the balanced development,of the major energy-consuming fields;

– the sectoral structure of industry will not shift to any considerable extent in the direction of subsectors with higher specific energy requirements;

– in the chemical industry the basic material producing branches have more or less established themselves, the acceleration of the processing branches may reduce the energy-intensity of the chemical industry;

– the reconstruction of the largest energy consumer industrial branches (metallurgy, building materials industry) may lead to considerable energy savings;

– in agriculture the extremely dynamic growth of energy intensity of the past will probably end or at least slow down;

– through mobilizing the "reserves" accumulated in past years the increase in gross needs may be diminished;

– the favourable transformation of the product pattern of the economy will expectably accelerate;

– the improving efficiency of technical standards, productivity, and generally of value-creating processes may reduce the per unit energy requirements;

– the energy saving measures so far introduced and to be asserted more strictly in the future may play an important role in appeasing the energy hunger of the economy.

b) At the same time, unfavourable factors increasing the per unit energy cost may also appear:

– imports from non-socialist countries – whose costs will be probably higher – will raise the cost level of the energy economy;

– increasing energy needs may create such situation with both home development and imports, that in the counterbalancing exports the ratio of manufacturing branches and of products with high energy requirements will be increasing: e.g. power station equipments, big machines and equipments wanted for the extraction of raw materials, etc;

– the chronic tensions of the investment market urge the development of the construction and the building material industries, which probably increases the energy intensity of industry;

– though the large-scale housing programmes, urban reconstructions, and measures concerned with environmental protection carry a lot of uncertainties, they will probably raise the energy needs of the economy;

– in infrastructural development, and particularly in transportation, savings similar to those in past years are not likely to be made again.

c) From the viewpoint of the energy situation it is of a determinant importance to establish long-term international forms of cooperation guaranteeing adequate security, to reduce energy requirements by changing the economic structure – mainly the production and product structure –, to technically modernize domestic power generation, distribution and consumption, to many-sidedly support the rationality of energy consumption through the system of regulators.

The analyses make it quite obvious that securing the energy wanted for a balanced economic growth will be dependent not only on the development of the energy economy, but basically on the character, structure, and success of the entire economic development. Examinations so far carried out suggest that in long-term energy policy an equal weight and role must be given to both the energy producing and the consuming sectors. And, in the development of each national economy sector the higher requirements must be set in respect of energy intensity and rational energy utilization.

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ВЗАИМОСВЯЗЬ ЭНЕРГЕТИЧЕСКОГО ХОЗЯЙСТВА И ОТРАСЛЕВОЙ СТРУКТУРЫ

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В исследовании проблематика энергетического хозяйства анализируется в двух аспектах: с одной стороны, к каким изменением привела стратегия экономического развития на протяжении последней четверти века в формировании энергетических потребностей венгерской экономики, как изменила она связь между экономическим ростом и энергетическими потребностями, а с другой стороны, какие изменения могут вызвать будущие условия экономического роста в состоянии энергетических потребностей экономики, как складываются условия экономического роста.

Под одновременным влиянием различных факторов удельная потребность венгерской экономики в энергии – использование энергии в естественных количественных единицах на единицу национального дохода, рассчитываемого в неизменных ценах – значительно снизилась. В то же самое время вследствие происшедшего в 1973–1974 гг. громадного «взрыва цен» на энергию, значительного количества углеводородов и существенной доли импорта удельные энергетические затраты венгерской экономики остались на прежнем уровне. Преобразование макроструктуры экономики, рост доли промышленности, снижение доли транспорта и сельского хозяйства повлияли в сторону повышения удельных потребностей в энергии. Удельная потребность в энергии

промышленности и транспорта значительно сократилась, в то же самое время потребность в энергии сельского хозяйства быстрыми темпами возрастала. Изменение внутренней структуры народного хозяйства и отдельных отраслей экономики в комплексе привело к росту удельной потребности венгерской экономики в энергии, таким образом, не удалось осуществить цель экономической политики, в соответствии с которой желательным направлением экономического развития является создание таких отраслей, подотраслей и видов деятельности, которые благодаря низкой потребности в энергии снизят общую потребность венгерской экономики в энергии. После замедления макроструктурных изменений необходимая для экономического роста потребность в энергии в основном зависит от двух факторов: с одной стороны, изменится ли макроструктура в направлении менее энергоемких видов деятельности, а с другой стороны, удастся ли понизить рост удельной потребности в энергии отдельных производственных отраслей.

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REVIEWS

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SOME FEATURES OF THE HUNGARIAN ECONOMY IN THE LATE 1970s*

This study is designed to point out two of the main issues of the present economic situation and development trends in Hungary: the interrelation between foreign trade and economic equilibrium, and the reactions of economic policy to the challenges of world economy.

Some features of long-term economic development

During the past quarter of the century economic growth has been dynamic and relatively balanced in Hungary: national income increased between 1950 and 1978 at a yearly average rate of almost 6 per cent. This was higher than the average growth rate achieved in most of the European countries.

If we examine the 1970s only, economic development in Hungary has been in the vanguard by the growth indicators. Nevertheless, presently Hungary belongs to the so-called "medium developed" countries only.

According to computations made by the UNO, the per capita GDP of Hungary in 1973 was about 4 per cent lower than in Italy and about 40 per cent lower than in Belgium, France and the German Federal Republic combined.

In consequence of the outstanding rate of economic growth, the national income of Hungary was in 1978 almost five times as much as in 1950 and more than one and a half times as much as in the early 70s. Dynamic economic growth has yielded a number of unquestionably positive results.

– *Employment* has reached a high level by world standards. The proportion of active earners in the population of working age is 76.7 per cent at present.

– In the course of a rapid *industrialization* Hungary has become an industrial country: 43 per cent of active earners are employed in industry and construction. The proportion of people employed in agriculture is 22 per cent at present compared to 56 per cent in 1949.

– The *national wealth* of the country has multiplied. Fixed capital grew at a yearly rate of 6–7 per cent during the past eight years, and in 1978 it was three and a half times as much as in 1950.

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– The *living standards* of the population were continuously rising. The real income of the population was growing by 3–4 per cent on the average in the 70s, too. Within that, the share of social benefits was rising especially rapidly: from 14 per cent in 1950 to almost 30 per cent in 1978.

The dynamic economic growth, however, was accompanied by a number of problems and has produced negative phenomena parallel with the positive results.

– The *labour reserves* of the country became *exhausted* by the mid-70s, the employment "peak" was reached sooner than in other countries on a similar level of development. (E.g. the 44 per cent share of women within the active earners seems to be very high.)

– The substitution by machinery and fixed assets of the labour power of a million people drawn away from agriculture was too much capital-intensive. Thus gradually a *"relative shortage of capital"* emerged, which could be perceived mainly in the lagging modernization and development of the infrastructure.

– Simultaneously with the rapid development of industry and construction, in some branches very *large enterprises* were established which contributed to a strengthening of monopolistic tendencies. This is one of the reasons why sellers do not adapt themselves to the demands of domestic and foreign markets flexibly enough.

– The *investment rate* is too high, it produces constant tensions in the domestic market: investment demand regularly and considerably exceeds investment capacities.

– Parallel with the rapid growth of *purchasing power* there are some shortages in the market of consumer goods.

Economic policy in Hungary has for a long time striven to encourage the maximum utilization of resources and a rapid growth rate by increasing demands. This effort was successful until the main strategic aim was industrialization and growth was based on the extensive utilization of resources: full employment of the potential labour force in productive activities as well as creation of new plants, moreover, of new industrial branches.

The new mechanism of economic control and management introduced in 1968 reduced internal and external tensions appreciably: it has damped investment cycles to a certain extent, the balance of foreign trade became more stable and the slow rise in prices curbed excess demand to some extent and also the range of commodities in short supply was reduced. All this has taken place under circumstances of accelerated economic growth from 1968. In view of the results achieved it seems that the links of central control and management with the independent management of the enterprises have been effective. The main line of economic policy continued to be, however, the quantitative increase of production and dynamic economic expansion.

At the introduction of the new economic reform and during the years following it the world economic environment was relatively calm. It was supposed that the increase in the economic autonomy of enterprises, the interest in profit and the relaxing of former isolation between domestic and foreign prices would produce a dynamic growth of exports. This was actually the case until 1973. However, after this year considerable changes have taken place in the sphere of international trade – as it is well known – all over the world.

Foreign trade and disequilibrium

Hungary is Europe-centred as far as her external economic relations are concerned. The share of the European countries in Hungarian foreign trade is almost nine-tenths. Within this, the region of the CMEA amounts to about 60 per cent, and Western Europe to 40 per cent. In recent years exports have approached 40 per cent of the value of GDP. Consequently, Hungary is typically a foreign trade oriented country. Therefore, the violent changes in the world economy after 1973 considerably affected the economic performance of Hungary and aggravated the conflict between growth and equilibrium.

The disequilibrium of the national economy was caused for the most part by the deterioration in the terms of trade during the past five years. This is connected with the commodity pattern of trade. A greater portion of basic raw material and energy demands had to be met from imports while exports consist mainly of manufactured articles, as well as agricultural and food products. Such structure of production and foreign trade resulted in a deterioration of the terms of trade by around 20 per cent in 1978 as compared to 1972. During the five years following the price explosion the net price loss exceeded 175 billion forints, which is about one-third of the value of the national income in 1978. During the last five years the trade balance showed an import surplus of similar value.

The extent of the deterioration in the terms of trade was greater in the trade with the Western countries than in CMEA relations. The new world market prices were applied in CMEA intra-trade only from 1975 on and only gradually. In 1978 the export volume needed to cover one unit of imports was 1.2 times greater than in 1970.

The import surplus was financed through credits for the most part. These credits served mainly to develop export capacities and technological processes. Credits were needed since economic policy did not want to restrict the growth rate, nor hinder the gradual raising of living standards and the realization of the economic development programs. For domestic use the following sources were available:

Table 1
Sources of domestic use

	(Percentage distribution)	
	National income	Import surplus
1974	94.9	5.1
1975	91.7	8.3
1976	95.1	4.9
1977	94.8	5.2
1978	~90.0	~10.0

Source: Statistical yearbooks and calculations of the Economic Research Institute.

During the past five years the increase in domestic uses – consumption and capital formation together – (40 per cent) considerably exceeded the growth of national income (30 per cent). In other words: domestic demand grew too fast, which might have contributed to the foreign trade disequilibrium.

Hungary's foreign trade balance was affected unfavourably in addition to the deterioration in the terms of trade also by the trends of external markets. In the two years between 1974 and 1975 the volume of world trade, i.e. the import demand of foreign countries stagnated. A number of industrial branches went through a crisis in the Western countries or their production declined temporarily. In the category of so-called sensitive products (e.g. those of the steel industry, furthermore labour-intensive industrial products, e.g. wearing apparel, shoes, metal ware, electrical appliances and parts) producers in the developed capitalist countries sought and received protection from their governments; thus they threw difficulties in the way of foreign sellers – also Hungary – by quotas, administrative restrictions etc. The Hungarian industrial products were at a disadvantage compared to those of enterprises in the member countries of the European Economic Community as well as compared to the enterprises selling similar products in developed countries and enjoying tariff and other preferences too.

The position of Hungarian exports destined for Western Europe were affected more unfavourably by EEC measures in the agrarian sector. In 1974, the Common Market put into force new restrictions on the imports of livestock and meat which affected the traditionally greatest share of Hungarian exports to the EEC and resulted in a reduction of Hungarian shipments in this group of products.

The market conditions being unfavourable, Hungary could not compensate for the losses from the deterioration in the terms of trade by a suitable increase in the volume of exports.

At the same time, the disturbances in the world economy directed attention to some weak spots of the competitiveness of Hungarian industry.

All in all, Hungarian producers – who have to overcome the difficulties facing newcomers in the Western markets – are forced to catch up with some delay with the quality standards required by the keen international competition. At the same time, they are forced to increase their flexibility to market impulses and to expand and improve their marketing activities in Western markets.

The pattern of Hungarian foreign trade can be seen in tables.

As can be seen from the tables, the commodity pattern of foreign trade changed between 1970–1978 as follows:

– The share of machinery in exports grew while that of food products decreased; this seems to correspond to the trends in international trade. The export of machinery has more than doubled even at constant prices, in accordance with the aims of Hungarian economic policy. The weight in exports of food products has diminished at both current and constant prices. This is mainly due to the restrictions of the main Western importer countries; while in some years Hungarian supply was also insufficient.

Table 2
Commodity pattern of Hungary's foreign trade
(Percentage distribution)

	Exports		Imports	
	1970	1978	1970	1978
Fuels, electric power	1.3	3.0	6.8	12.6
Materials, semi-finished products, components	30.9	29.6	51.6	48.1
Machinery, transport vehicles, other investment goods	22.6	27.5	19.6	22.1
Industrial consumer goods	19.9	18.3	8.8	8.4
Food products	25.3	21.6	13.2	8.8
Total	100.0	100.0	100.0	100.0

Table 3
Hungarian foreign trade in 1978 as compared to 1970
(Percentage changes)

	Exports		Imports	
	Value	Volume	Value	Volume
Fuels, electric power	451	81	388	55
Materials, semi-finished products, components	121	74	146	60
Machinery, vehicles, other investment goods	181	124	197	128
Industrial consumer goods	113	83	154	94
Food products	97	42	75	−10
Total	132	83	166	70
Yearly average	11	8	13	7

Source: Various issues of the Statistical Yearbook of Foreign Trade, published by the Central Statistical Office of Hungary.

– The share of fuels almost doubled in imports, exclusively in consequence of the increase in prices. The share of machinery grew and that of food products decreased in imports.

One may get a deeper insight into the problems of Hungarian foreign trade by separately examining the commodity patterns for the rouble and the dollar areas.

Hungary is thus importing the bulk of fuels from the rouble area. The situation is similar as regards machinery, vehicles as well as consumer articles. On the contrary, the

Table 4
Commodity pattern of Hungary's imports in 1978
(Percentage distribution)

	Rouble area	Dollar area	Total
Fuels and electric power	18.5	7.7	12.6
Materials, semi-finished products, components	38.6	56.0	48.1
Raw and basic materials	16.6	14.8	15.6
Mining products	2.4	0.9	1.6
Animal products	0.1	2.1	1.2
Semi-finished products	13.6	31.7	23.5
Finished products of the chemical industry	5.5	18.1	12.4
Tools, appliances, metal ware	0.9	2.9	2.0
Components	8.4	9.6	9.0
Machinery, transport vehicles, and other investment goods	29.0	16.3	22.1
Complete factory equipment	2.5	1.8	2.1
Transport vehicles	6.6	0.4	3.2
Telecommunications machinery	4.6	1.0	2.6
Instruments	2.0	1.9	1.9
Industrial consumer goods	11.2	6.2	8.4
Wearing apparel	2.0	3.0	2.5
Vehicles	4.5	0.2	2.1
Domestic appliances	1.3	0.2	0.7
Food products, livestock	2.7	13.8	8.8
Agricultural products	0.2	6.6	3.7
Products of the food industry	2.5	7.2	5.1
Products of the vegetable oil industry	0.0	4.2	2.3
Products of the meat industry	0.3	1.2	0.8
Total	100.0	100.0	100.0

Source: Statisztikai Havi Közlemények, 1979. No. 1.

majority of the chemical products, agricultural products and tropical goods are imported from the dollar area. The imports of raw materials by sources is more balanced: both the dollar and the rouble areas are significant suppliers. It is conspicuous that machinery and investment goods amount to one-seventh of the imports from the OECD countries only.

While the proportion of industrial finished and semi-finished products and raw-materials is 85:15 in exports to the rouble area, this proportion is 55:45 in the case of the dollar area. 43 per cent of exports to the rouble area consist of machinery, while the share of machinery in exports to the dollar area is 12 per cent only. On the contrary, the proportion of agriculture and the food industry in exports to the dollar area is twice as great as to the rouble area: 29 per cent and 14 per cent respectively. Almost one-fifth of the exports to both areas are made up by consumer goods, half of which is wearing apparel.

Table 5
Commodity pattern of Hungary's exports in 1978
(Percentage distribution)

	Rouble area	Dollar area	Total
Fuels and electric power	0.6	5.6	3.0
Materials, semi-finished products, components	23.5	35.7	29.6
Raw and basic materials	2.2	10.3	6.3
Semi-finished products	10.3	23.2	16.7
Semi-finished products of the iron and steel industry	2.6	8.4	5.5
Semi-finished products of the chemical industry	3.7	10.8	7.2
Components	11.0	2.2	6.6
Machinery, transport vehicles, and other investment goods	43.1	11.7	27.5
Complete factory equipment	3.3	1.7	2.5
Transport vehicles	13.2	3.5	8.4
Instruments	6.5	0.9	3.7
Telecommunications products	6.5	0.4	3.5
Industrial consumer goods	18.6	18.0	18.3
Wearing apparel	9.5	9.0	9.2
Packaged pharmaceuticals	4.6	0.4	2.5
Food products, livestock	14.2	29.0	21.6
Agricultural products, livestock	4.4	12.5	8.4
Cereals	1.2	2.5	1.9
Fruit, vegetables	2.8	1.0	1.9
Livestock, animal products	0.3	7.4	3.8
Products of the food industry	9.9	16.5	13.2
Meat products	2.4	11.2	6.8
Fruit and vegetables preserves	3.5	2.2	2.9
Total	100.0	100.0	100.0

Source: Statisztikai Havi Közlemények, 1979. No. 1.

Policy responses to the challenges of world economy

Since almost half of the foreign trade turnover is transacted with non-socialist countries, after 1973 steps had to be taken to protect the relative stability of domestic prices. As a main instrument the Forint was gradually revalued several times against most foreign currencies. The commercial exchange rate of the dollar decreased from Ft 48.5 to Ft 35 between 1974 and March 1979.

The revaluation had a twofold effect. On the one hand, it really reduced the "import of inflation" and contributed to the relative stability of the domestic price level. On the other hand, however, it encouraged imports and somewhat curbed exports in a

period when the deterioration in the terms of trade would have required just the opposite.

Despite the revaluation of the Forint, the import costs grew considerably under the influence of the rapidly increasing world market prices. This would have plunged a whole series of Hungarian enterprises using imported materials into financial difficulties. Therefore, during the first two years after the price explosion, the budget compensated for part of the rising costs of imported materials.

Hence the inflationary pressure intensified to a lesser extent in Hungary, full employment was maintained, there was no recession, moreover, production grew vigorously. In other words: economic policy in Hungary temporarily "counteracted" the first wave of the shocks caused by the world economic disturbances and "blocked" the adverse effects of price changes on the domestic economy.

The fact that the domestic economic units were saved from the consequences of the price explosion also had negative effects. The processes and solutions of energy conservation in consumption and investments emerged later in Hungary than elsewhere in Europe. The restructuring of production and foreign trade was realized slowly since the "cost-sensitivity" of the enterprises was inadequate. It turned out that the approach through "exchange rate policy" was not at all sufficient. The whole armory of economic policy instruments had to be reconsidered in a broader perspective.

Recently, all over the world considerable experiences have accumulated regarding the fluctuations of the world economy and the alternatives of therapy to overcome them. Economic policy in Hungary was at the crossroads. It had to be taken into consideration that several objectives had to be realized simultaneously and they were not easy to harmonize under present circumstances. These were: vigorous increase in exports and more rapid adaptation to the demands of the external markets, with a more moderate and selective increase in investments and imports than before. All this had to be realized in such a way that the real income of the population should grow and social development, health care and the development of education should meet the demands made on them.

How can these objectives – sometimes conflicting with each other in the short term – be approached in the best possible way? By an inward looking policy or more open international economic relations? By protectionism or a policy designed to mutually remove the obstacles to trade to the greatest possible extent? By going back to the exaggerated centralization of economic control and management or through a planned economy relying more on the enterprising spirit of the independent firms.

In Hungary decision was taken for the latter course. The crisis of the world economy and the deterioration in the terms of trade made it even clearer that the restructuring of production and exports was needed more rapidly than before. A more moderate economic growth – say of annually 4 per cent – during the next few years at least will create more favourable conditions for this program than more rapid (forced) growth. This economic policy includes moderation of the growth of investment demands and the requirement that investors be guided through selective credit policy in a direction promoting the development of technology and exports.

Every country with a deficit in the balance of trade and the balance of current payments tries to curb the growth rate of imports temporarily. In Hungary this has not been applied until now, and imports grew dynamically during the past years too. However, it seems that a more sparing import policy will be pursued during the following 1–2 years, and foreign exchange revenues will be rather concentrated to cover the imports of essentials. Nevertheless, the growth rate of foreign trade is planned to be 6–7 per cent a year at constant prices, which is one and a half times the growth rate of production and is higher than the present growth rate of world trade.

In Hungary's foreign trade orientation an intra-branch type division of labour and cooperation between the enterprises as well as the transfer of technology will play greater role. The most dynamic sector of trade with the Western world is likely to be that in machinery and technologies. In Hungary more than half of the value of the machinery and equipment invested comes from imports (both Western and Eastern countries) and this proportion will not be reduced in the future either.

Enhancing the international competitiveness of the Hungarian national economy is a central question of economic policy. This requires further improvements in foreign trade policy and in internal economic policy conditions.

In foreign trade policy, the Hungarian government is interested in the removal of the obstacles to international trade, mutual reduction of tariffs, removal of non-tariff barriers and elimination of all kinds of discrimination. Within the CMEA, Hungary and the other member countries work collectively to further develop the economic conditions of large-scale programs of cooperation as well as cooperation and specialization agreements in the manufacturing industry.

The system of domestic economic control and management is developed further in accordance with the reform of 1968. The relation between world market prices and domestic prices is planned to be more consistent and organic than before and this relationship should be more flexible. Industrial enterprises interested in exports should be in even more direct contacts with foreign markets. Expansion of the foreign market organizations is planned, together with making their operation more effective. Efforts are made to establish further joint trading and producing companies where this is lucrative. The industrial enterprises, primarily in the manufacturing industry will decide independently – within the framework of national plan preferences and state regulations – on the volume and composition of their production, sales, purchases, the choice of their partners, according to the market conditions.

All these efforts of economic policy will be implemented in the Sixth Five-Year Plan (1981–85). Their success will depend to a great extent on the utilization of the comparative advantages of cooperation among CMEA countries, the trends of economic development in the West-European countries and, finally, on the development of the international markets.

E. KOMLÓSY–J. NYERS

INTERNATIONAL COMPARISON OF THE TECHNOLOGICAL LEVEL OF INDUSTRY

Ever since the 1960s, as a result of the exhaustion of resources of extensive growth, the CMEA countries have been increasingly engaged in technological development and in utilizing the achievements of scientific and technical progress. At the same time, it was a growing demand in the preparation of their economic policy decisions to have reliable and accurate information about the technological level of production, the rate of technical progress and its main trends. At the end of the 1960s and at the beginning of the 1970s research work aimed at measuring and technological level by statistical methods gained a new impetus: a demand arose for the international standardization of measuring methods and as early as in that period international comparisons of the technological levels attained in the different countries were also carried out.

This endeavour motivated the joint work of the Polish Statistical Main Office and the Hungarian Central Statistical Office towards a twofold target: in part to obtain an idea about the industrial technological levels of the two countries in the year 1975 and about technical progress between 1960 and 1975. The work was a methodological experiment in which the most important statistical and technical-economic indicators suitable for an international comparison of technological levels and technical-scientific progress were summarized, systematized and assessed.

Comprehensive evaluation of the technological level of any industry by statistical indicators is very labour-intensive and demands extensive knowledge. Even its national methods are rather rudimentary and international comparisons in this field were limited to some of its elements. Such complex type comparisons have not been published in the international literature as yet. Although both Hungary and Poland had had certain national experiences in the statistical analysis of the technological level of industry – the study of some indicators dates back to several decades in both countries – this work can be still regarded as a tentative first step and the conclusions derived should be treated with certain reservation and caution.

Methodology and experiences of the comparison

The first task in the course of comparison was to define the notion of technical progress. For this purpose national experiences and the results of relevant theoretical research work were used. Various interpretations are rather near to each other in the Marxist literature. According to the notion formulated together, technical progress was assumed to be an objective process manifested in the output of the material sectors of production – among them industry – and comprising the following:

– increasing mechanization and automation of production technologies;

– use of more up-to-date production technologies;

– modernization of the means of production, and of machines and equipment in particular, improving their efficiency, better exploitation of their capacities;

– updating the product-mix, advancing and manufacturing of new materials and products, enhancing the use value of the commodities produced, improvement of their quality;

– prompt and effective adoption of the attainments of science depending on economic conditions;

– transformation of the manpower structure in a manner best promoting development, raising of qualifications to comply with modern technology.

The technological level typical at some point of time in a given country develops as a result of technical progress.

In the international comparison of technological levels it is a convenient starting point to study the general social, economic and natural conditions of the countries compared, as the structure and technological standard of industrial production is strongly affected by these factors.

As shown by the definition, technical progress manifests itself in great many fields. These tendencies are rather easy to analyse with the aid of some general indicators and can be compared one by one. Some of the general indicators showing technical progress are only suitable for analysis inside a country while some can be used for both national and international comparisons.

For lack of appropriately comparable information the recently accomplished comparison of the technological levels of the Polish and the Hungarian industries could not cover all components of the phenomenon: the structural changes in the material and energy consumption by industry, the improvement in working conditions, the changes in the structure of manpower, the rising standard of qualification, etc. were not treated.

The study was actually limited to three main fields:

1. mechanization of production processes and technological level of the means of production,

2. updating of the product-mix,

3. research basis of technical progress.

In the course of the study a fairly comprehensive system of indicators, entailing the major components of the different phenomena, though not their entirety, and suitable for comparison of the industrial technological levels in the two countries had to be set up.

The methodological basis of the study was provided by the systems of sectoral indicators elaborated and coordinated in the framework of the CMEA, the indicators showing the spreading of the use of new technology, and the technical-economic indicators. Most of the coordinated CMEA indicators were figuring in the statistical data service of the two countries, but some indicators could be made comparable only through slight recalculations, while others were more easily comparable for both parties without

recomputations than with the manysidedly coordinated methodology. Besides, there was a wide range of indicators without available international recommendations, yet these could be collated with satisfactory safety on the basis of the two countries' national statistics.

Indicators of the mechanization of production processes and of the technological level of the means of production

The technological equipment of labour, i.e., the mechanization of production, can be studied from several aspects.

One of the simplest and most widely known indicator of the mechanization of work is *the gross value of machinery and equipment per one worker.* A refined version of this indicator can be also used: the value of machinery and equipment is related not to the total staff but to their number working in the shift engaging the most workers. This indicator can be used in a relatively narrow field. Practically it is only convenient for analysing the mechanization level of certain sectors but even that is made difficult by the fact that the conversion of the value of the fixed assets to a comparable price level can be done only approximately and laboriously. This indicator is not suitable for comparison between sectors since the capital and labour requirements of the sectors are different. For international comparisons, again, this indicator could be used only after converting the gross values of machinery and equipment into a common currency, a task very difficult to solve.

The fact that on various stages of technological development the ratios of fixed assets to the manpower operating them are different and that the impact of mechanization is not unambiguous should be taken into consideration in evaluating the technological equipment of labour. Expansive-type developments create new jobs, i.e., demand additional labour, while the reconstructive-type investments, which usually involve installation of automatic or partly automatic machines and lines of machines, diminish the labour requirements. The mechanization level of the different sectors is also affected by the microstructures of the respective sectors.

From the labour aspect the mechanization of production processes can also be analysed by classifying the different work processes – from manual work up to controlling and inspecting the automatic system – according to some criteria, and categorizing the staff according to the type of activity performed. The analysis can be done instead of measurement by staff number according to man-hours worked. This is a more correct method but it is also more difficult to apply. Mechanization of production is well comparable from the labour aspect – with some reservations – also in an international framework. This has been proven by the analysis comparing the technological levels of the Polish and the Hungarian industries. Although the mechanization indicators based on employment data are not computed with identical methods in the two countries (manual work is distinguished from work automated to different degrees within the number of workplaces in Poland and within labour employed in Hungary), the data could be compared

with fair safety and the results obtained showed the differences between the technological levels of different sectors in a realistic way.

The ratio of output turned out with machines in the total production is an ideal aggregate indicator of the mechanization of production. However, the implementation of indicators computed on the basis of output is very limited in practice; as a matter of fact these can be used only as phase level indicators in the case of relatively homogeneous patterns of production or technology. Namely, the products normally go through several technological processes: the operations are overwhelmingly manual for some and overwhelmingly automatic for others, and we can very rarely find a unit of measurement by which the various activities could be aggregated. But in fields where such indicators can be used they also meet the requirements of international comparisons. Such type of technical-economic indicators were used for the comparison of several sectors also in the comparison of the technological levels of the Polish and the Hungarian industries.

The technological equipment of labour can be inferred from *electric energy consumption per one worker.* The indicator of provision with energy – as against those of equipment with assets and capital intensity – can be used well beside dynamic comparisons also for international comparisons, as some of its elements are computed in physical units of measurement and thereby the difficulties deriving from currency problems can be avoided. However, it must be noted in analysing the technological level of production on the basis of this indicator, that it is affected by a number of elements not related to technological level or technical progress, and their impacts can be hardly eliminated. The following are some of the major factors of such type:

– electric energy is only part of the total energy consumed and in case of different energy consumption patterns the ratios are not typical;

– big amounts of energy are used in industry also for technological purposes, the different ratios of this are also distortive; reckoning with the quantity of electric power used for the driving of motors would probably yield more accurate results (the pattern of production has been shifted towards energy intensive products in Poland in recent years while in Hungary preference has been given to less energy intensive products in development);

– waste of energy, if any, also appears as a technical factor;

– the value of the indicator is affected also by work organization (the value of the indicator is marred by engaging more than the necessary labour).

The technological level of machines and equipment can be studied from several aspects. One of the simplest and most widespread indicator is *the ratio of the net value of machines and equipment relative to their gross value.* This indicator, namely, being closely related to the age of the machinery, indirectly shows its age distribution. This indicator is convenient for sectoral comparisons in national terms but is not suitable for international comparisons because of the different depreciation allowance rates of the countries. This indicator could not be used for the comparison of the technological levels of the Polish and the Hungarian industries either, since the depreciation rates of fixed assets are usually higher in Poland than in Hungary.

The age distribution data of the machine stock are also suitable for the estimation of the up-to-dateness of machinery and equipment. This indicator must be evaluated with some reservations and caution too, for the age distribution of the fixed assets shows chiefly their physical condition. The younger machines are usually more modern than the older ones but in the case of comparison between countries with markedly different engineering levels the age distribution of the machine stock does not show the differences between technological levels satisfactorily. E.g. it is not really possible to express the difference between the technological standards of the industries of the United States and Hungary in terms of this indicator. Such data would have been satisfactory in the comparison of the technological levels of the Polish and the Hungarian industries but they were available for then two countries only on some partial areas.

The best method for the international comparison of technological levels of the machine stock is classification of the number of machines and equipment and their gross or net values according to categories of technological level formed on the basis of various characteristics. The degrees of development formulated for the estimate are strongly different by countries. Such methods were used first in the early 1960s for the estimation of the technological level of machinery and equipment in CMEA countries. It was first introduced by the Central State Statistical Office of the German Democratic Republic in 1963. A few years later the Polish Statistical Main Office elaborated and introduced a survey of rather broad spectrum, with a breakdown into ten classes characterizing the state of machines and equipment. The system introduced in the German Democratic Republic was adopted in Czechoslovakia too with some slight amendments. In all the three countries the classification systems entail the whole spectrum of the technological development of machinery and equipment from manually operated machines to the most advanced computer-controlled systems. The system of observation introduced in Hungary in 1972 is not that broad, it only specifies the category of automatic machines and equipment according to whether the means of production under study is fully or semi-automatic, and classes all other machinery and equipment in the group of non-automated assets. For this reason only these two categories could be compared in the bilateral study with the Polish data through certain aggregations.

Indicators characterizing the modernization of the production pattern

In lack of reliable statistical information, the international comparison of changes in *the production pattern* is usually restricted to comparison of the sectoral structure. The changes can be studied according to several types of indicators. The data on sectoral pattern are internationally well comparable but the comparison should be carried out with due regard to the fact that although the economic development level of a country can to some degreee be concluded from the magnitude of the ratio of a given sector yet the share of sectors is under the powerful influence of other factors, too. It should be furthermore taken into account that the sectoral structure of the industry becomes less

and less typical of the technological level at an intensive stage of economic development, and the up-to-dateness of and changes in the product pattern become predominant.

In the comparison of the technological levels of the Hungarian and Polish industries the sectoral patterns of the two countries' industries were studied according to five kinds of indicators, namely, value of gross output, number of industrial productive staff, investments in industry, gross value of productive fixed assets, and electric energy consumption. Estimation of the changes in the product pattern was ventured on the basis of the share of commodity groups regarded as up-to-date and the growth of the output of such commodity groups. Data of nearly identical contents were available about the distribution of exports by commodity groups and countries and from that, with certain reservations, conclusions could be derived for the up-to-dateness of industral products.

Indicators characterizing the research base of technical progress

In the course of the analysis of the research base of technical progress the share of employees in R&D jobs, the share of spendings on R&D and the distribution of these spendings according to use, the number of licences purchased, the share of products manufactured under licences, etc. can be compared. The data belonging to these fields are usually well comparable internationally, too.

Sectoral technical-economic indicators

Beside the analysis of the technological level of industry on the basis of aggregate general indicators it is useful to study the different sectors in greater detail according to further technical-economic indicators; the conclusions from general indicators can be complemented and backed up by a more thorough analysis of the specific sectoral features and by tracing the microstructural changes in the sectors.

As noted above, it was made possible by the recommendations adopted in the framework of the CMEA and by the indicators computed on that basis to extend the comparison and estimation of the technological levels of sectoral production also to various partial fields.

In the comparison of the technological levels of the Polish and the Hungarian industries detailed analyses were made for nine major industrial sectors: electric power and thermal energy production, coal mining, ferrous metallurgy, machine-building and metal processing, the chemical, rubber and asbestos industries, the building materials industry, the glass, porcelain and fayance industries, the textile and the food industries.

It was found that the majority of indicators elaborated and coordinated in the framework of the CMEA for this subject can be used satisfactorily for international comparison, but in some fields it would be advisable to extend the range of indicators and in other cases to refine the method of computation.

The comparison made it clear that the range of partial indicators coordinated and published in the framework of the CMEA so far is very narrow, especially with respect to the engineering industry and the food industry. In this field it would be expedient to extend the sphere of international recommendations and at the same time to sift the indicators. Such technical-economic indicators should be more widely used which are on the one hand independent of the price and incentive system of the different countries – and therefore very suitable for comparisons both in time and space and also internationally – and which on the other hand give good description of the live labour requirements, material and energy consumption and labour productivity, the quality of finished products, etc. It would be useful to determine the methods and technologies of production for each major branch which can be regarded as progressive according to the present technical knowledge, and these could be included also in the sectoral indicator system of the CMEA. The results of further sectoral studies could be a great contribution to the research of measuring the technological level, to its international comparison and to widening knowledge in this field.

Since the connection between productivity and technological level is close, it would be appropriate to complete the future comparisons of technological levels of industries with productivity comparisons. Comparison of productivity level is not only a check on conclusions derived from other data but, as a paramount indicator of industrial activity, offers valuable information in itself about the situation and achievements of the countries' industries.

Even though the method elaborated for the comparison of the technological levels of the Polish and the Hungarian industries should be considered as tentative and in need of improvement in many respects, the study still offered numerous methodological experiences. These experiences indicate the opportunities and directions of developing statistics on technology and the similar future analyses could be backed up by their implementation.

The technological levels of the Polish and Hungarian industries

Hereinafter the main statements derived from the comparison of the technological levels of the industries of Poland and Hungary will be reviewed in brief.

Conditions of the development of industry

Poland and Hungary are economically medium developed countries, the per capita national income is nearly the same in both.

In the post-war period – and therein during the years 1960 to 1975 analysed in this study – the rate of economic development accelerated in the two countries. The growth of national income over 15 years was higher in Poland (187 per cent) than in

Hungary (129 per cent). The role of industry in producing the national income was greater in Poland: already in 1970 more than half of the national income was contributed by industry; in 1975 the share of this sector amounted to 59 per cent as against 45 per cent in Hungary. (It must be noted in evaluating these data that the shares of the different sectors of the economy are strongly influenced beside their actual weight also by the price and tax systems effective in the country.)

In the period under study the *volume of industrial production* grew more steeply in Poland: in 1975 it was 3.6 times the 1960 volume; in Hungary the growth was 2.6 fold. The difference between the growth rates of the two countries' industrial outputs has been particularly big in recent years: between 1971 and 1975 the volume of gross industrial output increased on annual average by 10.5 per cent in Poland and by 6.5 per cent in Hungary.

The development and technological level of industry are strongly affected by the natural and economic conditions in a country. Conditions are usually more advantageous in Poland than in Hungary.

Poland is much richer in *mineral resources.* Coal is the most important natural resource: in 1975, 17.9 per cent of the European coal production was mined in Poland. From the nonferrous metals the country is relatively rich in copper, lead and zinc. Polish sulphur production is also significant: in 1973 Poland gave more than 60 per cent of Europe's sulphur production. Moreover, this country also boasts of considerable brown coal, peat, mineral gas and rock-salt deposits. The mineral resources of Hungary do not have such international significance: only the bauxite production of the country is remarkable, amounting to some 15 per cent of the European output.

Another advantage of Poland is having a threefold area and population of Hungary's, consequently its domestic market is bigger and the supply of that market allows production in larger series and in plants of more economical sizes.

The geographical conditions are rather different in the two countries. Poland has a 500 km coastline in the north which provides favourable conditions for the development of branches related to the economic exploitation of the sea, among others ship-building. The conditions of agricultural production, on the other hand, are more favourable in Hungary and this makes the development of the food industry more advantageous.

It used to be a common feature of economic development in the two countries that the wide use of the achievements of scientific-technical progress took place in both countries actually under the circumstances of extensive economic development. However, conditions of the extensive growth of production were not the same.

Poland had greater labour reserves: *employment* in the national economy increased between 1961 and 1975 by 40 per cent in Poland and by only 7 per cent in Hungary. The sectoral composition of employment was markedly rearranged in both countries in the period under study: the ratio of employees increased in industry and decreased in agriculture. Industrial employment increased by 67 per cent in Poland and by 35 per cent in Hungary between 1961 and 1975. In spite of the steeper growth, the share of the industry in total employment was lower in Poland even in 1975 (30.8 per cent) than in

Hungary (35.7 per cent). Due to the bigger labour reserves the industrial staff increased in Poland up to the recent years while it hardly changed in Hungary since 1970.

Another important factor of economic and technical development is investment activity. Both countries attributed it high importance in the realization of their economic policy objectives.

In the analysed period the volume of investments increased 4.8 times in Poland and 3.1 times in Hungary. With respect to the growth rate of funds invested in development the differences were appreciable between the two countries mainly in the years 1971 to 1975. The biggest quotas of the amounts budgeted for investments were allocated in both countries for expanding the industrial production capacities. Between 1971 and 1975 the volume of industrial investments increased in Poland significantly, by 169 per cent. During the same period the funds allocated to the development of the Hungarian industry were growing at a much slower rate (by 37 per cent).

Owing to the different labour conditions mentioned the investments of the two countries differed also in type. In Poland investments usually implied the creation of new jobs and had little concern for the renewal and modernization of the means of production in existing enterprises. In Hungary, on the other hand, due to the previous exhaustion of labour reserves, the reconstructive type labour saving developments dominated and the purpose of investments was mostly to raise the technological level of production.

In the period under review investments were concentrated in both countries first of all in the sectors promoting technical progress, i.e., the engineering industry and the chemical industry. In Poland about 20 per cent of all industrial investments were allocated to machine building and the metal processing industry, and 13 per cent to the development of the chemical, rubber and asbestos industries. The volume of the investments into Polish machine-building and metal processing projects increased by about ten times from 1961 to 1975. In Hungary this sector had a smaller share in the funds allocated to development, and also the growth in the volume of investments was lagging behind the Polish figure. The fuel industry had a big share from industrial investments in both countries. About 11—13 per cent of the amounts earmarked for the development of industry were used for the development of metallurgy in both countries. The development of ferrous metallurgy was more considerable in Poland. A very dynamic development of this sector was launched in 1974 with the setting up of large-capacity projects. The light industrial sectors did not belong to the priority sectors in either country, although some branches were developed at rates higher than the industrial average in some five-year plan periods. The food industry received about 10 per cent of all industrial investments in both countries. In Hungary, in order to utilize the better agricultural conditions, the volume of investments into the food industry was increased above the industrial average in all the three plan periods.

Mechnization of production and the technological standards of the means of production

From the point of view of raising the technological standards of the means of production the investments into machinery are decisive. Their share in the total investments of the industry increased in both countries. Especially the investments in imported machinery and equipment were stepped up: between 1971 and 1975 the volume of investments in machinery originating from imports increased by 74 per cent in Poland and by 44 per cent in Hungary.

As a result of significant investments into machinery the *technological equipment of labour,* that is, the mechanization of the production processes, improved in both countries. The higher rate of development of the industry of Poland than that of Hungary is indicated by a faster increase in the value of machinery per one worker in Poland than in Hungary. Especially steep development can be observed in the Polish engineering industry between 1971 and 1975: during that period the value of machinery per worker doubled. The mechanization level of the Polish building materials and textile industries also increased considerably. In Hungary in recent years the technological equipment of the building materials industry and the glass, china and fayance industries has shown outstanding progress: the value of machinery and equipment per one worker has been practically unchanged since 1970 in machine-building and in the metal processing industry, and ferrous metallurgy does not show any appreciable increase either.

The electric power supply of labour, i.e., the power consumption per worker is an approximative characteristic of the technological equipment of labour and at the same time gives some idea about the exploitation of machinery and equipment. The differences are strikingly big in favour of Poland in ferrous metallurgy, machine building and the metal processing industry, as well as in the chemical, rubber and asbestos industries. Judging after this indicator, the glass, china, and fayance industries and the textile industry are technologically equipped on an about equal level in the two countries, while Hungary is somewhat ahead in the food industry.

Despite the considerable developments, the mechanization and technological equipment of production processes are rather poor in both countries. This is shown by the data on *the distribution of workers and of workplaces according to the type of activity performed.* According to these data the mechanization level of the primary production processes of industry is nearly identical in the two countries: the ratio of those doing mechanized operations in basic activities was ranging between 50 and 60 per cent in the mid-seventies in both the Polish and the Hungarian industries, that is, 40 to 50 per cent of the workers were performing manual work even in the basic activities. The proportion of mechanized work is even lower if it is considered that part of those working on machines performed operations that, though done beside machines, were actually manual-type operations – e.g. loading and unloading of furnaces – and because of these ratios the level of mechanization appears to be more favourable than it really is. The mechanization level of auxiliary activities was much lower than that of the basic activities in both

countries, and this is only partly justified by the technological properties of these operations.

Within the industry the mechanization levels of the various sectors are quite different, mainly for technological reasons. In both countries relatively more people work on machines in the chemical, rubber and asbestos industries and in the textile industry, and less in machine building and the metal processing industry as well as in the food industry.

In lack of data that could be compared with satisfactory safety, *the up-to-dateness of the machine and equipment stock of the industry* could be only deduced from the automation level of the existing machinery: they are relatively low in both countries. The low ratio of wages and the charges on wages relative to the costs of and other charges on automatic techniques probably has a role here. Therefore, the use of up-to-date technology is relatively expensive in both Poland and Hungary.

In both the Polish and the Hungarian industry, only half of the machines and equipment were furnished with some appliance providing automatic operation. In both countries only 8–10 per cent of the machines and equipment were fully automated. (The data were computed by the gross value of the machine and equipment stocks, therefore it should be noted that the proportions show the weight of the costly automatic machines to be bigger than it actually is.)

Owing to technological features the automation levels of the various sectors are strongly different. International experiences show that automation is significant mainly in those branches (e.g. electric energy industry, gas extraction, crude oil refining, the chemical and the food industries) where production is done on continuous technological lines and where the necessary technical parameters can be guaranteed only through automatic control. In the engineering industry even the industrially advanced capitalist countries are at the beginning of automation.

Similar tendencies prevailed in Poland and in Hungary. In industry in both countries the automation levels of electric and thermal energy production were the highest while that of the machine and equipment stock of metallurgy kept with the industrial average. The automation level of machine building and of the metal processing industry was much below the industrial average in both countries and especially in Hungary: the automation rate of this sector was about 39 per cent in Poland and only 24 per cent in Hungary. As mentioned above, the technological equipment of labour has not practically changed in this sector in Hungary since 1970 and this contributed to the obsolescence of the machine stock: about 30 per cent of the iron and metal-working machine-tools constituting about 60 per cent of the machinery in the engineering industry was more than 20 years old.

In most branches of the chemical industry a higher degree of automated production would be feasible as far as the types of technologies are concerned, and though the degree of automation in this sector was higher than that of the entire industry, this opportunity has not been utilized enough in either of the two countries. It can be duly stated about the chemical, rubber and asbestos industries of both countries that along with the new,

modern automated plants entering the scene as a result of significant developments, the poorly mechanized plants are also kept running, hindering thereby the raising of the technological level of the sector.

The building materials industry and the glass, china and fayance industries were strongly developed in both countries and the formerly almost manufactural activities were replaced in several branches of production by mechanized work (or work equivalent to serving the machines) and by automated work.

The automation level of the textile industry was higher in Poland than in Hungary. Significant developments were carried out in the spinning and weaving branches in both countries. The use of spindleless (turbine) spinning nozzles was a substantial modernization in spinning mills. Modernization of the weaving technology is attributable to the use of the automatic and the so-called new systems machines (microshuttle looms, looms without shuttle).

In the food industry the degree of automation is rather low. Automatic machines are used mostly for the dosing, packing or bottling of finished products.

The automation efforts were directed in both countries first of all at the basic activities while this kind of development of the auxiliary activities has not been given much consideration. The ratio of automatic machines and equipment was much higher in the basic activities than in other activities in every sector.

Computer controlled production is the most advanced method of production, and both countries have made only the first steps towards its implementation. The computers used in industry are usually employed for administrative functions and only a few enterprises control and regulate technological processes with the aid of computers.

Modernization of the production pattern

It is one of the most conspicuous achievements of scientific-technical progress that the profoundly influencing natural and geological conditions notwithstanding it strongly alters and transforms the structures of the economies and within it of the industries of the countries and this transformation is at the same time the basis and stimulator of further development. This transformation process could be observed in both countries' economies during the period under study: the role of industry in producing the national income increased significantly, and in the sphere of industry the growth rates of sectors promoting the development of the entire economy and within it of industry, namely, the engineering and the chemical industries, were higher than the average rate.

The sectoral pattern of the industry changed more markedly in Poland, and with these changes the industrial structures of the two countries became more and more similar so that in 1975 there no longer existed any considerable differences between the sectoral structures of industrial production in the two countries. The shares of the engineering and the chemical industries in the total industrial output were nearly the same in 1975 in the two countries: around 30 per cent for the engineering industry and

about 10 per cent for the chemical industry. In the analysed period the weight of machine building and the metal processing industry within the industry about doubled in Poland while in Hungary it remained almost unchanged. The ratio of the chemical, rubber and asbestos industries increased more significantly in the Hungarian industry. The shares of ferrous metallurgy, the fuel industry, the building materials industry, the textile and food industries within industrial production decreased in both countries. The ratio of electric and thermal energy production changed in different ways in the two countries: in Poland it hardly changed while in Hungary it increased.

Modernization of industrial production is better illustrated by the microstructural changes in the different sectors than by the changes in the sectoral structure. Comparable information was unfortunately not available for this field nor were data comparable with adequate certainty about the introduction of new or updated commodities in production.

The *distribution of exports by commodity groups and markets,* on the other hand, to some extent implied the modernness of products.

Participation in the international division of labour is important for the economic development of both countries. The importance of foreign trade turnover increased in the period under study, the value of per capita turnover amounted in 1975 to 501 roubles in Poland and to 820 roubles in Hungary. The share of machinery and equipment in exports was in the range of 40 per cent in both countries. While this ratio was attained only by the 1970s in Poland, Hungary exported machines to this extent already in 1960. The bulk of the engineering products were exported from both countries to socialist countries. Machinery exports to advanced countries were rising dynamically mainly in Poland, in 1975, 11.6 per cent of Poland's machine exports were directed to these countries. With the considerable development the share of machinery and equipment and vehicles directed to advanced capitalist countries rose in Polish exports from 2.1 per cent in 1960 to 14.9 per cent in 1975. This share was less in Hungary and amounted to 7.5 per cent in 1975. In 1975 in the exports of both countries to advanced capitalist countries fuels, mineral raw materials and metals represented the biggest share, and in Hungary also foodstuffs.

Research basis of technical progress

Great efforts have been made in both countries during the last 15 years for the development of their research bases and for introducing the knowledge acquired in the course of research work into production. The R & D activity can be described by the ratio of allocations for this purpose relative to the national income. In this respect both countries are in the medium zone among the CMEA countries: in 1970 in Poland 2.1 per cent of the national income was spent on research and development and this share only increased by 0.1 per cent a year; in Hungary the yearly 2.8 per cent share in 1970 increased to 3.5 per cent by 1975.

Because of their conditions the small or medium-sized countries must make additional efforts to avail themselves as much as possible of the results of international research work in order to close the gaps between technological levels. One of the ways is

to purchase foreign licences. The CMEA countries began to participate in this actively only in the last 5 or 10 years. The spendings on the purchasing of licences and know-how were relatively low in both countries. In industrial production more licences were adopted in Hungary while the share in industrial output of products manufactured under licences was slightly higher in Poland than in Hungary. The import of intellectual products was remarkable in both countries mainly in the engineering and the chemical industries which require much research work, develop vigorously and are decisive for technical progress, and turn out a broad spectrum of products. [1]

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All in all it can be stated that bearing in mind also the impacts of social, economic and natural conditions, in the present stage of development the technological levels of the industries of Poland and Hungary do not show significant differences and that mechanization of the production processes and the technological level of the means of production are rather low in the two countries in spite of the powerful developments carried out in recent years. In the sphere of industry, however, owing to the different conditions, the various sectors developed with different intensities and attained various degrees of technological level. As a result of bigger investments in Poland the technological levels of ferrous metallurgy as well as of machine building and of the metal processing industry were higher than in Hungary. On the other hand the building materials industry and the glass, china and fayance industries were developed more powerfully in Hungary. Owing to the natural conditions and to massive inputs into development the technological level of Polish coal mining is higher than that of Hungary while the more improved technological level of the Hungarian food industrial production is attributable to the more favourable agricultural conditions. The technological levels and average technological equipment of the other priority sectors are identical in the two countries and appreciable differences can be stated only in some partial fields alternatively for one country or the other.

Reference

1. NYERS, J.: *Foreign licences and know-hows in Hungary. 1971–1975.* Acta Oeconomica, Vol. 18, No. 2, pp. 183–196 (1977)

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BOOK REVIEWS

Régulation et division internationale du travail – l'expérience hongroise. Travaux du colloque Franco–Hongrois. (Regulation and international division of labour – Hungarian experiences. Proceedings of the French–Hungarian Conference.) Paris, 1979. Economica. XVII + 188 p.

The proceedings presented by Françoise *Renversez* and Marie *Lavigne* contain lectures and reports of a French–Hungarian economic conference held by Universities Paris X-Nanterre and Paris I-Panthéon Sorbonne in February 1978 on the topic of "Planning and control: experiences and comparison".

The opening lecture by Béla *Csikós-Nagy* treating general problems of the economic mechanism, summarizes and evaluates the ten-year period of the Hungarian economic reform. It presents the achievements of the economic policy intended to apply central planning in coordination with indirect economic control (assessing the period 1968 to 1974 as the golden age of the Hungarian economy) and the difficulties it encountered (especially in the post-1974 period). It deals with the various critiques of the Hungarian economic reform and with the measures aimed at decelerating growth, and structural transformation as well as those amending the system of control that had become necessary following the world market price explosion. It covers those problems of improving the Hungarian system of economic control which the author deems important, and problems of the situation and differentation of enterprises as well as of the revision of the price system.

The author is of the opinion that in spite of the pessimistic judgments the economic reform has survived and has proven viable in the changed economic conditions too.

The lecture by József *Bognár* discusses the foreign trade policy of Hungary. It stresses that a new approach to participation in the international division of labour is required both in economic science and in the practice of economic policy. In the author's opinion the changes that have taken place in the world economy since 1974 are so profoundly important that it is justified to speak about a new era of world economy and the evolution of a new world economic order. In the coming period every country will have to reformulate her growth models and the relative world market positions of the three major categories (capitalist, socialist, developing) will have to change; the economic relations between countries and groups of countries have to expand as a rule, world exports must grow, and so must, with a growing share, the exports of the developing countries therein.

The report by Bernard *Ducros* is more pessimistic about the predictable development of international trade. In his opinion the crisis now taking shape in the international division of labour entails that the era of international division of labour of the old type is over. A substantial rearrangement of the balance of world trade cannot fit in with a realistically expectable expansion of international trade. The advanced capitalist countries pursue protectionist policies, the increment of international trade is channelled mostly to the multinational corporations. At the same time the developing countries will become predictably industrialized and their exports may compete with those of the socialist countries in the advanced capitalist markets. Imports are trimmed by the advanced capitalist countries because of their domestic crises and by the socialist and developing countries because of their deficits and this will restrain the growth of international

trade. Joint cooperation of enterprises of the capitalist and socialist countries with the developing countries could be a prospective solution.

According to the report of Charles-Albert *Michalet* we are actually on our way from international economy towards world economy and part of the production capacities are transferred to the developing countries. However, the growth of their industrial production need not necessarily be accompanied by export expansion, the increment could be absorbed by their domestic markets. In his opinion the multinationals will export the most from and to the developing countries.

The subsequent lecture was the one by Márton *Tardos* which tackles the problem how the Hungarian economy is adapting itself to the changing foreign market conditions. Two main approaches were imaginable: the first is to isolate the economy from the impacts of foreign markets (rising prices), the second is to "let in" the price changes and let their consequences assert themselves in the economic processes. The lecture states that up to now Hungary has resorted to the first way, in situations determined by growing raw material prices and limited purchasing opportunities in every purchase market. She did not allow the price increases to show in full in domestic prices, maintained the state of affairs by means of subventions, loosing at the same time the chance of clearsight. The lecture reviews how exports could be rendered more effective with the new price and cost terms and the changes that are required for this purpose in the commodity pattern of the Hungarian foreign trade.

The report of Wladimir *Andreff* examines how much the reaction of the Hungarian economy to foreign changes can be regarded as specific or how similar it is to reactions of market economies. He infers that the reaction of Hungary has to be considered to be a specific one deriving from her position, from the problems of continuing the economic reform and from her CMEA relations, and shows only superficial similarities with the reaction that can be observed in France.

The report of Gilbert *Abraham-Frois* analyses the hardening of the limits to foreign trade in a similar approach. In his opinion these are rather quantitative than price limits in the CMEA for the Hungarian economy in need of raw material imports. The enforcement of world market price changes in domestic prices helps the adaptivity of the economy but regulation cannot rely solely on market mechanisms: beside the economic regulators also central planning must find the way of proper reaction.

The subject of the lecture by Egon *Kemenes* is the Hungarian economy in East-West relations. It is emphasized and illustrated that the opportunities for East-West economic cooperation and joint action in third markets (in the developing countries) are far from being fully utilized. Further expansion of foreign economic relations could help in overcoming the new foreign trade difficulties and acclimatization to the new situation. The author states that Hungary has decided to keep her economy open for, with all its uncertainties, this is the only way of development.

Bernard *Bobe's* report raises the idea of using the means of exchange rate policy instead of export and import subventions. It surveys the three-step method of French export planning. Because of the difficulties in planning foreign trade with capitalist countries and the payment problems of non-oil producing countries the author finds it doubtful that foreign trade with those countries could contribute appreciably and in a way that could be planned to the economic growth of Hungary.

The lecture of Gábor *Révész* analyses the connections between wage control and enterprise incentives in Hungary. It presents the principal problems of wage control and remuneration and the solution used, also looking back to the pre-reform period. It sets out the advantageous and disadvantageous impacts of two concrete forms of remuneration and enterprise wage control attached in the new economic mechanism to enterprise profitability: the regulation of the average wage and of wage bill control, on enterprise economy. It deals with the actual wage differentials and the necessary constraints on the differentiation of wages. The author is of the opinion that in the present situation state control should be determinative in the forming of wages, and it would be reasonable to link the profit share to the profitability of the enterprise.

The report of Guy *Caire* stresses that the macroeconomic control of wage outflow is usually necessary but can be done only under certain conditions. It seems to the author that these conditions are given in Hungary (wage policy concept, instruments of wage control, forces acknowledging and asserting the need of social agreement.) Wage control is therefore operating, even if not quite smoothly. In France these conditions are missing and some aspirations of this kind can be found only in the state sector of industry.

The report of Pierre *Llau* compares the role of enterprise taxation in the two countries. In Hungary, with effective price control, this is a suitable instrument for the control of wages and profit. In France a supplementary tax was in force to control nominal wage rises but it was never applied against any company.

The lecture of Tamás *Nagy* deals with problems of the Hungarian price system and price policy. It sets out from the dual function prices have to satisfy in the new economic mechanism: to orient the enterprises in production and to provide information for central decisions. This requires the adjustment of domestic price proportions to world market prices. It is stated that though the Hungarian price system has been developing in this line since the reform, yet it meets the said requirement only in part. The producer and consumer prices are still considerably deviating from the world market prices and do not express the real costs of production, nor of imports and clear sight is obscured by the extremely high and numerous subsidies. The changes deemed necessary in the transformation of the price system, modification of price proportions, a drastic narrowing of the range of subsidies, expansion of the range of free prices, abolition of charges on assets, etc. are outlined. Within the context of the transformation of the price system, the connections between the price system and the entire system of economic control as well as interrelations with the economic policy, and the necessity of measures to be taken also in these fields are stressed.

The report of Raymond *Courbis* compares the price and tax systems of the two countries, underlining the similar and the different features. The producer prices contain similar components in France too, including among other things fairly high social insurance contributions. There are similar experiences also with respect to the relations between foreign and domestic prices. The need to approximate domestic price proportions to those of the world market was realized in France in the 1950s, the process evolved in the sixties after joining the EEC, and this caused difficulties to many enterprises, still felt in the iron and steel and the textile industries. It is a typical difference in retail price formation that the French prices contain a sizeable value added tax. For anti-inflationary and social reasons the state repeatedly interfered with the formation of consumer prices. This resulted in large budgetary deficits and finally prices had to be adjusted to costs.

Possibly for reasons of length and editing considerations the contributions to and the remarks made in the debate are not contained in the book. Publication of the proceedings of the conference will certainly promote the realization of the objectives of the exchange of views and mutual understanding, and will contribute to the formation of more realistic ideas free from prejudices and misunderstandings about the Hungarian economy, and economic ideas in Hungary. It is hoped – as is also noted in the foreword to the book quoting the wish of both parties – that the dialogue between the Hungarian and French economists will be carried on.

J. KOLTAY

BEKKER, Zs.: *Növekedési utak – dinamikus ágak* (Growth paths – dynamic branches.) Közgazdasági és Jogi Könyvkiadó. Budapest, 1978. 239 p.

The book examines the role of the dynamic branches – here meaning the engineering and the chemical industries – in economic growth and the system of conditions of the development of these activities. The structural features of countries with different levels and types of development are explored by means of stated assumptions of the theory of development as well as through empirical study and analysis of the economic processes.

The authoress uses the *Jánossy*-method which is well-known in the Hungarian economic liter-

ature and the method of structure analysis known by the name of *Chenery* in international literature. The conclusions and the stated trends of development are the results of two comprehensive international comparisons covering 123 and 80 countries, respectively.

The core of the treatise is the analysis of the present industrial structure of Hungary. It investigates the rather complex problem how, on what type of growth path, with what speed and structural parameters, under what national and international terms the countries that were latecomers in the development process did or could enter into the main stream of economic development with the ambition of advancing together or getting ahead. With the specific methods not only the results and structures of production but also the market terms, the role of production factors, and the level and consumption pattern of the products of dynamic branches are analysed. As it was assumed that the structural transformation over time, accompanying development, appears similarly in the industrial structures of countries on various stages of development at a given time, the authoress could actually avail herself of two methods of analysis:

- observation of structural changes in the industries of the countries over time;
- comparison of the industrial patterns of countries on various stages of development at a given time.

The authoress applied both approaches. The study of development over time covers the 20th century and the post-world-war II period in particular. The comparison of countries representing various stages of development is made for 1970 and is based on the data of more than 100 countries.

Both aspects indicate the existence of a "normal path of development" which is called by the authoress the "main stream" of international development. The different countries diverge from the main stream owing to their geographical, social, ethnographical, etc. features on the one hand, while, on the other hand, some typical other countries with characteristic common features constitute so-called "secondary streams". The socialist countries also make up such a special group.

The authoress shows in detail that divergence from the "main stream" manifests itself more strongly in the pattern of production than in the pattern of consumption. That is, the combined analysis of structural and growth parameters characteristic of economies on various stages of development resulted in the paradox that the existence of common features is the most apparent in the consumption of products turned out by the dynamic branches while there are striking discontinuities in the terms of production of these industrial branches: concentration of the more and more demanding categories of activities to an ever more exclusive group of countries is fast and surging. The structural assimilation in consumption resulting from enhanced economic internationalization is thus inconsistent with the internal terms of economic development at more than one point. The inconsistency might appear especially drastic in case of countries representing a lower structural level. The difference between these two structures can be levelled out by foreign trade. This can be the reason for the fact that the said difference is more significant in the case of small than in that of big countries. Against such an international background a new light is cast on the Hungarian industrial pattern, revealing the general and the specific features of the path of development of this country.

Part 1 – entitled "Development of the dynamic branches of industry and economic growth" – contains the data of the sectoral comparison in the stricter sense. It presents the special system of proportion and rates of the dynamic branches as evolved in the socialist countries. It analyses the special terms by virtue of which, despite the medium level of development of the European socialist countries, the dynamical sectors, with high values of macrostructural indicators, could become the leading branches of the strategy of industrialization and break-through.

The functional analysis of the dynamic branches of industry in the socialist countries is important in two respects:

- firstly, it is a clue to understanding their initial development,
- secondly, it is an indispensable element for earmarking the direction of further development.

The chapter on the Hungarian path of development draws attention through a concrete anal-

ysis of economic history to the determining role of economic policy. But while in connection with the evolution of the socialist way of development the possibilities of divergences from the general trends and the necessity of particular structural proportions are presented, in the Hungarian analysis the limits of divergence or deflection from the general trends, the determining role of historical and economic constraints and some preconditions for keeping the momentum are noted.

Part 2, "Mosaic pictures to a synthesis", discusses the relationships of Part 1 in a broader context. It views the whole of the scale of development and studies the causes for structural assimilation. It deals with the reality content of and the constraints on the assumption of a "normal path of development", with some problems of principle of comparability including the problem of quantitative comparability of economies of countries with different social systems and countries beginning their development at different times, as well as of developments representing different qualities.

The book of Zsuzsa *Bekker* is an interesting venture in the Hungarian and international literature on economic growth and structural transformation.

J. GERGELY

CSIZMADIA, E.–SZÉKELY, M.: *Vállalati gazdálkodás és gazdaságirányítás a mezőgazdaságban* (Enterprise management and economic control in agriculture.) Budapest, 1978. Mezőgazdasági Kiadó. 265 p.

Ernő *Csizmadia*'s and Magda *Székely*'s book deals with Hungarian agriculture. The authors group facts and data around three well selected topics and thus give an almost complete picture of the past development, contemporary situation and further tasks of development of the Hungarian agriculture linked more and more closely to the industry.

The authoress of *Part One,* Magda Székely deals with enterprise structure in the Hungarian agriculture and food industry. She points out that the processing and sales of foodstuffs are carried on mostly by state-owned enterprises, while the decisive part of agricultural output – about 72 per cent – is produced in cooperatives. No radical change in ownership relations can be expected in Hungary in the future, since both the state and the cooperative forms of ownership are strengthening and further developing. Namely, the historical role of cooperatives is not confined to leading the small-scale producers on to the socialist way, since they can solve various tasks of production and sales economically and with adequate elasticity. In her opinion it is an important requirement that the common socialist features of state enterprises and cooperatives should strengthen in time, with the fading out of the peculiarities characteristic of the cooperatives. This is the way of bringing closer the two socialist forms of ownership and enterprise.

In the relationship between state enterprises and cooperatives the principle of equal rights is enforced. That is, their cooperation is based on mutual advantages and risk-taking. However, the development of closer connections is made difficult by the circumstance that state and cooperative enterprises, respectively, are directed usually by different economic regulators in Hungary. A more purposeful coordination of motivation in the vertically connected food production has begun only in recent years.

Development of integration brings about new organizational frameworks. In Hungary the first enterprise associations and joint enterprises were formed in food production in the early 1960s and by now their number already exceeds 500. State enterprises and cooperatives, industrial plants and agricultural units as well as trading companies may all participate in cooperation. Cooperation between agricultural big farms is more frequent, but in 1976 the first agro-industrial associations already appeared, too. In this form of cooperation agricultural, processing and trade enterprises are participating with the aim of coordinating their activity in one or another complete vertical chain of food production. A common characteristic of all ventures is that by joining resources and efforts solution of greater tasks than previously is made possible.

In *Part Two* Ernő Csizmadia examines the production and management results of Hungarian agriculture. He points out that the production results of agriculture are very significant, but sales of commodities increased at an even faster

rate. Agriculture sold more than three times as many commodities in 1975 as in 1950 and twice as many as in 1960. Commodity production increased faster than gross value of output because the proportion of internal consumption in agriculture is more and more decreasing and the utilization of means of production of industrial origin is increasing.

Indicators of labour productivity have developed also favourably. Production per employee increased somewhat faster in agriculture than in the industry since in the agricultural sector the decrease of manpower has been already a lasting phenomenon for a long time, along with the simultaneous increase in output. However, the author relates the value of output – especially that of the net product – also to the combined inputs of live and embodied labour and the picture obtained in this way is already much less favourable. Therefore, the most important task of the coming years in Hungarian agriculture is to realize the increase of output by such investments which bring about a more efficient utilization of the means of production and labour than previously and thus result in a faster increase of the net product (national income).

Csizmadia divides the factors of increasing efficiency into two main gorups, internal factors within agricultural big farms on the one hand, and external ones outside the agriculture, on the other. He points out that efficiency may be improved by an adequate coordination of production factors, through the improvement of investment activity and current operations, a rational development of the production structure, and together with this, by the strengthening of cooperation and integration, the economical use of circulating assets, the utilization of traditional methods and solutions, furthermore by the creation of an up-to-date industrial background.

In *Part Three* Magda Székely deals with the development of economic control and management. As against the procedure usual in Hungarian economic literature, she does not examine the price system and the system of state subsidies separated from each other, but jointly. She proves that despite the repeated raising of producer prices the price level of agricultural products is in Hungary still lower than the socially necessary inputs even at present. Price losses occurred in this way are repaid to agricultural big farms by the central agencies, mostly through state subsidies. In this way an adequate enterprise income is ensured for producers on the one hand, and the development of agricultural production is controlled by the joint and combined application of prices and subsidies, on the other.

Theoretically, the question may be raised why costs and profits are not recognized in the prices of agricultural products. Namely, in this case a considerable part of subsidies would become superfluous. However higher agricultural prices than the present ones would encounter difficulties, since consumer prices would be raised to such a great extent as to lead to disproportions in the development of both living standards and the costs of labour. Elimination of state subsidies is not realistic, either, since they belong to the well-functioning regulators of planned economy. Therefore, in the opinion of the authoress the joint application of prices and subsidies will go on also in the future. Some changes may occur inasmuch as the agricultural producer prices will be raised at a moderate rate with a simultaneous decrease and simplification of subsidies.

The authors support their statements with corresponding statistical data and properly compiled tables in almost all cases.

K. FORGÁCS

GÖNCZI, I.: *Üzemi rendszerek iparosodó mezőgazdaságunkban* (Farming systems of the industrializing agriculture in Hungary.) Budapest, 1978. Közgazdasági és Jogi Könyvkiadó. 422 p.

With the progress of industrialization in agriculture the characteristic features of agricultural production have basically changed and village society has been rapidly transformed. The agro-industrial development raises new questions, it demands the analysis of new phenomena from scientific research. Led by the necessity of providing an answer the *Közgazdasági és Jogi Könyvkiadó* (The Publishing House for Economics and Law) has launched a new series in Hungary under the title "Industrializing agriculture" under the editorship of academician Ernő *Csizmadia.* Iván *Gönczi*'s book is the first product of this new series promising a rich programme.

The author is well-known in Hungary both as scientific researcher and as a professor of agricultural education. His present book *outlines the new features of the farming system of socialist agriculture in the period when the achievements of the scientific-technical revolution are introduced into the agriculture.* In the book the author tries to summarize the effects exercised on the farming system of agriculture by the process of industralization. The author is led by the endeavour to embed the science of agricultural business management in a new approach. In order to draw right conclusions concerning the accelerated technical and economic processes as well as their effects he *applies the systems approach consistently.* This is perhaps the most important charcteristic of Gönczi's book. Clear and enjoyable style also belongs to the good points of the book, while its scientific value is increased by the fact that its message is embedded in a wide range of available literary sources. (The bibliography contains 267 sources.)

The book is divided into four parts. *Part One* gives a description of the farming system. Its starting point is that with the penetration of the scientific-technical revolution into agriculture this sector is becoming industrialized. This process leads to a modification of the characteristics of agriculture, but without the sector losing its basic features, even though it is increasingly dependent on the level of development of the related industrial branches and, as a matter of fact, of the entire industry. The author feels expedient to compare the farming system of agriculture with the industrial model while he clearly points out that "... a *mechanical* forcing of industry-like systems and of industrial analogies is theoretically unfounded and, from a practical viewpoint, of dubious effect, if socio-economic and natural production particularities are disregarded."

Furthermore, he comes – among others – to the important conclusion that "... *agricultural development is first of all production development* and is aimed only in a small part of cases at a *substantial* transformation of products, but at most at the improvement of their qualitative parameters. He deals with the notion of enterprise and plant (farm) as well as with their relationship. He considers enterprise and plant as two sides of the same microeconomic unit whose dependence is mutual. In his opinion "... because of their specific natural and the related economic characteristics *farm growing and animal husbandry have to be regarded as general forms of activity of agricultural plants,* while other activities only as occasional, connected forms". The above definition of Iván Gönczi causes some problems for me, because the sphere of activity of agricultural big farms has expanded in Hungary since 1968 and "non-agricultural activities" have become so important in both the cooperative and the state farm sectors that their qualification as occasional can be disputed in my opinion.

Part Two is entitled "The farming system in a changing environment." In this part effects of the dynamically changing environment are presented. Gönczi states that *"Towards the system of agricultural farm... the requirement can be raised that it should be in harmony with socio-economic requirements, on the one hand, and with those at the producing site, on the other, and technological elements and complexes should be selected accordingly."* The author lays great emphasis on outlining the standards (system of indicators) where the system and its elements, respectively, can be qualified. He underlines that indicators both in physical terms and economic ones (in terms of value) are needed. *"However, the evaluation of systems functions may be carried out basically only by economic standards."* Another important statement of the book is that the technical up-to-dateness can be properly interpreted only in space-time dynamics and through systems approach. The author deals with the contents of optimum in the course of measurement. He describes the connections between economic growth and price-costs relations. Examining the interrelations of factors and structures he expresses his opinion that the combination and optimal utilization of various potentials is a key-issue of the efficient functioning of the farming system. An important statement is that improving the utilization of a single farming element alone will not necessarily mean progress, since this may occur even at the expense of the assertion of some other element. "The degree of *utilization has to be determined* not for an element, but by *starting*

from the entire system and considering its total performance."

In Part Three interrelations between machine systems and farming systems are examined. When reviewing the agricultural machine systems the author repeatedly follows the method of comparison with the industrial model. He logically deduces that a rational machine system of a farm cannot be determined by a simple combination of optimal sectoral machine systems. He makes comparisons concerning machine systems belonging to capitalist and socialist farming systems. He examines economic issues of the utilization of machines, the relationship between man and machine both in plant growing and in animal husbandry in detail. *Part Three* closes with the discussion of the complicated complex of problems concerning harmonization of machine systems with farming systems.

Part Four is entitled "Micro-economic systems in the Hungarian agriculture." Here the author tries to concretize his earlier statements. He analyses the place of agriculture in the Hungarian national economy showing the environment where the development of agriculture is going on. Having many-sidedly characterized this environment, he points to the historical reality that Hungary had to carry out the industrialization of agriculture at a lower development level of the economy and industry than in several socialist and capitalist countries. This alone increases the importance of a rational arrangement of our agricultural farms (size, proportions, etc.) so that we may moderate unfavourable consequences of our backwardness through the rational utilization of resources. Iván Gönczi many-sidedly examines questions of agricultural development in Hungary. He comes to the final conclusions that *". . . development of agriculture at a rapid rate is justified also in the future"* but at the same time he also notes that *". . . this development takes place under price-costs relations not too advantageous from the aspect of efficiency"*. The author raises several ideas concerning the decreasing labour force in agriculture. He states that agriculture involuntarily takes notice of the flowing away of labour, but: "Nevertheless, it has hardly been examined up to now from the national economic aspect, *in what case labour migrated from agriculture accomplishes a socially more useful work at the new work-place,* in what case he does not."

In this chapter questions of the equipment of farms are dealt with in detail. Connections between technology and dimensioning are examined in plant growing and animal husbandry. When discussing farming systems the author pays great attention to horizontal and vertical links. He also tries to outline the perspective of the farming system in Hungarian agriculture emphasizing the great role of the uncertainty factor and that he undertakes only the outlining of general features of the probable development trend.

Unfortunately, in the course of concretization neither Chapter IV, nor the entire book reaches the phase that farm-, enterprise- and micro-economic systems functioning in the Hungarian agriculture, and rather varied at that, would be economically evaluated. There has been "no room left" for this element in the system of the author as he himself notes: "It is not our intention to glorify or condemn any practical technical solution, economic or organizational form." Nevertheless, when reading the book readers may permanently raise the following question which, unfortunately, is not answered: how efficient is the farming or enterprise system of Hungarian agriculture by international comparison? Where and when did this system prove its superiority and, at the same time, in what respect is this proof still missing? I think an answer to the above strategical question would have been an important contribution to a more critical evaluation of our own things and to the scientific foundation of future economic policy. In this field the book did not make use of the possibilities lying in the selected topic.

Considering the topic readers might have some feeling of want also in other respects. Let us just think of very simple matters. In the enterprise structure of Hungarian agriculture there are agricultural combines, too. In practice they are formed from the best state farms. Unfortunately, no evaluation on them can be found in Iván Gönczi's book. This can be criticized mainly from the viewpoint of the future. It would have been good if the author had shown

and characterized them, furthermore, had taken a standpoint concerning their perspective. Neglect of the presentation of agro-industrial associations must also be mentioned. At present four such micro-economic systems are working in Hungary with experimental character. What is Gönczi's opinion of them? How can they be characterized from theoretical and practical viewpoints? What is their perspective? Can science propose the wide-range spreading of agro-industrial associations to economic policy? These are all important and open questions for the further development of the micro-economic enterprise system of Hungarian agriculture.

Iván Gönczi's book as the first volume of the series "Industrializing agriculture" meets in its totality the expectations towards its publication. It is a work making up for deficiencies, of synthetizing and theoretical character with a basic idea that for the description of a perspectivic socialist farming model a successful approach can be made by setting out from the *global,* consciously taking the risk that in this way the discussion of the individual *partial* elements of the system might occasionally become incomplete and not elaborated enough. This work may be regarded as a beginning which concentrates on the synthetic view of agricultural production and development and will surely open the way for later discussions and adaptations, respectively. In this entirety the book is a pregnant example of the consistent application of *systems approach* in the agrarian micro-sphere. The work may claim even an international interest among those who pay attention to problems connected with the development of Hungarian agriculture.

I. BENET

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BAGOTA, B.–GARAM, J.: Mit kel tudni az 1979. évi népgazdasági tervről? (What to know about the national plan for 1979?) Budapest, 1979. Kossuth Kiadó. 219 p.

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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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András NYILAS, b. 1927. Deputy director of the Institute for Economic Research. Author of "The efficiency of real and human resources in Hungarian industry" (1974) "Efficiency requirements in

the allocation of investments and in exports in Hungary (1976) and of books and articles in Hungarian.

Dr. András RÁBA, b. 1921. Deputy director of the Institute for Economic and Market Research. Author of "Perspektiven und Probleme wirtschaftlicher Zusammenarbeit zwischen Ost- und Westeuropa" (1976, Berlin) and articles and studies on growth and changes in prices, economic control and foreign trade etc. in Hungarian.

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Dr. József NYERS, see Vol. 18, No. 2

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BOOKS RECEIVED

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A kiadásért felel az Akadémiai Kiadó igazgatója
Műszaki szerkesztő: Botyánszky Pál
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