ACTA OECONOMICA

ACADEMIAE SCIENTIARUM HUNGARICAE

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AKADÉMIAI KIADÓ, BUDAPEST

TOMUS 2
FASC. 1—2
1967

ACTA OECONOMICA

A MAGYAR TUDOMÁNYOS AKADÉMIA
IDEGEN NYELVŰ KÖZGAZDASÁGTUDOMÁNYI FOLYÓIRATA

Felelős szerkesztő:

FÖLDI TAMÁS

Szerkesztőség: Budapest V., Nádor utca 7.

Megjelenik negyedévenként, évi 1 kötetben. Előfizetési díja belföldre 120,— Ft, külföldre 165,— Ft kötetenként. Megrendelhető az Akadémiai Kiadónál (Bp. V., Alkotmány u. 21), a külföld részére pedig a Kultúra Könyv és Hírlap Külkereskedelmi Vállalatnál (Budapest I., Fő u. 32).

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I. Friss

IDEAS ON THE IMPROVEMENT OF NATIONAL ECONOMIC PLANNING

The author investigates in his paper the criteria of scientific planning of the economy. He defines the tasks and responsibilities of the planning agency and the decision-making political body, emphasizes the necessity of drawing up alternative plan variants and showing their advantages and disadvantages. It is a fundamental requirement to shape first a comprehensive plan conception instead of trying to fit together the plan-proposals of the various branches concerned. Of course, there are several methodological difficulties to surmount but the task is worth-while to undertake and, under existing conditions, cannot be avoided.

The development of production relations and of productive forces is essentially a continuous process in our society, still, production relations will, as a rule, lag behind the rapidly developing forces of production. Thus, from time to time, a major adjustment of production relations, a reform of economic management becomes necessary. This course of development will also explain why, in the history of economic theory, discussion on certain questions which were thought to have been settled, revive time and again. The discussions now going on about commodity and money relationships, value, economic planning, etc., seem to repeat much of what had been said about them in the Soviet Union thirty or even fourty years ago, but the present discussion unfolds at a higher stage of development, takes a more concrete form and leads to other conclusions.

In our days a major adjustment of the production relations is taking place in several of the socialist countries. This is one of the circumstances, which makes it timely and even unavoidable for us to improve the plan and planning, particularly *the central, national economic plan and planning*, and this will be the subject of our present paper. The different parts of the economic mechanism and the various fields of the economy are, namely, intricately interrelated. It may be easily seen that changes in the systems of prices, investment, taxation, credit, etc., will involve changes in production, investment, foreign and domestic trade, etc., and thus also in the *planning* of these. At the same time, the changes impending or in part already introduced in the economic mechanism alter the *relationship between the central plan and the enterprises*. The independence of enterprises, their scope of decision, is being increased, and their obligations arising from the plan are being reduced. In some countries

the opinion is prevailing that enterprises should not be given any kind of obligatory plan indicators. In general, it is intended to increase the role of the market and of money and commodity relations, that is, to orientate the enterprises increasingly through means of the market, profits, profitability, etc., rather than by direct instructions.

These tendencies are being often deliberately misinterpreted in the capitalist world, in the sense that the communists themselves have come to recognize the market as a better institution for controlling the economy than plans are. Socialists, however, emphasize that they have no intention to abandon central planning or even reduce its importance. This is another reason why the improvement of the plan and of planning should be put on the order of the day. A great or maybe the greatest *advantage of socialist economy* over capitalism consists in the possibility of a *deliberate harmonization, on the basis of a common plan, of the economic activities performed by its members.* Even some bourgeois economists have come to recognize this advantage. The reform of the "economic mechanism" requires from us to make the best of this advantage, to improve planning.

There is, however, even a third reason. In recent years *the growth of our economy has slowed down, the efficiency of our efforts has diminished.* No doubt, we are able to explain with many things why that should have happened, e.g. with a shift in the structure of the economy towards more capital intensive branches, and with many other arguments. But all these arguments can only *describe* the change from certain aspects. They do not offer convincing proofs that it was an unavoidable necessity for development to slow down or for efficiency to diminish. On the contrary, knowing certain deficiencies of our planning and management methods, we can take it for sure that these deficiencies had some role in the unfavourable development.

There are numerous differences between the various socialist countries regarding the contents, the methods of elaboration, implementation as well as in respect of a possible modification of the national economic plans. Still, there is a general consensus between them that *the institution which serves the deliberate control of society* — and within that, of the economy — is the Party, *the leading political body*, acting on behalf of the working class and the working population in general. Thus, it is usually the Party that, through its highest organs, the Congress or the Central Committee, *takes decisions on the major trends and problems of social and economic development.* Usually, there exists also a central agency engaged in planning, in preparing the materials necessary for the Party to take decisions on the major problems. The same agency will elaborate the plan in detail after the decision has been taken, and deals also with the modifications which may prove to be necessary during implementation. One of the principal means for deliberately controlling the economy and society is in all socialist countries the plan.

It is undoubted, however, that this field still needs improvement in several socialist countries. In order that the Party be indeed in a position to decide on the major problems and development trends, it is necessary first of all that the central agency engaged in planning should submit such material to the Party as will enable the decision-making body — Congress or the Central Committee — *to make its choice from different alternatives, i.e. it should really have something to decide upon.* Second, the decision-taking Party body must deal only with questions for the decision of which it is competent, that is, with such *matters as need political consideration,* and can be judged by the members of Congress or the Central Committee, rather than with problems for which only a few specialists are really competent. Today this double requirement is often not met. It frequently occurs that the proposal submitted by the central planning agency does not offer any choice of alternatives, and thus it can be either accepted or rejected only in its entirety. As a rule, it must be accepted, for the simple reason that in case it were rejected the economy would be left for some time without a central plan and thus exposed to disturbances. On the other hand, also such special questions are often submitted as would require, owing to their nature, decision by a competent body of specialists. In all these cases a Party decision cannot be but formal.

True, in the above we have assumed certain postulates which are not self-evident enough and need further arguments. Is it really necessary to offer a choice to the decision-making body? Is it not conceivable to submit for approval immediately the plan which is likely to be the best? Is it always possible to submit a proposal which really the highest Party organ is competent to decide upon and not some narrower circle of specialists? What problems, then, would be left to be covered in this material? In short: can the above-mentioned two requirements be met in reality?

Obviously, in this paper only a theoretical, a general answer can be given. But even this theoretical statement must be rather sketchy and restricted to a few major problems deemed particularly important and timely. The complexity of problems touched upon here is so complicated and diversified that its detailed discussion would require many times the space available for this study.

At the end of these introductory remarks it should be added that, though the following are general statements, not restricted to any country, they are supported mainly by Hungarian experience.

Can an optimum plan be established without a political decision? The tasks of the planning body in the preparation of decision-making

Obviously, it would be superfluous to offer to the leading political body the possibilities of choice if the central planning agency were able to elaborate the unquestionally best plan alternative. But then, the planning agency itself

would be in a position deliberately to control the development of society. It maybe, however, easily seen that plan-decisions must be taken on a set of major problems which the planning agency cannot, or is not called upon to, decide. Such a question is, e.g., how much should be used by society from the global social product for consumption and how should it be allocated; how much should be used for defence purposes, and so on? It is not possible first to draw up a plan and deduce from it the answers to these questions later on. Just conversely, these problems and some others of similar importance must be decided first, and only afterwards can and must the central planning agency be given the task to elaborate the best possible plan on the basis of the decisions already taken.

The planning agency, however, has an important role also in the preliminaries of decision-making. It has to elaborate the possible consequences of each alternative decision. What is in favour of using such and such an amount of the social product for consumption and of allocating it in such and such a way? What problems arise in this connection, what difficulties, advantages, disadvantages or dangers should be expected? What would be the advantages, disadvantages and possible dangers if somewhat more (or less) were used for consumption, or its allocation pattern were more or less different?

In the case quoted, and in general with problems requiring a political decision, the various possible solutions involve different advantages and disadvantages. These cannot be simply reduced to a common denominator, be rendered homogeneous and added or subtracted. And even if this were possible, the advantages and disadvantages would not be comparable because in most cases *they do not affect, or not to the same extent, the same persons or economic units*. Thus, no correct solution can be found by applying purely mathematical methods. It is necessary that — after having analysed the material (information and proposals) available to them — those elected and invested by society with authority to do so, should consider, discuss and, finally, decide on the problem.

But a decision based on weighing and discussion is needed not only because often an uneven distribution of advantages and disadvantages and, thus, a collision of interests is involved, or because the problems cannot — in most cases — be translated into mathematical equations, but also because decisions generally involve also the taking of risks and responsibilities. *Our knowledge and information are limited* and thus we are able to foresee the future only with an approximative exactness. Only a leading body chosen by society is authorized and also obliged to take such decisions as well as the risks and responsibilities involved by them.

What, then, is the task of the central planning agency?

I have referred to that already above. First it prepares the information and proposal to be submitted to the leading political body for decision and, when the latter is taken, it draws up the plan proper. The material to be sub-

mitted by the planners to the competent body consists of several plan-variants which, starting from the given situation, set different objectives or compute different growth paths in a consistent manner. Each of the *plan-variants* comprises only the major objectives and the main features and interrelations of a plan corresponding to these. I will later point out what I mean by these. The *basic conceptions* and major objectives of the variants will be called *plan-conceptions*. Thus, the decision-making body selects a conception — to which again, there may belong several variants differing only in some details — and then the planning body will draw up, on the basis of the selected variant or variants, the plan, but now already in considerable detail.

Now, how is the planning organ capable of elaborating conceptions or plan-variants?

It can do so because it need not start from a vacuum but *from a given society*. We have always to deal with a given situation, with a society of a given composition, at a given stage of economic, cultural and political development and disposing of productive forces of a given development level, structure and allocation. Knowing these endowments and the various trends of development, the planners are able to elaborate proposals for the major objectives they consider advisable to be set for the next five years, and in many fields even for longer periods than that. These objectives relate to the raising of social welfare, to the unfolding of the individual abilities of the members of society, as well as to development of productive forces and of production. The basic conception of the plan combines these major objectives.

The factors mentioned, which characterize a given society — i.e. the living and cultural standards of society and its members, the development level of productive forces and of production as well as the structure and allocation of the latter — are in close connection and interaction, they constitute an organic whole. All these factors mentioned belong together, assume each other's existence, and correspond to each other even if there are also *contradictions* between them — as is usual between the whole and its parts. The planning agency must, of course, pay attention to that. It has to draw up such conceptions and plan-variants where the relation of the parts to each other, their mutual correspondence and mutual determination will not get dissolved in the course of development, that is, development of the parts will take place *proportionally to each other*.

Speaking of the relation of the planning agency and the decision-making body to each other, it must, however, be remarked that *certain important elements of decision cannot be entirely eliminated from the work of the planning agency*, due to the particular character of its tasks. A plan can represent the vast number of infinitely complicated economic processes only in rough outlines, as does a model. Even if it is bound by certain directives, it will be fundamentally the planners who decide on what to select from the multitude of

social processes and how to classify and insert them into a conception in the course of compiling and elaborating a conception and its variants. This is unavoidable. Similarly, the estimations regarding the final results of each variant (which are likely to influence the decision) are also made by them alone. All these taken together will have important bearing on what proposals will be submitted to the competent party body. Thus, although the deliberate shaping of the development of society is the task of the party which also takes the responsibility, both are, to a certain extent, shared by the planning agency.

Problems requiring political decision

It has been mentioned that the planning agency will elaborate in the knowledge of the given situation, of some major factors and the development tendencies, conceptions and variants which correspond to certain selected objectives. For this purpose it must establish what development objectives are advisable to be set, partly in order to raise the welfare of people and to unfold their abilities and partly to increase productive forces and production. This distinction and double classification of objectives is applied to stress the double role of *man* played in society. Man, as a producer *brings about social progress;* on the other hand, he is *the objective of social progress.* Accordingly, when planners address themselves to the task of establishing the advisable *objectives,* they have to start from *two major groups* of needs, endowments and possibilities. The first will comprise the bodily and intellectual needs of man, the other the productive forces called upon to meet these needs. From both groups there follow involvements relating to the allocation and pattern of resources available to society. (There is also a third group of needs arising from the maintenance and security of the state.) In the course of elaborating the conception these requirements stemming from different categories of needs, will get intertwined, and so their origin need no more to be distinguished.

But for the time being, we still are at the start. It lies on hand that the planners should begin their work with *the fundamental requirement of socialism,* i.e., with raising the welfare of society to the maximum possible extent and with the development of every member of society into a fully diversified personality. This objective, however, is so general and equivocal that it yields hardly any help or support for elaborating any plan or conception. First, we should get closer to the contents of this requirement and render it more palpable.

The first decision to be taken — and one that transcends the competence of the planning agency — is on the *time horizon* (period or date) to which the raising of welfare should relate. Obviously, we must arrive at a different plan variant if our aim is to increase the per capita volume of products evenly through five years, to the maximum possible extent and then to keep it at

unchanged level for several years, than in case the objective was to maintain an even development for, say, 25 years.

In addition, also the *objectives* to be attained in respect of welfare, should be determined in their outlines. It is generally accepted that a certain minimum of nutrition, dwelling, and clothing must precede the other needs. But how can we establish the *ranking of preferences for the others?* A given pattern of needs is everywhere the product of a long spontaneous development. When elaborating the plan-variants the planners must, however, take into account also the scientifically assessed or estimated development of needs in order to be able correctly to plan production and investment. To be able to do so, first the *political body* commissioned by society has to decide on the objectives of *income distribution policies*. What should be the *proportion* of the lowest earnings to the highest, or between the earnings of unskilled and skilled workers, or those of a foreman and an engineer, or between *wages and the fringe benefits* over and above wages? Obviously, the task is also in this respect to solve contradictions, to reconcile *conflicting interests*, since from the sum of personal incomes of a given magnitude some persons may be allotted a bigger sum only if others get less. In the same way, if decision has been taken on the combined expenditure on health and educational purposes, the outlays of the first field can be increased only at the expense of the second. And the same applies for smaller fields within any other aggregate.

In our above considerations we started from the first group of objectives. The conception will be enriched by other points of view, partly of a different nature, if we start from the requirement of the development of productive forces and of production. They are only partly different since some of the requirements coincide with those arising from the development of human needs. As a matter of fact, the most important one of productive forces is man himself. Therefore, the development of production, its improvement and diversification goes hand in hand with the mass development of human capacities, the expansion of human knowledge, the growing mastering of nature surrounding man and with a gradual re-allocation of manpower between the various productive and non-productive occupations, assuming their existence and building upon them. At the same time man, by continually developing *science and technology* and relying on their results, is continuously *regrouping and renewing production and changing its pattern* by introducing new production means and processes, new products, and by developing new branches of production and abandoning some of the old.

All that demands investments of a defined nature and order of magnitude, raising, at the same time, certain requirements against educational objectives and institutions, as well as against the trends of scientific and technological research. But it would be a mistake to believe that all requirements mentioned can be quite unequivocally and exactly defined. First, the development of

science and technology *can be foreseen only in broad outlines*. A considerable part of new discoveries and inventions occurs as a surprise, unexpectedly, and may revolutionize production in an incalculable manner and extent. But even of expected and foreseeable discoveries and inventions it cannot be told exactly when they will materialize. Second, owing to the limited amount of available resources, in any period, only a part even of the desired development and investment targets can be realized. Thus, also in this respect, several variants have to be elaborated, by simultaneously working out, as exactly as possible, the *advantages and disadvantages and the possible dangers and risks to be expected.* The choice must be left to the decision-making body because, again, there are several different and conflicting interests.

Consideration of the points of view mentioned up to now is, however, not sufficient for drawing up the main outlines, the conception of a national economic plan. We are a part of a *world economy*, maintaining exchange relations with about a hundred countries, each at a different stage of economic and technical development. Therefore, in decisions on production, and particularly in those on development, it should be weighed in the most circumspect way how can we *accelerate our own development* with the aid of foreign economic, technical and scientific relations. Since here we have to conform to events or series of events which are going to take place mostly beyond our borders, entirely or partly independently of our decisions, to be influenced by us only to a limited extent or not at all, the role of unknown or uncertain elements is particularly great. Here belong the business fluctuations taking place on the capitalist markets and which can turn a purchase or a sale advantageous today into a disadvantageous one by tomorrow, and conversely. It can and must be ensured that *our own development should not be at the mercy of developments on the capitalist markets*, it should not be a function of the latter. This is secured not only by our own force, which is fundamentally relied upon, but also by the fact that we are part of the broad camp of socialist countries adhering to identical political ideas and willing to offer economic, technological and scientific assistance each other. On the other hand, a development of our relations with other countries may be useful to other nations, among them to those of the socialist camp. Thus, risks which — as we have seen — are in any case unseparable from planning, must be taken to a reasonable extent also in this field. But taking them is the prime obligation of the decision-making political body.

Finally, there is another field left where developments beyond our borders must be duly taken into account. And this is *defence*. Only the body deliberately directing the entire development of society can take decision on what part of the resources available to the country be used for defence, as well as on the allocation and mode of utilization of this sum. For this purpose an extraordinarily intensive, diversified and profound analysis of the *international political* situation is necessary. It should be, however, obvious that no study, however

perfect, enables us to foresee future development with full accuracy. Any decision to be taken will affect wide and very different fields of society. Such decisions determine what part of the population should serve in the army or be employed in the war industries; they influence the volume of investments and the pattern of industrial and agricultural production as well as transportation to a considerable extent and through all these, of course, they determine also the extent and pattern of employment, the trends of development for educational institutions, science and technology and the allocation of investments.

In broad outlines, these are the most important initial assumptions and points of view which may serve to direct the central planning agency when elaborating the proposals for the leading political body and in which the planning agency has to ask the political body for objectives to be set and decisions to be made.

As we have seen, all the various points of view and all interests conflict *in how the resources available to society be allocated.*

In order to avoid any mistaken interpretation, it should be pointed out that the freedom and scope of any such decision is strongly limited by the given endowments, by the past and by all what is already going on. No abrupt or fundamental changes can be planned to take place by tomorrow. But in a few years, changes may become already significant. This is why decisions on the trends of development are particularly important.

Overall plan-conception versus "sectoral approach"

When speaking about the preparation of decision-taking, we have established that the planning agency has to submit to the political body the conceptions comprising the major objectives, the fundamental ideas involved by the plan and the plan-variants conforming to the former. As for the process of elaborating the conceptions and plan-variants we have found that the consistence and mutual determination of the parts and factors of the national economy require certain proportions of the same to be observed in the course of the planned development. Finally, dealing with the problems requiring political decision, we have stressed some important major points of view. We have, however, not yet mentioned a further essential feature of plan-variants. Any plan-variant must comprise those main factors and interrelations of the national economy which, in their combination, determine the entire development of the economy. Thus, when the political body chooses the conception or variant of economic development valid for five years or some longer period, *takes simultaneously decision on all these major issues.*

These features, however, do not yet distinguish the plan-variants from a plan without alternatives, a type which may be and frequently is submitted by

the planners to the decision-making body. The main difference consists, evidently, in the existence or absence of *alternatives*. Further, a "single" plan does not betray its inherent *contradictions, difficulties and problems* while the plan-variants must necessarily disclose them. A "single" plan inadvertently makes the impression that things will develop as prescribed in it and there are no other ways and trends for them. The plan-variants, however, emphasize the fact that society has a certain *freedom of choice*, particularly in establishing the trend of future development and can also account for the danger that unplanned, unwanted, or unforeseen processes might *divert development* from the way deemed desirable.

Hungary's first five-year plan, launched in 1950, was an instance when the planning agency worked on the basis of fundamental ideas received from above, that is, in a sense, on the basis of a conception. This conception, however, turned out to be a wrong one and the result was bad, too. The basic conception was an *extremely rapid development* of the whole economy, *particularly of heavy industry*. Plan-variants had not been drawn up and, particularly, it had not been planned what should be done in case something developed differently from what had been provided for. When it turned out that the various objectives of the plan cannot be simultaneously realized, the leadership — in spite of the danger signals — doggedly insisted on carrying out the rapid development of heavy industry which was the essence of the basic conception. It followed that the development of the economy became one-sided, disproportionate and *distorted*, the standard of living declined and finally, in the fourth year of the plan, even the leadership was compelled to abandon the planned development of heavy industry and the realization of the entire plan. This was a glaring example what harm can be done to society as a whole if the decision is not preceded by an all-round weighing of expectable processes, and the leadership rigidly reject criticism.

Nor can we accept as satisfactory the rather widespread practice which, in the absence of a basic conception, tries to compile a national economic plan by simply putting together such elements as seem to be best. It is, of course, good if each branch, field and every economic and administrative unit draw up their own optimum plans. Who should know better their endowments, possibilities or needs? But, by simply putting them together, these partial plans cannot be integrated into a national economic plan. Those who draw up the plans of individual branches know their own needs and the requirements raised against them, but they do not know the *possibilities* and available resources *of the economy* as a whole, their needs and requirements do not fit exactly together, do not exactly complement each other. Thus, even in the best case, some patchwork is needed to fit them together. But there is also a greater possible evil. What should happen if — as is inevitable in our existing mechanism, but may occur in any other one — the combined development requirements of the

branches are greater, maybe much greater than made possible by the resources available to society? Should the planning agency cut all claims by the same percentage? This is surely not workable since, however correct each of the objectives may be by itself, they cannot be *equally* important for society. But who should decide? Presumably, all claims can be convincingly justified by those who raise them. There is nothing to do but *bargain*. He who is clever at bargaining, is likely to fare better. There is, however, wide experience to show that the inevitable result is a *fragmentation of resources, a slowing down of development, a diminishing efficiency*. This is what a sectoral approach leads to.

All this becomes unavoidable when, from time to time the leading political bodies pass a *decision* on the development in a *definite plan period, say five years*, of a major productive field of the economy, or an important branch, maybe a non-productive social field, taken out of context, without taking account of its interrelations with the economy. Such a decision must not be passed since the given field is at any rate an integral, inseparable part of the society, of the economy as a whole, having complicated interrelations with the various parts of the former and its development partly depends on the development going on elsewhere and partly influences such development. A decision that seemingly relates only to a single branch or field does, in reality, affect the whole of the national economy. More often than not it cannot be implemented or, if it is still enforced, it will lead somewhere to unwanted results and distortions.

Thus, our general statement seems justified that, in order to maintain correct proportions, *decisions on the major questions of development must be taken simultaneously*.

Some people defend the compromise emerging as a result of bargaining between branches by saying that situations are frequent where, in the final analysis, not much else could be done. According to this argument, the freedom of choice and decision is, as a rule, strictly limited and, within these limits, no major blunders can be committed in this manner. Material resources are scarce and most of them are engaged by the pre-determined development objectives, by the investment projects begun or already accepted. If the objectives and targets comprised in the final plan are each correct by themselves, and if also the requirements of quality and technological development are being observed what can be wrong in such a plan?

Our answer must be that a plan drawn up in the way described cannot be very good even if each of the tasks set in it are correct in themselves. Scarcity of material resources is a relative term. By "scarcity" we generally mean that they are insufficient relative to the claims. But, as we have already mentioned, the mechanism of planning may be such that the needs will, of necessity, by far surpass the possibilities. But this can be only one reason more why the available means and resources should be used in the most rational way, instead of being fragmented. The greatest shortcoming of the procedure criticized is precisely

that, by trying to give something to everyone, nobody is given enough, *none of the objectives obtains as much as would be needed for its most rational realization.* Thus, the means which, had they been used in a concentrated manner, could have brought about substantial progress, are used inefficiently because of their fragmentation.

It will be surely better than the above procedure if the body called upon to make decision selects — after careful consideration — from the proposals submitted a basic conception which seems to be the best and the variant comprising the major objectives. We have already referred to the fact that in respect of the nearest future the given situation, the current economic activities or those already decided upon indeed put strong limitations on the freedom of choice and decision. But we have similarly stressed that the decision will strongly influence, or even determine, the main trends of future economic development. Presumably, both the planners and the leaders would have more *favourable opportunities* for *realizing quickly and efficiently* the desired changes if they worked out the plan on the basis of a conception chosen after careful consideration and by using a plan-variant which ensures the most harmonious development of the major factors of the economy, than if they had to work by way of bargaining. Presumably, by starting from such a general conception and a complex plan-variant best corresponding to it, investments and other economic efforts could be much better coordinated and *concentrated*, and the resources of the economy could be *more rationally used*, than would be suggested by any sectoral approach. It lies, therefore, on hand that in this way there will be bigger scope for new technical solutions, and it will become easier to do away with everything that is antiquated or obsolete. Thus, it will become possible to accelerate both technological progress and economic growth, to improve economic efficiency. A clear and convincing conception might become an extremely important catalytic for mobilizing the masses, for awakening their interest, it might greatly contribute to make the workers feel the plan their own and put all their efforts into its best possible implementation. Thus, it may be justly assumed that in this manner the progress of socialist society and economy can be accelerated.

We do by far not intend to make the impression of having discovered some panacea. What we propose here is not an elaborated solution or a recipe to be immediately applied, only the outline of a vast, complicated, fastidious task, that will take still much time to elaborate. If it is successfully carried out, it will lead to the solution. But I hope to have succeeded to prove in the above that it is not only worth while but absolutely necessary and, therefore, compulsory to undertake this task.

Reliability of the initial data

In all developed economies innumerable and widely differentiated productive activities are going on. They are interrelated with each other, they assume each other's existence and depend on each other. Therefore, as we have already pointed out, the normal existence and development of such economies requires that this vast diversity of productive activities should be maintained and developed in a co-ordinated, harmonious and proportionate manner. In capitalism this manysided interrelation, harmony and proportionality is expected to be provided for by the market. But, as is known, the market achieves this only through smaller or bigger shocks, through losses afflicting society and, especially, the working masses. This type of regulation takes place *ex post:* a continuous disturbance of interrelations, harmony and proportions is followed by sudden repercussions which reestablish them for some time. One of the decisive advantages of the *national economic* plan over the market should precisely consist in *protecting both individuals and society from the losses* involved by such repercussions.

This advantage of the plan over the market can be fully asserted only if the plan takes correctly into account the real factors which exercise an influence on the market, that is, on the relation of demand to supply. It is, therefore, a fundamental requirement of any scientifically founded planning that the data necessary for the elaboration of the plan should be checked for their reliability, on the ground of the information by scientists and other specialists. Undoubtedly, there is still much to improve in our planning in this respect.

The scope of data *relating to the past,* i.e. those which can be more or less exactly established by observations, statistical surveys, accounting, computations or in any other way, should be extended and their evaluation, analysis and classification improved. Similarly, the scope of data *indicating expectable development,* and by all means to be taken into consideration in planning, should be extended and their processing improved. These should include the opinions of specialists, international experience, estimation, extrapolation and prognoses.

To the first group belong all kinds of coefficients applied in planning which relate to the use of materials, energy, working time, as well as the most diverse norms used in the planning of social, cultural, health and educational fields, the data relating to the number, distribution by age and sex of the population, its territorial location, the data on natural resources, on the productive capacity of enterprises, etc., etc. Though there are a lot of data available, *there are still many blank areas.*

It is equally important to consider the change of interrelations involved, or made necessary by progress. To this end, relying on a wide panel of specialists, first the major trends of *scientific, technical and economic development* at home

and in the most advanced industrial countries should be disclosed and evaluated. All this has to be done in a better way than it was done so far. Second, the development trends of *the population's needs, claims, and consumption* in our country and in the most developed economies should also be analysed and evaluated in a better way. Third, the realizable and expectable development of our *international economic relations* should be studied and evaluated partly on the basis of our own development and partly against the international background of technological development and business fluctuations.

I cannot expound here what tasks are set by these requirements to our existing planning, economic, local council and scientific apparatus, etc., nor what new institutions or organizations is it advisable to create. It lies on hand that, particularly in some fields, much work left undone must be now performed, and also that for this purpose men and machines are needed. But if our plans become better and more reliable, that will sufficiently make up for the additional work to be done.

The plan should be consistent and free of contradictions

The plan, of course, cannot provide for an unsurveyable mass of interrelations and much less for their expectable changes. It must, however, comprise the major proportions sufficiently characterizing the whole of the economy, their expected changes and the major objectives of development. It is a fundamental requirement that all these should be in harmony with each other. It is a decisive criterion of a scientifically founded plan whether it is internally consistent and free of contradictions. In other words: the assertion of some objective specified in the plan must not get into conflict with the realization of some other objective or objectives and much less exclude it.

From the requirement of consistency and harmony it similarly follows that we are not at liberty to plan a higher utilization of any of the resources than allowed by the existing ones or those to be created in the plan period; indeed, somewhat less than that should be planned. This relates to all resources to be employed, inclusive of imports. The insufficiency of a single condition might render impossible to reach some important objective. This is why we should remain somewhat below the limit of possibilities when planning the utilization of resources. To what extent this should be done will be decided by practical experience and other considerations.

Is this to mean that we must not draw up a "strained" plan, i.e. one aimed at the maximum utilization of all resources? It seems that the question should be formulated more precisely. From what has been said it follows that a scientifically founded plan requires us absolutely to observe the reality of the plan, its consistency, i.e. that it should be realizable. If e.g. we plan more investment

than can be realized either because labour or building material, machinery or any other essential factor is in short supply, the result will not be more investment but less and, in addition, we will have much trouble. This would be an inadmissible over-straining of the plan. It leads to a similar overstraining, equally inadmissible, if the plan assumes the most favourable development of all or too many factors necessary for its implementation. It is, namely, practically impossible that all of the many factors should develop most favourably.

It cannot be disapproved if the *production* of certain scarce materials or goods is planned in a "strained" manner, i.e. that the fulfilment of the plan can be realized only if various factors simultaneously develop in a favourable direction. But the *utilization* of such products must not be planned on the same basis but only to the extent of an amount whose production can be safely reckoned with.

In our first five year plan — as has been mentioned in an other context — we prescribed extremely high growth rates. In reality, we could not even approach them. From this, some drew the conclusion that only low growth rates can be planned. This conclusion is not supported either by science, or by experience. The high or low value of the growth rate is in itself no scientific proof for its being either irrealistic or realizable.

The requirement of internal consistency has not been fully met in our plans. One of the reasons was our own guilt. But it also contributed to the mistakes made that *no adequate methods* existed for checking the harmony and consistency of the plan. *Even today these methods are not quite adequate.* In our traditional system of balances we cannot check, or only by very labourious methods and even then not quite sufficiently, whether the plans of production, investment, material supply, foreign trade, supply of the population's consumption, education, health, manpower, etc. are fully consistent with each other, in the sense that each of their mutual requirements can be fully met. Even the much less complicated task of checking the mutual consistency of the production plans of the various industries is but insufficiently accomplished.

This is partly connected with the fact that the plan, by its very nature, cannot fully or even approximately embrace the entirety of even the *direct* inter-industry relations. The system of balances serving this purpose also covers only the factors deemed most important and even these only in necessarily rough outlines, according to certain points of view or by stressing some of them. It is still more difficult to follow the reverberations of the effects, that is, the *indirect* inter-industry interrelations.

Thus, the efforts at consistency, as a corollary of the scientific character of planning, oblige us first, not to make any concessions by tolerating any of the contradictions which can be traced at the present state of arts and, second, to do everything in our power to improve the methods which would serve to check whether the plans are free of contradictions. In recent years we have made con-

siderable progress in this field. By means of *the balance of inter-industry relations* (input-output table) we are in a position to check the plan for consistency — if only to the modest extent allowed by the sector-breakdown actually employed. It has been ascertained that the system of tables offered by the input—output method is suited for disclosing and checking such internal relationships of the plan as are hardly accessible to the traditional system of balances. Thus, e.g. the indirect effects of planned structural changes can be followed to a satisfactory extent in the system of input-output tables, far beyond the directly related productive branches; in the system of traditional balances this cannot be done or only with difficulties and more imperfectly. By the way, using modern computation techniques even the traditional methods would meet better the scientific requirements. Of course, everything must be done to make further steps forward.

The plan and the economic mechanism. Centralization versus decentralization. — The plan and the market

At the beginning of this paper I have already mentioned the connection between the plan and the economic mechanism. Now I must return to the problem because of the intricate and fundamentally important connections between the two. With any kind of economic mechanism, it is one of the decisive questions of socialist society: *What is or what should be the role of the plan in controlling the national economy?*

To put it more concretely: the primary problem, which arises in all socialist countries when establishing a planned economy is what degree of *centralization* should be introduced? What is it possible and worth while centrally to decide, determine, control, prescribe by instructions, i.e. to insert into the central national economic plan? Though this is not identical with the problem what should be prescribed for the enterprise, to what extent is the enterprise independent — it is easy to see that it is a closely related one.

The various socialist countries have attempted to solve this problem at different times and in different ways. In the course of historical development, however, partly owing to the international situation, partly due to other factors, strong centralization came generally into the foreground, in the sense that *the operation of enterprises was regulated in the plan in detail.* There are considerable differences between countries and there may be some even within the same country, in respect of what is compulsory for the enterprises. It has become, however, general that by deducing the tasks from the central plan, it is prescribed for the enterprises in their plan — though there may be important differences in detail — what goods and how much to produce, what materials and how much of them to use, how much to invest and for what purpose, how many workers and employees to engage, what wages and salaries to pay, what

prime costs should be and to whom and for how much to sell the products. Even further requirements are likely to be raised against the enterprise and the material incentives are usually coupled with the implementation of the detailed plan indicators.

Under such conditions the enterprise has hardly any independence. This has a most unfavourable effect *on the ability and propensity* of the enterprise's collective and leadership *to take initiative*. Their initiative is generally limited to a narrow sphere despite that its unfolding would ensure the disclosure of the best opportunities, most of the unutilized reserves, thereby promoting and greatly *accelerating* the progress of both the collective and leadership in question and of society as a whole. They are interested not in the most rational solution but in just meeting the plan indicators and, at the same time, in meeting them easily, thus also in hiding their reserves before the supervising authorities. This often leads to the creation of an atmosphere of mistrust between the enterprise and its supervising authorities.

It was partly the recognition of these drawbacks that started the reform of the economic mechanism. One of the important requirements of the reform is to relegate decision-making to the body having the best local and special information. The reform means *decentralization* in the sense that enterprises are given great *independence*, that they are controlled with the aid of fewer instructions or none at all. In addition, a system of economic incentives is introduced, aimed at making both the collective and the leadership of enterprises interested in the most rational decision. It is, however, *not* enough to abstain from prescriptions as to what the enterprise should turn out or how much material and wages can be used. It is also necessary to enable the enterprise to produce what it deems most rational, with inputs of such volume and composition as it considers expedient, and to be able to sell its product in the best possible way. This all will become possible, and, with it, the desired greater independence of the enterprise can be brought about, only if *market relations* expand and such categories as *price*, *money* etc., gain in importance.

The necessity of the reform can be deduced also from the recognition that *commodity production* is a much more general and lasting feature of socialist society than was thought earlier. Although *socialist commodity production* considerably differs from the capitalist one, from the fact that commodity production is carried on in both systems, there follow also similar features. The case is similar with the *socialist market*, which fundamentally differs from the capitalist one and still shows some analogous features. It differs mainly in its conditions which are decisively determined by the socialist state and also in the fact that the majority of sellers are state enterprises (and the rest mostly cooperatives), and that even among buyers the state enterprises and cooperatives have a considerable weight. The independent movement of enterprises must be secured on *this* particular market.

But if enterprises will make decisions themselves and if the plan will not be passed down to enterprises in the form of instructions and plan-indicators, *how will the plan be realized?*

At first sight it seems there is no problem whatever. The state has a rich arsenal of economic measures at its disposal to prompt and impel the enterprises to fulfil the plan. *Price policy, credit and interest rate policy* and several other measures are indeed not only suitable for stimulating the enterprises in the direction of some desired activity but may be even more efficient than instructions because they are capable of seizing people through their material interests. Thus, there is really no problem in this sense. We could ensure the implementation of the plan but that would not be right. The real question is left still open: for the realization of *what objectives* and *to what extent* should the state use the economic measures available in order to influence activities? Does the plan in itself yield sufficient orientation for that? In our opinion, barely enough.

It is well known that *the scientific basis of our plans is insufficient* and recent party decisions in most countries demanded precisely on this account that planning should be improved. But even with a scientifically well founded method, the natural limits of information and human foresight will always introduce — as we have mentioned — *uncertainties* into the plan. It might always occur that an unforeseen bad harvest — either at home or abroad — or the unexpected emergence of some new product and, due to this, a change in consumers' needs or the development of trade cycles in capitalist countries demand a modification of our original plan. It is mostly *the market which first issues such warnings*. It would be a mistake *not* to take notice of such warnings and, by putting in the economic measures, *rigidly* to enforce the implementation of the original plan.

Does it, however, follow from all the above that the control of the economy should be ceded to *market forces?* This cannot be done because it is generally known (and we have ourselves stated) that the market regulates economic processes only *ex post* and with great losses. Further, though it is in our interest that the capitalist world market should make feel its influence even on our market, e.g., by accelerating technical development, we *cannot throw our economy on the mercy* of these effects. True, here we have to deal with a market regulated by the socialist state, where demand and supply work under conditions strongly influenced by the state. But in regulating the market, the state was lead by objectives laid down in the plan. If it were a mistake rigidly to enforce the plan in case of deviations between the plan and the market, nor would it be satisfactory completely to rely on the market. It is highly improbable that we could ensure in this way a favourable economic development least of all a most favourable one.

What then, are we to do? It is now clear that we cannot *blindly* rely either

on the plan or on the market. This means, however, that we should consider *both*, and weigh them carefully. True, we have to deal with a complicated problem and there are many details wanting analysis and elaboration. Still, even if maximum caution is fully observed, we may state that we should seek for the solution by *simultaneously developing the contradictory aspects*. We must partly improve planning and partly develop also the socialist market and the information system to transmit market impulses. In this manner the supervisory body will be in a position to confront the information available with the development concept of the econony and accordingly to take decision either to modify the plan — and in this case all necessary changes should be made simultaneously — or to change the system of indirect economic measures of influence for asserting the superiority of the plan; or to change both. Depending on the importance of the problems involved, this body may be either the central bank, or the central planning agency, or the government.

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Disclosure of the scientific laws of planning, similarly to the economic laws of society, is a process aimed at improving our knowledge and methods. Thus, the task has no perfect or final solution. We must, however, make efforts that our planning practice should not lag behind the level already attained by science.

We have established that neither the practice of our planning agency, nor the manner how we at present decide on planning problems meet the scientific requirements to be raised against them.

In this paper I have tried to point out the actual contents of the requirements to be raised against the improvement of planning and to outline the tasks following from them. But on whom do these requirements lay a charge? On the planners? On the scientists and specialists? On the leaders, the politicians? Obviously, on all of them. It is in the interest of all of us, and of society as a whole to realize the unity of theory and practice in this field.

НЕКОТОРЫЕ СООБРАЖЕНИЯ О СОВЕРШЕНСТВОВАНИИ НАРОДНОХОЗЯЙСТВЕННОГО ПЛАНИРОВАНИЯ

И. ФРИШШ

Вопрос совершенствования народнохозяйственного планирования ставится на повестку дня значительным выправлением производственных отношений в рамках предстоящей народнохозяйственной реформы, а также наступившего в последние годы замедления в развитии народного хозяйства.

Один из решающих вопросов совершенствования народнохозяйственного планирования заключается в том, чтобы органу, принимающему решения о направлении общественного и экономического развития, — партии — представлялась возможность выбора, чтобы у нее просили решения по вопросам, требующим действительно полити-

ческих соображений. Принятие политических решений, однако, должно быть подготовлено, поэтому центральный плановый орган — Госплан — должен разрабатывать варианты плана, разрабатывать и представлять для утверждения принципиальную концепцию, лежащую в основе вариантов плана. В задачи принимающего политические решения органа входит оценка, принятие или отклонение концепции и вариантов. На основании принятой концепции или варианта план должен детально разрабатываться центральным плановым органом. В ходе этого также и плановый орган вынужден принимать решения и, таким образом, он разделяет ответственность с принимающим политическое решение органом.

Если план составляется без плановой концепции, на основании одних лишь отраслевых предложений, кажущихся наилучшими, без должного учета потребностей народного хозяйства в целом, то в плане появляется нарушение последовательности, а в экономике — диспропорции, наступает распыление сил и средств, замедляется развитие. Такое же положение складывается, когда руководящие органы принимают обособленные решения о развитии отдельных отраслей. Такие явления отраслевого подхода наносят серьезный ущерб народному хозяйству. На основании же единой плановой концепции имеется возможность для взвешивания потребностей отдельных отраслей с точки зрения народного хозяйства в целом, для сосредоточенного и рационального использования имеющихся в распоряжении народного хозяйства ресурсов.

Дальнейшим условием совершенствования народнохозяйственного планирования является достоверность исходных данных плана. Для этого требуется наличие и использование широкого круга информаций, необходимых для планирования.

Важным требованием является последовательность плана, отсутствие в нем противоречий. В последние годы значительные результаты в области усиления внутренней последовательности плана были достигнуты в результате применения одного из обеспечивающих это требование средств — межотраслевого баланса.

Вопрос дальнейшего развития народнохозяйственного планирования тесно связан с системой хозяйственного управления. Решающим здесь является вопрос о роли плана в управлении народным хозяйством. Прежняя усиленная централизация, детальное установление задач предприятиям оказали неблагоприятное влияние на деятельность предприятий, и опознание этого обстоятельства, в частности, послужило толчком хозяйственной реформы. Одной из важнейших целей реформы является повышение самостоятельности предприятий, условием которой, в свою очередь, является расширение сферы действия рыночных отношений и стоимостных категорий. Хотя государство и имеет в своем распоряжении такие меры экономической политики, которыми можно обеспечить выполнение плана, однако, было бы неправильным оставлять неиспользованной такую систему хозяйственной сигнализации, как рынок, и упрямо форсировать выполнение плана. Это, конечно, не означает подчинения народного хозяйства стихийному влиянию рынка. Следует одновременно совершенствовать планирование, повышать его эффективность и в то же время развивать рынок.

Решение этих многогранных задач возлагает большую ответственность в равной мере на руководителей, плановиков и ученых.

Gy. Péter

ON THE PLANNED CENTRAL CONTROL AND MANAGEMENT OF THE ECONOMY*

The author passes severe criticism on the system of economic management based on plan-instructions. He analyses in detail the grave consequences of merely quantitative targets and of an essentially arbitrary price-system. Then he proceeds to draw the outlines of a new system of control and management. In the concluding chapter the concept of national economic planning, the role of enterprises as well as those of prices and money are defined.

In Hungary as well as in other socialist countries preparatory work has for some time been in course with the aim of elaborating and introducing new methods for the planned, central control of the economy. The task of this preparatory work and of the discussions going on within its framework is to work out the means and conditions of the satisfactory operation of the new system of planning and control. It is, of course, unavoidable to analyse the major characteristics, the positive and negative features of the old system. It was the old system of planning and control with the help of which the Soviet Union has become from one of the most backward countries in Europe the second industrial and military power of the world in but a few decades. And the Hungarian economy has attained with the application of these same old methods a considerable development in a very short time. These facts, of course, cannot be neglected. But from all that it does not follow that the old method was the only correct one and that it was adequate in every respect, nor that it can be invariably applied in the future even if it had been essentially adequate and correct in its time. In recent years the need for essential changes in our planning and controlling methods has become generally recognized. Why have they become both justified and timely? What will be the new method of central control, in what respects and to what extent will it be better and more flexible?

* The author was among the first in socialist literature to raise the problems of central control and management more than a decade ago. This paper of his was a contribution to the recent discussion in Hungary about the transformation of the system of national economic planning and management. (Editor's note.)

I

As is known, one of the basic elements of the old system of planned central control of the economy was the "breaking down of the plan", i.e. the system of plan-instructions (plan indicators and targets) which controlled the operation of enterprises in every possible detail. The pattern and volume of production, the type (and quantity) of materials to be used in the course of production, the level of production costs and the trends in productivity, the amount to be spent on replacement, investment and the maintenance of the means of production, etc. were all fixed for the enterprises "from the centre". The breaking down of the plan, the system of plan-indicators has become a synonym for central planning and for the planned economy. The enterprises received a number of numerical obligatory instructions and it followed that the criterion for judging the work of enterprises has become the fact to what extent they carried out these quantitative instructions. (They always were quantitative instructions. This fact was not altered by calling, as we did, certain indicators "qualitative" — mainly the instructions concerning the development of prime costs and productivity. These, too, were of a quantitative character, specified in numerical terms as all the rest.)

At the first approach it may seem (and this impression might be obtained mainly from the various textbooks published in past decades), that the justification and necessity of such a system followed from two axioms. *In socialist countries, and in those building socialism, 1) production must directly serve the needs and, 2) the whole of the national economy must be regulated and controlled centrally, in a planned manner.* It seemed that the conclusions on the necessity of the system of plan-instructions can be drawn from these correct theses approximatively in the following manner: If the needs are centrally assessed (in respect of both consumer goods and production requirements), and the roles assigned — equally centrally — to the enterprises, i.e. if we prescribe according to the centrally established needs for each enterprise what and how much to produce, controlling thus the production processes centrally and in a planned way, we can ensure that production is directly aimed at the satisfaction of needs. Thus, an overall harmony throughout the economy could be achieved in principle, a harmony that allows it to operate as a gigantic well-lubricated machine or clockwork whose cog-wheels fit exactly into each other and where there are practically no losses due to friction.

This concept was, however, utopian rather than realistic, nor did it precisely express all the essential features of the old system of central planning and control.

The adaptation of production to the centrally assessed needs cannot be realized in the described manner, by means of central instructions. It cannot be done if only for the reason that the number of products necessary and actually

turned out for consumption by the population and by the productive plants is too big to be assessed and listed and too big to ensure an equilibrium between production and needs by means of all-embracing instructions issued to productive plants. In addition, nearly all branches of the economy are more alive and flexible than could be fitted into the above rigid, mechanically conceived scheme. E.g. in agriculture the volume of production depends not only on plan instructions but also on the weather. Agricultural output, however, affects the consumption of the population, home trade, foreign trade, the food industry — and these, in turn, react on other branches of industry, and so on. Further, in foreign trade we must face trade partners on whom the instructions of our own government are not binding. Nor can a rigid plan, all-embracing in the sense described above, be realized in home trade, since it cannot be fixed by means of plan instructions when and what individuals should buy in the state-owned shops. Even these few well-known interrelations will suffice to make it clear that on the basis of the system of plan indicators and plan instructions the national economy did not and could not function as a perfectly designed machine, smoothly and without considerable frictional losses.

Obviously, a perfect harmony of national economic processes, where there are no losses at all, cannot be realized. The objective can be only to reduce the losses to the possible minimum. Nor did the old system of planning aim at bringing about some ideal, complete equilibrium either between the consecutive interrelated stages of production (vertical stages), or between production and consumption. If the objective had been to ensure or only to approach the complete and perfect harmony of individual national economic processes, the plan instructions should have been issued so as to define unequivocally the quantity of goods to be turned out: how much to produce of coal, steel, rolled goods, engines, cloth, shoes, etc. In this case, however, the instructions should have been worded like this: "you must produce exactly so much; no more and not less". We know this was not so. The enterprises were not only given instructions how much to produce, but they were under strong pressure to overfulfil the plan. Plan fulfilment deviated from the original plan targets almost in every case, 100 per cent fulfilment was only incidental and would be considered a rarity. There were, however, enterprises which did not fulfil the "global" plan or that relating to the output of certain products. Even if we disregard such "disturbing" circumstances as were mentioned earlier in connection with agriculture, foreign trade, home trade and their direct and indirect effects, the demands raised in connection with plan fulfilment as well as the varying degree of fulfilment and over-fulfilment in different enterprises and especially in respect of different products make it impossible to maintain the illusion that the plan instructions brought about an all-embracing total and complete harmony.

The principal requirement in connection with the parts and the various data of the national plan was not that they should be consistent with each other

in every respect. Above all, the plans had to be "strict". Both the central bodies and the medium-level controlling authorities would see to that. Even the national plans approved by Government and Parliament had to comprise "strict" figures. The ministries and industrial directorates made them even stricter by raising the targets: they issued higher production (and productivity etc.) indicators than approved in the central national plan. With the requirement of fulfilling and overfulfilling the strict plans they tried to induce or compel everybody and every enterprise to reach the best possible results. This endeavour was not fruitless, but the methods employed had also harmful effects. Thus, with the managers it was the general custom not to reveal before the superior authorities the actual possibilities of the enterprise, the "hidden reserves". They made efforts to obtain "loose" tasks: the smaller or the less stricter the plan obtained, the easier it was to fulfil or even spectacularly to overfulfil. Another harmful effect of this system were the erratic fluctuations in production, productivity, etc. At the end of the individual plan-periods (quarters, and particularly at the end of the calendar year) there was a "rush". By means of a forced utilization of men and machinery it was possible to attain at the end of the quarters and of the year results that were well above the average; this became known under the name of end-of-the-quarter or end-of-the-year shockwork. Then, at the beginning of the next quarter or year, graphs fell steeply to a surprisingly low level. All that entailed, of course, lower quality and waste of manpower and materials. The operation of enterprises reminded of the sportsmen who take some stimulating drug before a contest. This enables the organism to make extraordinary efforts and to reach achievements beyond the natural optimum. But, as we know, the effects of such a drug last only for a short time, it cannot be used for long or without harmful effects.

In the period under discussion the plans were often changed. There was no need to change the plans when and until it seemed that the plan could be fulfilled, — but only fulfilled or overfulfilled by not more than a few per cent. An essentially higher percentage of overfulfilment would have been embarrassing to the higher authorities since in such cases the charge would necessarily have been raised that the enterprise in question obtained a plan that was "too loose", i.e. it could and should have been given a higher target right at the start. But the opposite also occurred: if it appeared probable that some ministry, directorate, or enterprise can not even approach the targets set in the plan, the plan was accordingly modified ulteriorly. This seemed to be justified partly because a fulfilment considerably below 100 per cent would have again give rise to the charge that higher authorities blundered by issuing irrealistic, too "stepped-up" plans. On the other hand, such too high targets did not possess the necessary incentive power: the ministry, or the enterprise managers would consider it hopeless to make any efforts, as the tasks set by the plan could not be performed whatever they did. As mentioned above, the plan was considered

to be correct if — though with some difficulties — it could be fulfilled (or even overfulfilled but only by a few percentages). Modifications took place often rather late, at the middle of the plan period (year) or even towards its end, at a date when it could be estimated with reliable accuracy how high the rate of fulfilment was likely to be. In the knowledge of this, plans were modified in a a way that fulfilment should be somewhat above 100 per cent. It even occurred that modifications took place after the plan period — e.g. some items in the annual plan were changed in January of the next year.

Annual national economic plans were "complex", diversified and nearly all-embracing. Several volumes were filled with the tasks of the ministries relating to production, productivity, employment, the use of materials etc. A separate volume contained the comprehensive tables for the economy as a whole: planned national balances, the balance of the gross social product and of the national income. The whole gave the impression as if there were a close connection between the quantities and figures of the individual volumes, as if the volumes, "the different chapters" and the concrete figures of the plan were in complete harmony with each other. But this was not quite the case. This is proven also by the fact that whenever individual plan targets were modified, the connected other figures were not modified accordingly. This could not be the case, if only because of the large number of modifications (there were years when modifications amounted to nearly one thousand).

In spite of what has been said above, it would not be justified to doubt that the national economic plans aimed at a certain balanced harmony in respect of some important items. But this was not the sole and not even the most important objective. The main objective was to achieve that every enterprise always put in maximum effort. The system of plan instructions was considered a means to this end. As mentioned, this one-sided view, the requirements demanding the fulfilment and overfulfilment of the strict quantitative targets, were detrimental to the efficiency of production and to the quality of products. The question may be put, whether this one-sided emphasis on quantitative requirements was not some simple "mistake" or "fault" of the pre-1953 or pre-1956 eras. It seems it was not a simple mistake or a fault made by chance, but a deliberate political attitude. The old system of economic management was connected with the policies of those times, the two were inseparable from each other. It was a period, hardly or not at all known to the members of a younger generation (to those of 25—35 years of age) and on which we, older people, do not like to look back. It was a period of "keying up" political and economic public opinion — of keeping sentiments always at boiling point by artificial overheating. The constant and all too emphatic requirements relating to the fulfilment and overfulfilment of the stepped-up plans, to their fulfilment ahead of schedule, to ever newer compulsory "voluntary" pledges, to arranging and participating in the most diverse kinds of emulation were in

mutual interaction and connection with all what was characteristic of the policies of those times, what distinguishes them from present-day policy. The slogans of those times called for constant and increased vigilance, for watchfulness and mistrust of practically everybody. And this suspicion and mistrust prevailed not only in the political sphere but, as is inseparable, also in connection with the performance of tasks. The then prevailing attitude seemed to suggest, though it was never publicly expounded, that fundamentally everybody is indifferent and lazy without exception and willing to work only if compelled to and thus can be given only such tasks as can be easily checked. As if innumerable experiences did not confirm every day that the majority of people are inclined and able to work enthusiastically and do their best without any outer compulsion. Behind the appeals to fulfil and overfulfil plans, the organization of all kinds of emulation as well as the system of high premiums depending on the fulfilment of quantitative targets there was obviously the view that practically no one would work if he were not driven, menaced and compelled, and if incomes (particularly the incomes of executives) were not made dependent to a great extent on quantitative (measurable) performances. Let us repeat, it is with some reluctance that we remember these times, the times of strain and vexation, of overstrained plans and nerves, of precarious existence and servility — but it is unavoidable to refer to them since the old system of control of the economy cannot be understood without them.

Since there was a strife for measurable achievements which could be expressed numerically, the whole system necessarily involved an exaggerated overestimation of performance wages, of piece rates. Indeed, even the executives in the enterprises (managers, chief accountants, chief engineers, engineers, technicians, etc.) drew some kind of performance wage: there was a functional relationship between certain numerical, measurable performances and their monthly or annual incomes.

As is well-known, and was also pointed out above, the methods and measures employed by the economic and political leadership were not fruitless. The question remains to be answered whether, by employing other measures, we could not have achieved better results (a more even or more highly diversified development, a higher technical level, better quality etc.) or whether before 1953 or 1956 conditions for such other measures existed or could be created.

II

The plan instructions given to enterprises as to what and how much to produce did not bring about a connection between production and utilization in the old system of central planned control. Exactly the opposite happened: they separated production from utilization. In the course of their work, enterprises did not make efforts to satisfy the needs of their customers or of the

consumers but strove to fulfil and overfulfil the plan targets set "from above". The requirements that can be set to productive enterprises are manyfold, complex, interrelated and not exclusively quantitative. True, there are also other criteria of good enterprise performance, such as 1) a big production volume and 2) low production costs (economizing on materials used, reaching a high productivity, etc.). But these two requirements will lose their content if not coupled with the third: only that must be produced what is demanded by the users and in a quality demanded. But the quantitative indicators could not express the needs and wishes of the buyers and consumers. The requirement that buyers should be satisfied in respect of the choice and the quality of goods could not be expressed in terms of numerical instructions. Thus, the operation of enterprises was regulated by indicators and restrictions relating to prime costs, productivity, the use of materials, and the fulfilment and overfulfilment of quantitative production plans, — and these often disregarded actual needs. As a consequence, it sometimes happened that goods were put into circulation which could not be used properly or which were not needed there and then by anybody. Producers did not service adequately their customers. The relation turned in its opposite: the consumers and customers were at the mercy of those who should have served them. The role and importance of the sales department in industrial enterprises fell to a minimum. Practically anything could be sold. Buyers could not choose but take over even products of inferior quality. In addition, so-called stockpiling enterprises were created to the duties of which it belonged to take over also the goods for which no buyer could be found. But it even happened that the products turned out accumulated in the warehouses or in the yard of the producing enterprise itself. The plan was fulfilled by the enterprises, instructions were carried out, nothing else had to be considered. Under such conditions, the undisturbed process of production depended not on the good performance of the sales department but on the good work of the supply-men. More than once even the managers of enterprises became material purchasing agents, indeed, even local party bodies and trades unions had to look for the solution of material purchasing difficulties. Legal and illegal "stunts" were performed (with the aid of illegal premiums, etc.). The competition of sellers was superseded by that of buyers. (All this was based on the thesis that "under socialism purchasing power must always exceed the commodity fund.")

Successful work performed carefully and with devotion is not only a basis for the consciousness, self-esteem and pride of workers but constitutes at the same time a close sentimental and political tie with the job, the enterprise and, in the last resort, with the socialist system. If, however, the product thus turned out was not of a good quality or even unusable, or nobody needed it and no buyer could be found and large amounts of it accumulated in the warehouses and the yards of the factories to be seen by everyone, — that did

not strengthen but lessen the devotion, the emotional and political ties of workers with the socialist system.

The quality of products was not satisfactory in all respects not only because under the above conditions quality could be neglected, because it was not important since buyers did not need to be particulary respected. Also the various instructions, the plan indicators often created a situation where there was no longer possible for the enterprises to ensure the proper quality of products by careful, undisturbed and conscientious work. Enterprise managers, when complaints were made in connection with certain products, often pointed out that faultless quality could have been achieved without any further effort by simply putting somewhat more labour into production of the individual pieces. But they had no chance since they were obliged to fulfil the plan of productivity. Another frequent typical complaint was the following: *several million* Forints could be saved by using cheaper or less material "but we cannot manage it because a somewhat bigger labour force would be needed and we would have to pay out a *few hundred thousand* more in wages. But we cannot exceed the manpower quota nor the wage fund." Or: "the products could be sold abroad at considerably higher price (for more dollars or roubles) if we could use import materials which cost a few cents or kopeks more. But there is no such possibility within the limits allocated".

Pressure can be raised in a tyre only if it is hermetically closed, if there are no cracks or leaks in it. Otherwise the air will leak out and pressure will not rise above a certain limit. The pressure on individuals and enterprises — in the forms mentioned above — which was intended in the old system of control and management to be exercised and ever to be increased through the requirements relating to the overfulfilment of the stepped-up plans, by organizing emulations, etc., — did not work perfectly. There were leaks in the wall of the tyre: the requirements connected with the quality of products were not so strict as those relating to the fulfilment of quantitative tasks. Quantity was more important than quality and was achieved more often than not to the detriment of the latter.

The harmful, negative effect of the system of plan indicators and instructions did not appear in its entirety. In fact, the system of management was worse than it seemed since part of the negative effects were counterbalanced or neutralized by several factors. One of such factors was the presence of "difficult people", there were always people who could not put up with it that the result of their work is not of full value. Enthusiasm for the subject, the love of work compelled them to try obstinately and stubbornly again and again the impossible, to take risks and endure thousands of rebuffs, to commit even some fraud or malpractice, to fight heroically for better and more perfect solutions by breaking or circumventing existing barriers. The other factor partly balancing the negative effects was the presence of certain social and moral norms or

requirements which, though unwritten and not expressed by the plan indicators, had still to be considered. Of course, it was a general requirement breaking through with an elementary force even in those times that the products turned out should be fit for use at least in the literal sense of the word. A match had to catch fire, a radio had to work, bridges over the rivers had to stand, and be firmly load-bearing at that, and so on. Deterioration of quality could not go beyond certain limits since it would have met with scandal, massive indignation and retribution. It was mainly due to the presence and operation of these two factors working in a healthy direction that even in the old system of planning and control there were to be found a whole range of usable and good products, both consumer goods and means of production, and that their quality was steadily improving. But the healthy, positive factors could not always, not everywhere and not entirely counterbalance the negative effects of the prevailing system of planning. The healthy effect of these invisible forces showed e.g. less in respect of products delivered by enterprises to each other for further processing. The enthusiasm and stubbornness of "difficult people" and "unwritten laws", or the presence of fundamental social requirements as to usability could often not help even when the goods should have been excellent in all respects, of good quality and attractive appearance in order to be favourably sold abroad. E.g. we could only exceptionally supply engineering products which could be readily and repeatedly sold in developed capitalist countries at a good price.

III

The idea that needs can be assessed and then met by issuing instructions relating to production might be interpreted in two ways. Either we imply and assume that everything has a price and reckon with the fact that needs are influenced by prices. Or, if we act otherwise and do not imply prices, the whole idea postulates the existence of some primitive concept of a natural economy. The ideological support for the old system of planning and management was indeed the view — not always presenting itself openly and consistently — that socialism is essentially a natural economy. A whole series of books and studies professed in the past decades that the requirements arising out of a commodity economy cannot be valid under conditions of socialism, that in socialism there are in effect neither prices, nor commodities, nor commodity production, (as there is no value, no money, no wages, etc.). All these exist only in a kind of "modified" form under our conditions, and both forms and functions became so modified that hardly anything remained of the original meaning of these expressions. The old practice more or less followed these views, the ideas relating to a natural economy have become a material force in several respects. True, what has actually emerged was by far not consistently, nor unequivocally

a natural economy. It is, however, certain that prices and money — as a general measure of value — did not fulfil their role. Prices were indeed no prices in the true sense of the word. The price of individual products did not mean in all cases that the product in question can be sold or bought at the price quoted. A considerable part of products moved along a forced path, according to the instructions received "from above". Neither the buyer nor the seller were sufficiently interested in the trade between enterprises.

Much has become clear in the debates conducted in recent years. It is one of the tasks of the reform now under way to utilize in practice the interrelations which have been recognized as a result of the discussions. Such a relatively new (i.e. only recently generally adopted) recognition is that prices of individual products are influenced not only by the (live and embodied) labour necessary to produce them but also by the amount of fixed and working assets tied up in their production, the length of the production period, and the properties (area, quality, location) of the land involved. But the point is not only and not even primarily that fixed and working assets and the land used were not taken into account in price formation. It is more important that in the various branches of the economy, in various enterprises and in respect of various products the most diverse subsidies, "price supports", "levelling", turnover taxes, etc. were employed. As a result, money had different "values": in the turnover within productive enterprises its value was different from that in home trade (and within that different in industry and in agriculture), or in foreign trade; quite different again in the servicing industries and with investments, etc. E.g. the prices of means of production, and particularly those of machinery, had to be fixed at a very low level, because this "promotes and quickens technical development". Part of the enterprises operated at a loss: sales receipts did not cover the production costs. The difference was refunded by the state. But operating at a loss must not be understood in the sense that the operation of these enterprises was indeed harmful. Just the contrary: it could be proven that they carried on necessary and useful activities. It was only at the prevailing prices that they showed a deficit. Thus e.g. the whole of foreign trade operated at a loss — though there can be no doubt that it fulfilled a useful, necessary and even indispensable role — because foreign trade enterprises "sold" imported goods at much lower prices than their real purchase cost was in terms of exports. In this sense agricultural enterprises and cooperatives were operating at a loss in general.

If the price of some product is fixed in an arbitrary manner so that it does not cover production costs and the difference is met by granting subsidies, this does not yet cause troubles at the place where the loss presents itself and where the subsidy is granted. Let us assume that the price of some product, as calculated on the basis of production costs and including also a certain profit margin, is Ft 100. — (we assume here that at this price demand and supply are in harmony with each other). But the price fixed by the authorities is not

Ft 100 but Ft 70. —, the difference being refunded by the state. Or: the buyer pays Ft 150 but the seller receives only Ft 100 because the rest is collected in the form of a turnover tax. Where this actually happens, we can still clearly survey the situation: *but for the subsidy or the turnover tax the product would cost Ft 100*. The confusion occurs later: in later vertical stages of production the products are accounted for at the prices actually paid by the buyer (in our example Ft 70 or Ft 150). Since, under the conditions of the existing division of labour, almost all industries participate in the production of all products (the price of a pair of shoes is influenced by that of coal, electric energy, steel, machinery, etc. and in addition, by that of various imported materials), in the end the question, what would be the cost of some product if there had been no subsidies and turnover taxes in the earlier phases of production, could not be answered at all, or only by means of computations performed with the most up-to-date computers and even then only approximatively.

Let us revert to the concept of needs. What consumer goods and services are needed e.g. in individual families? For the families this problem does not arise in the form: What is needed? but rather in the form: What is *more* needed? They know the prices of consumer goods and services and with the aid of prices they can compare everything. Considering in the first place the amount at its disposal in a month or a year, the family decides what it "can afford", i.e. what needs they intend to meet and what to forgo in the given month or year. What happens if we fix arbitrary prices for consumer goods and services? Prices will determine the consumption decisions of families also in this case but in a different way than they would if prices and price ratios were correct. From the point of view of buyers, prices and price ratios — whatever they may be — are parts of material reality and which they take into account in their decision to buy or not to buy something. Arbitrary and unfounded prices and price ratios amount to giving arbitrary and unjustified preference to some group of buyers to the disadvantage of others. This is, of course, wrong*. But this, in itself, has no particularly grave consequences. As a matter of fact, in many cases we do not even know whom we prefer to whom; the strata concerned can often not even be identified on the basis of some economic or political criteria**.

Arbitrary price proportions have graver consequences in the production sphere. Here too, it happens in innumerable cases that a choice must be made between two or more possibilities. Given production capacities can be used for turning out various products. Which are the most useful, the most favourable

* To avoid any misunderstanding: we do not mean here the few articles and services — such as tobacco, alcohol, books, gramophone records, etc. — whose consumption we deliberately wish to restrict or promote on account of sanitary, political or cultural points of view.

** As is known, in such cases there arises an even greater deficiency: the pattern of production does not conform to actual needs, and does not approach the optimum to be achieved. I think, however, that it would not be justified to go into this subject here.

solutions? In the course of production different materials must be used — in many cases, decisions must be made whether it is worth while to substitute certain materials for others. Or: which products are most appropriate for being sold abroad? Such and similar problems arise every day and in great numbers. The most important of all is to decide what investments to realize. From the amounts available for investment everything cannot be realized at the same time. A whole range of productive capacities must be extended or modernized; new, more productive machines to be procured, in order to produce higher quality, more exportable products or to save imports, etc. How can the investment funds allocated for the year, or for five years, be utilized in the most useful and most efficient way? Here too, the problem is not "what is, or what would be, needed" but rather "what is most needed" — what investments are most worth while to be realized under given conditions. To be able correctly to evaluate all these it must be known what they cost and "how much they earn"; investment costs must be compared to each other and to the results achieved or to be achieved by various investments. There are, however, considerable qualitative differences among them. From a part of investments we expect a rising volume of production, from others an increase in productivity or diminishing costs or savings in imports, or an export surplus. Correct prices make it possible to compare and measure all the various investment projects. Without correct prices, the problem can obviously not be solved.

The great importance of foreign trade in this country makes investment decisions still more complicated. Let us assume that it would be necessary to establish the most diverse new factories: there are grave arguments in favour of creating e.g. paper mills, textile mills or engineering works (or to extend the capacity of existing ones) etc. But the problem is not only one of deciding which of the necessary and useful investments it is worth while to realize first. This would involve only the requirement of establishing the correct priorities, i.e. what to realize in the given period, and what to postpone. But in connection with several investment decisions there arises a further question: the domestic production of what goods can be foregone, not only for the time being but sometimes finally (or at least for some longer period), because it is more useful and more efficient to produce from some other commodity quantities far in excess of domestic requirements and to export the surplus thus arising. That will enable us to import a whole range of other products much cheaper than if they were produced at home.

All these are vital problems, without the proper solution of which we must give up the hope to meet the most important requirement, i.e. to manage our resources efficiently, to control efficiently the economic processes both on the central and the enterprise level. To be able to decide which of the alternatives is more useful or more appropriate, concrete calculations must be made. In the course of these calculations various factors, possibilities, inputs and

results must be compared with each other. This comparison is impossible without the aid of prices. An adequate price system is in all cases an indispensable condition of correct decisions. The prices should give proper orientation, and arbitrarily set prices and price ratios will only mislead.

The gravest deficiency of the old system of planning and control was that costs did not appear where they actually arose. Products were often sold considerably below or above their actual cost. The price paid by buyers was in many cases not identical with the sum received by sellers for the same product. As a consequence, it became impossible to find the most efficient solution or even to approximate it. This applied not only to investments and foreign trade but also to production in general.

The inadequate price system was not some accidental fault of the old system of planning and control — it was its unavoidable concomitant. As long as a considerable part of the products moved along a forced path, as long as the buyer was at the mercy of the seller and the price was of secondary importance both to buyers and sellers, with nobody sufficiently interested in it and prescribed obligatorily by the authorities independently of the will of the trading partners and independently of the trends of demand and supply — a proper system of prices could not be established. Only when production is not carried on for the sake of plan fulfilment, only when the products have to pass through "the needle's eye of the market", i.e. if they assume the role of commodities, can we speak of an adequate price system. But in those times there was a natural economy, even if not a quite consistent one. On the other hand, a natural economy is justified and can be kept up only at the most primitive stage, on the subsistence level, in a situation of siege, when the problem is to satisfy the most elementary and primary needs. In such a case cost is not important and the requirements relating to efficiency are not valid. But if in a developing society which is growing ever richer and where a growing division of labour makes the interrelations between producers manysided and so intricate that they become difficult to survey we take stand in principle for a natural economy and deny commodity relations, the existence and justification of commodity production, the role and function of prices and money — then we have renounced the possibility of economic calculation and of careful comparisons, and together with it abandoned the claim to achieve the greatest possible results with a minimum of input and to assert the requirements of thrift and efficiency in the national economy as a whole and in all of its fields. And this also means to renounce the aim to ensure the highest possible rate of growth of the economy (of production, consumption and the standard of living).

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On the basis of what has been said above, the reform of economic control and management seems fairly justified. The implementation of the reform is a

most difficult task of far-reaching importance. The solution of the task is in some respects easier because in recent years we have abandoned the old methods of planning and control in several respects and approached those the consistent realization of which is now the order of the day. In particular: we have introduced the profit-sharing system and the charge on the assets used in enterprises; the role of contracts and orders between enterprises has grown in importance; there have been some changes in the price system, and in several other respects. These were, however, only partial measures and could bring only partial results. We now need a comprehensive reform reaching beyond the partial measures.

IV

What should the new system of economic control consist in and how should it function?

In my opinion, this can be summed up in the following.

1. The concept and tasks of national economic planning must be defined in a new and more precise way. The thesis that "with us, the plan is not a prophecy, not a prognosis, but a law binding on everyone" — is not correct in every respect. It did not correspond to reality even under the conditions of the old system of planning. The national economic plans were indeed partly "addressed" and obligatory, but they necessarily comprised also prognostic elements. Under the new system of control, the resolutions and the instructions aiming their implementation must be clearly distinguished from everything else which is of prognostical character in the plans. Based on careful calculations, the national planning bodies will have to work out scientifically founded, correct prognoses concerning the development of the major national economic processes over the plan period, e.g. of the growth of national income, the pattern, main proportions and annual growth of production, etc. Then, and this is a quite different thing, *decision must be taken* e.g. on the ratio of consumption to accumulation within national income; on the share of individual and public consumption within consumption; on the relative proportions of productive and non-productive investments within accumulation. In respect of both productive and non-productive investments, decisions will have to be made also on some questions of detail, with obligatory instructions prescribing the site and number of schools, hospitals, flats, etc. to be built and the sums to be spent (from the amount destined for productive investment) on the creation of major new projects, factories, plants, etc. The instructions will not be all-embracing; decisions and instructions are needed only in a few cases, in the most important ones. In the course of drawing up the prognoses, however, computations must cover practically "everything". To be able to determine the prospective development of the national income with the greatest possible

accuracy, everything must be taken into account that was covered by plan instructions in the old system: the volume and pattern of production, employment, productivity, material supplies, and the trend of a great number of indicators. But no obligatory instructions need be worked out concerning the current operations of productive enterprises (their volume of production, wage fund, manpower, material supply etc.).

Central planning has to see to it ("behind the back" of the enterprises as it were) that excess capacities shall not develop and that reserve capacities shall be available. It is important that no goods should be in short supply, that there should be no queues, no rationing, no allocation quotas for certain materials or spare parts, etc. Buyers must not be left to the mercy of producers or sellers. The principal task of productive enterprises should not consist in procuring the materials and component parts necessary for production. One of the major tasks of national planning will, therefore, be to safeguard the equilibrium of commodity fund and purchasing power, of demand and supply. In all respects it will be necessary to establish a "dynamic" equilibrium with supply exceeding demand to a certain extent (in some cases only by a fraction). Should e.g. 150 billion be earmarked in the plan from national income for private consumption purchased for money, provisions must be also made in order that 1) the money paid out to the population in the form of wages, salaries etc. should amount actually to 150 billion (not more and not less) in the year in question and 2) that commodities in a value slightly exceeding this amount should be available. The dynamic equilibrium between the centrally determined amount of investments and the aggregate of investment goods available should be assured in a similar manner*.

The equilibrium has to be ensured not only globally but also in respect of certain details. Provisions must be made in order that the pattern of supply corresponds to needs, to the pattern of demand. It can and must be assessed what will be the consequences of the planned rise in the real income of population on the rise in demand on clothing articles and the corresponding volume of goods must be made available either by raising productive capacities or by imports. Or: on the basis of the investment fund, the demand for construction capacity may be estimated. Accordingly, construction capacities somewhat exceeding these needs must be assured in advance; in other words, the funds to be invested must be restricted to the level where the construction orders of investors do not exceed and not even fully exhaust the total capacity of the construction industry.

It is not the simple reproduction process that must be regulated but the outflow of money incomes and the expansion of productive capacities. With the

* This cannot be fully achieved, but minor deviations within the margins of error will cause no disturbances.

equilibrium between needs (effective demand) and supply (production, productive capacities) ensured both globally and in respect of certain details, there will be no need any longer to issue an "order" to the existing cement, steel, textile, etc. factories as to what and how much to produce. Needs and production (capacities) will find each other without central instructions.

2. What will be the role of the enterprises in the new situation? How will they know what to do if they are given no plans? What requirements will they have to meet? Enterprises must, in my opinion, be given instead of details, general instructions relating to their whole operation, approximatively in the following wording:

"In the new situation, where plans will no longer be 'broken down', enterprises are required in the first place to satisfy the wishes of users, of those placing the orders with them. In respect of the quantity, choice, quality and date of delivery, and in every other respect they should conform to buyers, for the sake of whom, in whose interest they perform their activity.

Labour, materials, machinery, etc. must be well managed. It would be impermissible to use too much labour or the most valuable materials at discretion in order to achieve a good quality of products. That would do more harm than good. It is a basic requirement that the operation of the enterprise should be *efficient*. With correct prices and price ratios this must manifest itself in the receipts exceeding outlays: the result of the efficient operation of an enterprise appears also in a monetary form, as a 'gain'. The enterprises must strive to be as efficient as possible; this is equivalent to achieving the possible highest 'gain' (i.e. profit, income). *If the operation of some enterprise is not profitable for the economy, if production costs exceed the value of products, and their market price, the justification for the operation of the enterprise becomes questionable.*

But profitability is not the same thing as momentary gain (relating to the given calendar year). The two points of view often contradict each other and from the two it is not the momentary interest that is more important but the laying of firm foundations for the future. Ruthless exploitation of workers, machinery and equipment should be avoided, and the confidence of the buyers must not be abused. The aim should be that an ever growing circle of buyers develop a taste for the products of the enterprise both at home and abroad, that the name of the enterprise hall-marks its products, warrants their reliable quality. What is needed are well-founded and far-sighted enterprise policies. This comprises many things that do not serve momentary profitability. Provisions must be made — even at the disadvantage of momentary profitability — to raise the standards both of production and products and continuously to train and complete the labour force, etc. Last but not least, care must be taken that workers receive fair wages and that disciplined and fair working conditions prevail. Proper and well-lit working places, clean lavatories and dressing rooms must be available to workers. The factory must never be disorderly, dirty or

neglected; the whole area should be pleasant, clean and cultured. The aim is that the workers perform their tasks with care, ambition and efficiency, that they are devoted to their work and to the enterprise".

I assume that this "draft instruction" will need several modifications and extensions. But it is equally obvious that the tasks are too manyfold and diversified to be expressed by a single figure or a single requirement. Besides, these instructions, however, "general" in character with their seemingly only harmless "directives", incorporate requirements which are at least as strict as were the plan instructions in the old system. Without making efforts, enterprises will not be able to meet the requirement that their operation should be as profitable as possible. Effective demand both for consumer goods and for materials, component parts and investment goods will be regulated — as was already mentioned — in a way that supply and productive capacities exceed demand to a certain extent. It will not be easy to sell goods (and particularly not at a good price, with high profits), because the competition of buyers will be replaced by the competition of sellers. Let us immediately add that we are not thinking here of cutthroat competition, of a mass of unsaleable goods filling the warehouses to overflowing, of a whole range of enterprises which, succumbing to competition go bankrupt. The enterprises will, however, have to go to some trouble if they intend to sell their products at good prices, if they want to create firm markets for their products, — though not so serious troubles as they had to encounter when procuring their materials in the old system of economic control. They should be compelled to meet the wishes of buyers in every respect: choice, quality, durability and attractiveness of goods, terms of delivery and, last but not least, prices, which should be made competitive by reducing production costs. The purchase of materials will cease to be the central activity and the operation of the commercial section, of the sales department will grow in importance. The materials and component parts necessary for production will be available on order and in many cases it will be possible to choose from two or more offers. Buyers of materials will not be obliged to court the favour of supplying companies (by setting special bonuses and by other legal and illegal forms of bribery) but on the contrary — and this will be a "new" feature — they must be themselves inaccessible and incorruptible to be able to resist the temptation of suppliers.

Under such conditions the requirement of profitability includes also the partial requirements which they tried to regulate in the old system by a host of meticulous instructions. The enterprise can reach a higher income only by using its capacities to the fullest possible extent (i.e. by producing more), by economizing on both live and embodied labour, by increasing productivity, by reducing production costs, by developing production technology, by raising technical standards etc., etc. But all that must not impair the quality of goods, since goods of an inadequate quality will find no buyer.

3. Provisions should be made that the role and task of prices and money (as a general measure of value) should be consistently enforced. Without this, the measures outlined in the two preceding paragraphs cannot be put into effect either. Whenever a decision must be taken in an individual enterprise or in the course of national planning (in connection either with current production, the use or substitution of various materials, or with foreign trade activity, or with various investment demands and possibilities), whenever a choice must be made between two or more possibilities, prices should directly indicate the most advantageous from among the various possibilities.

A fundamental requirement to be raised on prices and price ratios is that the financial reflection of some useful economic activity (i.e. the difference between receipts and outlays) should also appear in the form of a "result" or "gain" (profit, income). If, however, some activity or measure taken causes a damage to the economy, its result should also appear in Forint terms, as "damage", "loss" or "deficit". To be able to achieve this objective, all types of subsidy and price support should be abolished. Instead of the "levelling" measures and various turnover taxes, enterprises should be obliged to pay a uniform interest (charge on assets) directly proportionate to the fixed and working assets used and, in addition, a land tax depending on the area, quality and situation of the land used. Similarly, a wage tax directly proportionate to wage payments should be introduced in a way that the combined sum of interest, land tax and wage tax should (together with the profits to be withdrawn by the state) approach the sum which was paid up to now into the central funds mainly in the form of turnover taxes, and which is necessary to cover budgetary expenditure.

From what has been said it follows that prices must cover costs incurred in the course of production — inclusive of interest, land tax and wage tax. In such manner the "prime costs" of individual products can be computed, but under the influence of demand and supply prices must in many cases deviate from costs. The development of demand and supply influences prices but prices also influence demand and supply. With higher prices it is worth while to produce more because a bigger income can be earned. The production of such goods, however, whose price is lower than the "prime costs" as defined above, will entail smaller income or even a loss.

How will decisions on new investments be influenced in the proposed new system of economic control by the deviations of prices from the price centres, by the lower or higher profitability of producing and selling products?

With investments which must decided upon centrally, the decision need not and must not be made exclusively or even primarily on the basis of prices and profitability. The amount of electric energy, and of sources of energy in general, that will be needed in the economy can be rather safely computed for several decades ahead. We cannot wait with the construction of power stations

until electric energy becomes short in supply or until its price rises (and thus energy production becomes profitable). Or, to mention another example, if we assume that the population will rise in the following decades by, let us say, 20 per cent, the capacity of bakeries must be increased accordingly in advance. We cannot wait with planning and preparing the bakery investments until bread and baker's ware become scarce, prices rise and production becomes profitable, etc. This would be entirely naive and even stupid.

Preliminary computations of demand and of needs will influence the decisions on investment to varying degrees. They will be more important or decisive in respect of major new projects on which decision is taken centrally. They will be least important in the case of decisions on minor investments within the competence of the enterprises, investments aimed at eliminating bottlenecks and small as measured by national standards. These investments, which can be rapidly recovered, are decided upon by the enterprises themselves in consideration of given circumstances and, obviously, of the actual prices, price ratios and of the higher income which can immediately be earned through them.

Presumably, there will be several hundreds of products in the case of which decisions on creating new capacities (or extending the existing ones) will be taken not on the basis of actual prices and price ratios, i.e. of momentary profitability, but primarily or exclusively on that of careful computations relating to needs (to a considerable extent with the aid of programming and models). Presumably, the prices of the same several hundreds of products will have to be centrally determined — centrally prescribing and checking also the requirements in respect of quality. Such products will be certain materials (raw materials) and non-ferrous metals required in production as well as some fundamental consumer goods and services as e.g. bread and butter, postal, telegram and telephone charges, local transport tariffs, etc.

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Under the old system of economic control, the level of investment costs was indifferent to investors — they obtained the funds, the capital, free of charge. Under the proposed new system this will change: in respect of investments enterprises will have to look for more efficient and more economic solutions (diminish interest charges in order to achieve a higher income) in the same manner as in connection with current production. Simultaneously with the decision on a large new project also the productive enterprise will have to be legally set up whose activities will begin with the new investment's going into operation. The executives of the new enterprise to be established must be appointed. They must be responsible masters of the new enterprise already in the stage when the necessary investment is being planned and realized. In

view of the requirement of profitability and of the fact that interest charges after the project's completion, in the period of continuous operation, will in the end depend on the actual cost of the investment, they will have to seek at the construction stage already for the most expedient and efficient solutions.

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In the foregoing I tried to outline briefly the interrelations which are, in my opinion, the most important elements in the proposed new system of economic control.

In the course of implementing the reform several tasks must be resolved simultaneously or in a very short time. The desired result cannot be achieved if only part of the tasks is realized. A considerable part of the tasks can not even be separately solved. E.g. it would be pointless to expect from enterprises to conform in all respects to the wishes of buyers, to perform useful activity and to be profitable if quantitative instructions were not abolished, if prices and price ratios would not perform their functions, or if the defencelessness of the consumers and of those placing the orders would continue. On the other hand, no correct prices and price proportions can exist as long as production is carried on with the aim of meeting quantitative plan targets, independently of needs, of whether products are sold, or saleable at all, since realistic prices are a precondition for the products to pass the "screen" of the market.

The introduction of the new system of economic control is undoubtedly a most difficult and complicated task since it involves the simultaneous carrying out of several measures which are not easy to realize even separately. Everything must be prepared circumspectly and carefully, revising all details again and again, anticipating also unpredictable difficulties. It would be desirable to carry out the reform step by step, gradually, precisely in order to avoid major shocks. But exactly the most important changes can hardly be implemented gradually. There must be a point where a qualitative leap must be undertaken. E.g. it would hardly serve the requirement of gradual implementation if a gradually diminishing number of plan indicators were issued to the enterprises. (The demand that the number of plan indicators issued to enterprises should be reduced was voiced fairly often in the past fifteen years.) By reducing the number of plan indicators we can reach nothing. There were times when the whole work of an enterprise was aimed at fulfilling a single plan indicator: that of gross production. Nor was the situation any better when several such indicators were compulsory. The essential thing is what the enterprise is aiming at, what it considers as its major task: the fulfilment of a single or several indicators — or something quite different, namely, to obtain as many orders as possible and to satisfy the requirements of its customers. These two concepts are incompatible and irreconcilable. The enterprises must abandon the first

for the second. The number of compulsory plan indicators should not be "diminished", they must be reduced to zero.

During the implementation of the reform we are sure to meet a series of objective difficulties. In my opinion, however, it will be a much more difficult task to clear away the "subjective" obstacles: to change the old opinions, the old ideas. The conviction that the reform is correct, necessary, unavoidable and urgent "must penetrate the masses and become a material force". The partial measures mentioned, taken in the past ten years (production subject to orders, the charge on assets and the rest) are important, last but not least, because they have already contributed to transforming mentality and attitudes or at least gave a start to such transformation; they facilitate the understanding and the adoption of the interrelations and requirements of the new system.

The hard task of fighting wrong ideas, of transforming views has, however, not yet been performed. My paper intends to be a contribution to this end.

О ЦЕНТРАЛЬНОМ, ПЛАНОМЕРНОМ УПРАВЛЕНИИ НАРОДНЫМ ХОЗЯЙСТВОМ

Д. ПЭТЕР

В ходе подготовки реформы метода хозяйственного управления возникла необходимость в выяснении того, чем мотивируется, отчего стало актуальным требование осуществления существенных изменений в наших методах планирования и управления; каким будет новый метод центрального управления; в чем будет он отличаться от прежнего; в чем и насколько будет он лучше, эффективнее прежнего.

Одним из фундаментальных элементов прежнего метода центрального планомерного управления народным хозяйством — как это известно — была «разбивка плана» по предприятиям, то есть система плановых директив (плановых показателей, плановых заданий), самым детальным образом регулировавших деятельность производственных предприятий. Разбивка планов по предприятиям, система плановых показателей стали синонимами центрального планирования, планового хозяйства. Предприятия получали ряд обязательных количественных предписаний, и — что следует из этого — критерием оценки деятельности каждого предприятия являлась степень выполнения ими этих количественных предписаний.

За прежней системой планирования крылось такое соображение, что если потребности (как в потребительских благах, так и возникающие в ходе производства) учитываются в централизованном порядке, и если между производственными предприятиями — также в централизованном порядке — распределить роли, то есть , если в соответствии с определенными в централизованном порядке потребностями точно предписывается каждому предприятию, чего и сколько ему производить, то таким путем посредством центрального, планомерного управления можно обеспечить, чтобы производство непосредственно служило удовлетворению потребностей. Таким образом можно достичь, чтобы в народном хозяйстве в целом все со всем было заведомо полностью увязано; это целое действовало, как хорошо смазанный гигантский часовой механизм, в котором шестеренки точно пригнаны друг к другу, и в котором практически не может быть потерь от трения.

Это соображение, однако, было утопистическим, и народное хозяйство никогда не действовало, не могло действовать подобно часовому механизму.

Совершенная сбалансированность народнохозяйственных процессов, при которой, вообще, не может быть потерь, явно неосуществима. Задача может заключаться лишь в сокращении потерь до возможно наименьшей степени. Прежняя система планирования и не имела целью создания какого-то идеального, полного соответствия между следующими друг за другом, взаимозависимыми фазами («вертикумами») производства, или хотя бы между производством и потреблением.

Основное требование к отдельным разделам и различным данным общегосударственного плана заключалось не в их полной взаимной увязке. Планы должны были быть, в первую очередь, «напряженными». Всех (и каждое предприятие) старались поощрить или понудить к достижению наибольших результатов, выдвигая требования выполнения и перевыполнения напряженных планов. Это стремление не было безуспешным, но применявшиеся методы имели также и вредные последствия. (Сокрытие резервов, значительные колебания производства в конце года и кварталов, ухудшение качества, расточительство и т. п.). Деятельность предприятий напоминала спортсменов, участников соревнований, принимающих перед соревнованием какие-либо стимулирующие, возбуждающие средства. В результате таких средств организм становится способным делать исключительные усилия (достигать результаты, превышающие естественные оптимальные возможности организма). Однако, — как известно — действие возбуждающих средств длится недолго, они не могут применяться в течение длительного времени и сопровождаются вредными эффектами.

Основная цель плана заключалась в постоянной напряженной работе каждого предприятия, в приложении им всех его усилий. Система плановых предписаний была орудием, применявшимся в интересах достижения этой цели. Возникает вопрос, было ли просто какой-то «ошибкой» одностороннее подчеркивание количественных требований в период до 1953 или до 1956 года. Думается, что это было не простым недочетом, не случайной ошибкой, а сознательной политической позицией. Усиленно подчеркиваемые требования выполнения и перевыполнения напряженных планов, их досрочного выполнения, принятия все новых и новых «добровольных» обязательств взаимосвязаны и взаимозависимы со всем тем, что было характерно для политики того времени, что отличает ее от настоящей. Господствовавшее тогда воззрение подразумевало, — хотя об этом никогда открыто не говорилось - что, по существу, все без исключения работники равнодушны и ленивы, все работают лишь тогда, если их принуждают, и поручать им можно только такие задания, выполнение которых можно конкретно проверить. Как будто бы несметный опыт не доказывал бы, что подавляющее большинство людей склонно и способно работать охотно, старательно, без всякого внешнего принуждения.

Методы и меры, применявшиеся в хозяйственном и политическом руководстве, как известно, не были безуспешными, но результаты были далеко не удовлетворительными.

Автор далее излагает отрицательные стороны системы плановых директив: отгораживание производства от потребления; стремление предприятий не к удовлетворению потребностей заказчиков, а к перевыполнению получаемых «сверху» плановых заданий. Интересы покупателей подчинены интересам производителей. Это бьёт по качеству, приводит к образованию лишних запасов. Не выполняли своих функций цены и система цен. Роль цен зачастую была формальной, ими не выражалось ни то, во сколько обходится производство товара, ни то, можно ли по ним, действительно, купить или продать эти товары. На основании пропорций цен невозможно было взвесить и решить, какой из путей производства или расширения производства является более эффективным или более целесообразным.

Неправильная система цен не была какой-то случайно возникшей ошибкой, «наслоением» прежнего метода планирования и управления. Она была его неизбежным спутником. Пока значительная часть продукции двигалась по принудительным каналам, пока интересы покупателя подчинялись интересам производителя, пока цена была как для покупателя, так и для поставщика каким-то второстепенным, номинальным делом, в котором никто не был надлежащим образом заинтересован, которая к тому же во всех случаях в обязательном порядке предписывалась соответствующими ведомствами независимо от продавца и от покупателя (и независимо от формирования спроса и предложения и от качества товаров), до тех пор правильная система цен была неосуществима.

Автор следующим образом обобщает основные черты реформы хозяйственного управления: В новой системе управления следует сознательно различать постановления и служащие их выполнению директивы, с одной стороны, и, с другой стороны, все то, что в планах носит характер прогноза. Общегосударственные плановые органы должны на основании тщательных расчетов разрабатывать правильный, научно обоснованный *прогноз* того, как сложатся в плановом периоде народнохозяйственные процессы. Затем — а это является совсем иным делом — следует *принимать решение*, например, о том, какая доля национального дохода должна обращаться на потребление, и какая — на накопление, какие суммы должны обращаться на потребление населения и потребление учреждений — по части потребления, и на производственные и непроизводственные капиталовложения — по части накопления. Относительно же оперативной деятельности производственных предприятий (то есть относительно того, чего и сколько им производить, каков должен быть фонд заработной платы, численность работников, расход материалов

и т. п.) обязательных предписаний давать не следует. Регулировать надо не простое воспроизводство, а потоки денежных доходов и соответствующее расширение производственных мощностей. В новой обстановке, в которой нет «разбивки плана», предприятиям, в первую очередь, предъявляется требование выполнения ими желаний потребителей, заказчиков. В отношении количества, ассортимента, качества продукции, сроков поставки и во всех других отношениях они должны ориентироваться на покупателей, то есть на тех, для которых, в интересах которых они осуществляют свою деятельность.

Фундаментальным требованием является *полезность* деятельности предприятий. При правильных ценах и пропорциях цен это должно проявляться в превышении доходов над расходами: результат полезной деятельности предприятий проявляется и в финансовом, денежном выражении как прибыль. Требование рентабельности содержит в себе все частные требования, выполнение которых в прежней системе предполагалось регулировать массой детальных предписаний. Большего дохода предприятие может достигнуть лишь в том случае, если оно как можно лучше использует свои мощности (то есть производит как можно больше); если оно экономит как живой, так и прошлый труд; если у него растет производительность труда и сокращаются производственные издержки, — если оно развивает технологию производства, повышает технический уровень и т. д. и т. п. Все это, однако, не может производиться в ущерб качеству продукции, так как на товар несоответствующего качества покупателя не найдется.

Автор в заключение намечает требования, предъявляемые к правильной системе цен и излагает метод принятия в таких условиях решения относительно развития производства (капитальных вложений).

M. TIMÁR

THE REFORM OF THE FINANCIAL AND CREDIT SYSTEM IN HUNGARY

The introduction of the new system of economic management will be accompanied by essential changes in the field of finances and credit. A new system of creation of funds and income withdrawal will be introduced and the role of the bank and credit system increased. The transformation of investment financing is expected. A new system of foreign exchange management will promote the development of export and import activity and also a change to a more economic pattern of production and trade. The system of budgetary management and cooperative farming finances are also to be established by new principles.

An analysis of the Hungarian economy in early 1966 led to the decision to carry out a reform of the system of economic control and management. The past 20 years were a period of great economic progress in Hungary. By 1965 national income had increased nearly fourfold as against 1938 and more than doubled as against 1950. As compared to 1950, industrial production rose to slightly more than fourfold and agricultural production by 26 per cent. There was a major qualitative change in agriculture: with the formation of agricultural cooperatives, considerable manpower was released. The growth of output has also enabled us to increase the volume of both consumption and investments. In 1965 the population consumed 2,3 times as much as in 1950 and accumulation rose to 2,5-fold. The population also enjoyed growing extra-wage benefits. Over the last 12 years family allowances rose to 2,2-fold, and the amount of pensions paid out in 1965 were 5.5 times as high as in 1950. The growth rate of national income is considerably higher than in pre-war Hungary and surpasses that of most Western countries. However, the opinion has come to prevail that the development possibilities inherent in our economic system are greater than actual achievements and that the present system of management should be revised. The necessity was realized of releasing the energies immobilized by an overcentralized system of decision-making. This should not only give new impetus to economic progress but also further the development of socialist democracy.

Since 1957, several changes were implemented in conformity with the above ideas. These included, among others, the abolishment of compulsory deliveries in agriculture and the introduction of state purchases based on commodity relations, and in later years several other measures regulating co-

operative production. All these changes resulted in extending the scope of commodity relationships and in increasing the role of the domestic market in forming the pattern of production.

There were changes also in respect of the state enterprises. In the development of the system of economic management the declaration of the Worker-Peasant Revolutionary Government dated January 6th, 1957 was an important document, which declared, among others, that: ". . . Central control should prevail in respect of the most important problems. At the same time, greater independence should be given partly to the enterprises and partly to the local bodies of state administration (councils) in directing local industries . . ." Accordingly, administrative management methods have come to be replaced by economic ones. The number of compulsory plan indicators has been reduced and price adjustments in conformity with value relations have also taken place. It is of great practical importance that by doing away with "plan-fetishism", the attention of producers is much more focussed on needs. Some plan indicators were abandoned and the planning of the trends of realization, efficiency, the weighing of inputs and results gained in importance.

By creating various enterprise funds, the scope of enterprise independence has been extended. Cases in point are, e.g., the enterprise development fund, which is to be created from a definite part of additional profits and which may be used by enterprises for smaller investments; the technological development fund to cover the costs of developing products; the manager's fund to meet the social and cultural needs of workers and to pay bonuses and benefits. A system of profit-sharing was introduced, which had an important role in strengthening profit-mindedness by proving that the category of profits can be reconciled with the system of planned economy. From the point of view of increasing the independence of enterprises, the introduction in 1957 of the system of average wage control was of high importance. It enabled the enterprises to employ a differentiated form of remuneration and in its wake the quality of industrial products improved. As a result of the discussions that preceded it, the general price reform of 1959 also aimed at promoting the production of better quality goods. The differences between the prices of high and low quality goods were increased.

In order to develop the price system, in later years a charge on assets was introduced, constituting the first step towards making prices depend also on the volume of assets used. The price subsidies paid from the budget constitute an incentive to develop new products and to abandon the production of obsolete ones.

The reform of the system of economic control decided upon last spring equals in importance only such measures as the introduction of planned economy, or the establishment of cooperative farming. The basic idea of the reform is to link the planned economy organically with the market, to increase the

importance of a socialist organized market. An increased use of the market mechanism may render the socialist planned economy more flexible and more efficient, and may bring into play favourable mutual interactions between production and needs.

Even up to now, the market was an important factor in the field which touched on the private sector, in cooperative economy and, to a limited extent, also as regards state enterprises. Here, however, the relations between user and supplier were rather clumsy, as a consequence of the system of "breaking down" the plans. Needs were confronted with possibilities — productive capacities, imports, etc. — by the planning authorities. All major decisions were made on that level and the outcome of the decisions reached the enterprises in the form of compulsory instructions. Their task was to carry out the compulsory instructions and the extent to which they succeeded to do so was the yardstick to measure their efficiency. Thus, the "Office", the organ controlling production or trade continuously interfered with the relations between supplier and user. This slowed down the flow of products, hindered enterprise independence and initiative, delayed decision, had unfavourable effects on quality, and often led to the accumulation of superfluous stocks. The economic mechanism as established in the past, with its rigid prices, the neglection of value categories and material incentives, with the often unjustified separation of the units of production and distribution, with its lack of freedom in investments, etc., no longer answered the requirements which emerged as the result of more than twenty years' development.

For a long time, the view was dominating that under socialism the centrally prescribed plan indicators are a substitute for the functions of the market and that the planning mechanism can directly establish the needs in every detail as well as distribute the product of social labour. By now it is proven that central plan instructions cannot embrace *in every detail* the flexible changes in consumer demand, nor can they most rationally organize production. It cannot be centrally established how much and what is needed, nor by whom, when and where it is needed, etc. These questions can be formulated only in the market, in direct contact between producers and users (consumers).

It should, however, be taken into account that under socialism the scope of commodities is smaller than under capitalism, with land, mines, factories, labour and the means of production in general not treated as commodities. Besides, the socialist market is an organized market. Not only are the means of production (land, factories, machinery, etc.) in public ownership, but the state disposes of a considerable part of the resources for extended reproduction. The state disposes also of the means to influence the market in the interest of realizing the objectives of the national economic plan. The question may arise, what guarantees are there under such an economic system for the implementation of the plan. Now, the planned economy provides a wide range of guaran-

tees. The major orders come from state organizations (budgetary units, state investments, orders following from long-term foreign trade agreements, etc.). At the same time, the state has also indirect means at its disposal to direct the activities of enterprises to conform to national economic interests. Price and wage regulation, taxation, the rules governing material incentives, the monopoly of foreign exchange transactions, the credit system, etc. constitute such means of indirect control.

The reform of economic control will make greater demands on the system of economic planning. It is the task of the national economic plan to determine on a scientific basis the major objectives of economic development and the major proportions of a balanced economic growth, and to formulate the proposals for a coordinated application of economic measures in order to realize the targets set. The implementation of the plan will not be enforced by a mechanical breakdown into production, cost, and material allocation plans but mainly through economic measures of control.

The new system of economic control will require more adequate scientific foundations for development programs. One of the major tasks will be to bring about a more expedient allocation and a more efficient utilization of investment resources. The planned and centralized control of investment projects will be made more flexible, and enterprise decisions, profitability viewpoints and market impulses will be enabled to carry greater weight. At the same time, a more efficient implementation of central decisions should be ensured in major problems of development.

The new price system will be an important element in the reform. The system of producer prices to be introduced in 1968 will be based on a production-price type, i.e. net social income will be realized in the prices strictly in proportion to fixed and operative assets used, and to a smaller extent in proportion to wages, with 5 per cent charge on assets, 25 per cent social insurance contribution and pay-roll tax,* 3—5 per cent enterprise profits proportionally to assets and, with consumer goods, an average of 8 per cent turnover tax included. The mechanism of the new price system will be more flexible. The prices of the most important basic materials and foodstuffs will continue to be centrally fixed, but the forces of free price formation will also be allowed to operate to a greater extent than before. (In the processing industries, 80 per cent of producer prices will be contracted prices or free prices. Of the consumer prices 40 per cent will be officially fixed, 30 per cent should be moving prices with official rules of price formation and about 30 per cent will be free.)

An important element of the reform is that it will put an end to the separation of production and marketing. The industrial enterprises will be given a more important role and greater independence in foreign trading activity.

* non-deductible (Ed.)

New features will be introduced by the reform also in cooperative farming. State purchase prices will be raised, the credits outstanding settled and a new system of taxation introduced.

Under the new system of economic control, financial institutions and regulators will play a considerably increased role. At the time when the plans were broken down by enterprises, value categories, money, rentability, credit, etc. were understandably of secondary importance and they generally only followed the economic activities determined by natural indicators. This situation will essentially change and such categories as income, material interest, credit, foreign exchange, etc. will grow in importance. In the following it will be attempted to give a brief outline of the role these latter categories are likely to play in the reform of the system of economic control.

Enterprise taxation and material incentives

There is a high degree of interdependence among the applied type of prices, the price mechanism, the tax on enterprise income and the system of material incentives. It follows from the basic principles of the price system to be introduced in 1968 that part of the income of enterprises should be taxed away in the form of a (5 per cent) charge on capital, based on the value of the fixed and circulating assets tied up in production. The aim of collecting this charge on assets is to ensure that only such extension of its fixed and current assets should be profitable for the enterprise the efficiency of which surpasses the level of the charge collected. In addition, enterprises will have to pay a social insurance contribution and a pay-roll tax (both non-deductible) to the extent of 25 per cent on paid-out wages and salaries. The most important form of enterprise taxation will be the profit tax* to be introduced under the new system of economic control.

Genuine economic independence of enterprises means that their decisions, their whole activity, will be primarily determined by their own interests. Yet, what is there to guarantee that the totality of decisions taken on the basis of enterprise interest conforms also to social interests? For the purpose, a common measure must be found for enterprise and social interests, a measure with which material incentives of management have to be coupled. The most expedient means to this end is constituted by actually realized profits. The systems of income regulation and of material incentives should be centred on the profits made by the enterprise in order to harmonize enterprise interests with those of the national economy. Profits may reflect in a comprehensive manner the market-controlled trends both in the inputs and in the results of enterprises. In our

* Equivalent to the corporate income tax.—Ed.

society, the purpose of production is not profits but a more complete satisfaction of needs. It is, however, both possible and necessary to create a system under which the endeavours of the enterprises to increase the whole mass of profits serve the best possible satisfaction of needs. The objective is precisely to make enterprises react to market impulses as transmitted by profits, taking into account their consequences and allowing market trends to become one of the factors influencing their activities. The effect of the market situation on profits and, through the system of material incentives coupled with profits, on the whole economic activity of the enterprise, must act towards increasing the interest of the enterprises in a more rational utilization of economic resources and in a better satisfaction of effective demand according to the quantity, quality and choice of goods.

The system of income regulation and income tax will, in fact, constitute one of the indirect control methods of the new mechanism. Its function is, on the one hand, to influence the enterprises in accordance with the objectives of the national economic plan and, on the other hand, to channel part of the profits into the state budget. The system of income regulation has thus the double task of collecting part of the income and regulating the use of the other part of income which will be retained by the enterprises.

From the point of view of enterprise independence the income tax system will, in order to perform its functions adequately, have to satisfy the following conditions:

1. The higher the income, the greater must be the advantage of the enterprise and, conversely, the lower the income, the less the advantage. Enterprise income may thus become the principal factor underlying the decisions to be taken on the enterprise level.

2. Depending on the volume of income, as much of the latter should be allowed to be retained by the enterprises as will supply an adequate financial fund to enable them to take independent decision on problems connected with their economic activity and relegated to the scope of their authority.

3. The system of incentives should be extended to personal incomes, making the development of personal incomes depend also on that of enterprise income.

4. Occasional losses connected with economic risk-taking should generally be met out of the enterprise's own reserves.

5. The rules of income collection and utilization should be unequivocal and valid for some longer period; they should enable the management to keep long-term objectives in view.

From the point of view of the interests of society as a whole, the system of income regulation will have to take into account — on the basis of decisions of economic policy — the needs of the central money fund over and above the amounts collected through other channels of net income collection; the propor-

tions of development from enterprise resources envisaged for the individual branches of economy in the medium-term plan; the increase in personal incomes made possible by the supply of consumer goods i. e. the desirable relation of personal income and that of the enterprises.

On the basis of discussions and on grounds of theoretical considerations, the opinion has emerged that in most sectors of industry it will be expedient to tax away the part of profits due to the state budget by a system of graded *progressive taxation*. In order to introduce such a system, it will be necessary to determine the *basis of projection* as a function of which the rate of tax would vary by grades. Recently, the so-called *net sales returns* (sales returns less the value of material inputs) have been mentioned as a possible basis of projection. This indicator seems to be suitable approximately to express the own performance of the enterprise. The ratio of profits to net sales returns (to be called henceforth *the profit-yield indicator)* is suited to become a uniform basis for computing the desirable rate of tax progression. After payment of the profit tax, the part of profits retained by the enterprise will be divided into a development fund and a personal income increase (profit-sharing) fund.

From the personal income-increase fund the enterprise will cover increases in average wages, profit shares, premiums as well as maintenance and extension expenses of a welfare, social and cultural character. The ratio of wage sums thus built would increase, moderately at first but later more strongly, depending on the enterprise management and achievements and it would make possible a greater differentiation in personal income. The fund for increased personal income deriving from the mass of profit must be defined by the central prescriptions which will take into account the wage requirements of a given branch. The sum remaining after formation of the fund for increase in personal income and payment of the profit tax represents the enterprise development fund. This fund will allow the enterprises to acquire from their own resources part of the fixed and circulating assets needed in order to expand production.

In order to cover the risks involved in management, it is advisable to establish a reserve fund in respect of both the fund for income increase and the enterprise development fund. A minimum sum must be prescribed. Moreover, it is conceivable that a large operational management fund should be formed from the total profit. This, however, should have a maximum.

In the system outlined above, the personal interest in the growth of profits would be substantially increased and the development opportunities of the enterprise would expand significantly.

New features in the management of budget-financed social and cultural institutions

The organs financed out of the state budget constitute an important part of the country's economic institutions. These organs considerably differ from the enterprises in their tasks, activities, organization, forms and methods of operation and, accordingly, also their system of management is different. Though in recent years there have been developments also in the system of management of budgetary institutions, they do not answer the requirements any more. As a consequence of the lack of independence, the organs of control and administration attach little interest to efficient management.

Under the reform of the system of economic control, the system of management of budgetary institutions will also undergo important changes. The tasks of these bodies are extremely manifold: in their majority they serve social, health and cultural purposes, but they also perform economic, administrative and other tasks. These manifold tasks call for a correspondingly differentiated system of management.

In spite of the diversity of tasks performed, these budgetary institutions have in their majority a common feature in that they are *consuming* units. This consumer character necessitates the application of direct central control methods parallel with the measures to increase economic efficiency. In the management of budget-financed organizations central planning must retain its important role even in the future, particularly in the field of harmonizing public consumption with national income. This objective will be served by the long-term plans to be drawn up for this domain. These plans will determine the main targets of social policy aimed at improving social, health and cultural standards.

Together with the introduction of long-term planning on a higher level, measures will be taken to simplify planning on the lower level, i.e. by the institutions themselves, and to increase their independence as far as planning is concerned. In the course of this process, it is envisaged to do away with the minute instructions and extreme constraints which have hindered the independent development of the institutions. In the financing system of budgetary bodies the main requirement is that allocation should be in proportion to performance. Accordingly, in the fields where there is a realistic possibility to measure the services rendered by these bodies, a normative system of financing will be introduced. The norms will be established for the type of indicator (e.g. the number of days of treatment in hospitals) the quantitative changes of which are approximately proportionate to the means to be used. In the fields, however, where performance cannot be realistically measured, a proportionate part of the approved budget will continue to constitute the basis of financing.

Under the new system, more efficient incentives will be created to promote economizing, to cut unnecessary spending and to allow the budgetary

means left over at the end of the year to be carried over and utilized in the next year. In order to provide a more efficient incentive, the amounts left over will be used in future by the institutions where they originated. The institutions will be able to create a reserve fund to cover operational outlays and minor purchases. Savings will thus serve to improve the material supply of institutions in the following year.

Budgetary management will be revised significantly, in particular in the case of local councils. In working out the new system of council budgeting, the main objective is to promote the economic independence of the councils and to increase their interest in the results, in efficiency. Accordingly, to provide a basis for the objectives set in the national economic plan and to ensure an efficient utilization of their monetary means, the local councils will prepare their estimates of the budgetary maintenance fund and its balance for five-year periods. To enable the councils to draw up their budgets, they will be provided advance information on the sources and level of the income they should be able to draw upon, as well as the amount of state subsidies to expect over the next five years. Within the framework of their financial possibilities, the councils will decide themselves on the division of their budgetary means among the organs and institutions on a lower level. The councils will thus determine also the standards of allocation for the institutions under their control.

The extension of their income sources will make it possible for them to cover an increasing portion of their investments. The central planning organs would approve within any five-year plan period only a list of the most important investment projects, which the councils would put into effect according to their importance, from the means at their disposal.

The finances of foreign trade

It is well known that foreign trade has a great significance in our economy. Our exports make up about one third of our national income. Under such circumstances, the balance of payments situation is of great significance from the viewpoint of economic development.

A cardinal problem in the reform of economic management is to ensure the interest of producers in marketing, and with that in marketing abroad. This not only promotes a more favourable development in the volume of export and import activity but also favours a change to a more economic production structure and results in the liquidation of the tendencies that conserve the production of old and outmoded products.

In developing methods for use in foreign trade we must bear in mind the problems deriving from foreign and domestic price differences. The development of our country's production strength fundamentally determines domestic prices and price levels. The export items meet the world market value by

virtue of foreign trade activity; this value does not adjust to domestic investment, or price. Although it would appear correct to realize those requirements and consequences in economic relation and the price system which can be utilized from this value judgement, it would be unrealistic if we were to attempt simply to transplant the world market prices. But also the practice has proved to be incorrect whereby — without scarcely touching on the interest of the managing units — the state has been charged with responsibility for balancing the differences between domestic and foreign prices. It is important that we should avoid the extreme consequences influencing production and trade, but it is also important that the effect of the world market should be felt by producer and consumer. This can be assured by various accounting measures. It would be desirable if in reference to imports the foreign price, converted by a uniform factor, affected the producer or the consumer as a free price, until they could select among the necessary import possibilities. "Foreign exchange sensitivity" which can be realized by producers can be an important economic incentive to the voluntarily undertaken import savings of producers.

In the course of export activity, the foreign price is also converted with a uniform factor for the benefit of the producer. An enterprise can obtain surplus profit by way of reducing production costs and increasing the ratio of the more economical products. During the period of transition to the new system, transitional financial solutions will be necessary for enterprises which find foreign marketing unfavourable at the foreign price converted with the uniform factor. Such state subsidies will be temporary.

Foreign exchange management is based on the principle that the enterprise should obtain the import materials and parts necessary for the production of items considered to be economical and marketable. It is obvious, however, that we can pass from the present restraints only gradually to a more simple management of foreign exchange, even in the import field which directly serves production. It appears that in the import of consumer articles, particularly luxury items and, generally, in the field of foreign exchange management outside of the production sphere, we cannot ease the situation until in the field of production and connected with it in foreign trade activity we will have increased the level of our reserves.

The reform lends a novel aspect to several of the problems relating to trade among the countries belonging to the Council of Mutual Economic Assistance. A strengthening tendency may be expected towards an extended application of free value termed contingents to be taken up by enterprises in direct deals instead of striving for minutely detailed commodity lists while concluding foreign trade agreements. In the longer run this may lead to a convertibility.

Within the socialist camp, the Bank for International Economic Cooperation has been established and this created the possibility for multilateral clear-

ing. The reforms of economic management being now introduced simultaneously in several socialist countries may be expected to promote and facilitate a further gradual improvement in the forms and methods of socialist international cooperation. Reorganization of the economic mechanism in the socialist countries and the new system of trade relations among them will facilitate a development towards multilateralism and convertibility. The organizational pre-conditions are given in the accounts of the Bank for International Economic Co-operation.

Short-term credit

According to the ideas that have been worked out and discussed, the role of the bank and credit system would greatly increase. The ministries which control production concentrate their activities primarily on industrial policy, industrial administration and more significant development problems of individual branches. Operational management falls to the enterprises. In this system, credit will be an important means for realizing the economic plan, and with an appropriate selectivity and interest policy it will help plan realization and production.

The basis of bank credit activities will be policy guideposts to be approved by the government. These will express the economic requirements to be realized in credit extension and the areas that are to be better supported with credit and favourable interest rates in order to improve the supply of the population, support exports, and so forth; or the areas that are to be discouraged like undesirable imports or unsought after products through withholding of credit or higher interest.

The reform of the credit system also requires regulation of the enterprises' circulating funds. Hereafter the enterprises will cover their surplus circulating fund needs from the profit development fund. Their transitory circulating money needs will be covered by bank credit. In establishing credit and bank conditions the bank must take into account the soundness of the enterprise, primarily the turnover rate of assets. If an enterprise does not meet requirements, the bank may, in final analysis, deny credit. Up to now there was no way of doing this because the obligatory plan indicators directed the bank as well, whose powers in this respect were but of a registratory character.

On the basis of the credit policy guideposts the bank will draw up the annual balance of credits and the plan of emission. The basis of credit relations will be a mutual agreement between the enterprise and the bank, a credit contract which is to take into account the annual financial plan of the enterprise.

The rate of interest to be paid on the deposits of enterprises and cooperatives must be fixed in relation to credit interest. Credit interest should be dif-

ferentiated more strongly than heretofore according to the economic goals and the circulation speed of money.

In the system of account settlement payment on delivery is desirable as against the present system of (almost automatic) collection against documents which was more advantageous to the supplier. This principle is best served by bank transfers, but it will be possible in the future as well for the selling and purchasing enterprises freely to fix the method and date of payment.

From the point of view of decision-making, *investments* will fall into two separate groups:

For the first group, the independence of enterprises will be characteristic.

Maintenance of the level of fixed assets and smaller investments will be financed by the enterprises out of their own development fund This fund will have two sources: the part of amortization allowances the enterprise will be allowed to retain and the part of profits to be used for development purposes. Enterprises will thus be given investment opportunities in a centrally determined manner, partly in proportion to their fixed assets and partly depending on their profits. The control of the fund in this way will provide the enterprises with several thousand million Forints which can be used to realize investments of the type described above, without interference and in a flexible manner. According to preliminary ideas, the part of amortization that is to be left with the enterprises together with the profit-financed development resources will, at the start already, slightly surpass the annual volume of total amortization.

In 1966 already, enterprises were in a position to finance maintenance and general repair work not out of the amortization fund but charge them to a cost account. Now, in addition to maintenance and general repairs, enterprises will also be allowed to carry out replacements and small developments according to their needs and without any restriction, with the extent of these works increasingly influenced by the level of profits.

Enterprises may be able to invest in some period in excess of the amounts funded. This will be facilitated by the credit system.

It will become possible for the bank system — within an adequate credit framework — to extend advanced or supplementary credit to the enterprises on the basis of appropriate efficiency calculations and other considerations.

The terms for investments to be realized through credit are to be defined by the national economic plan in the framework of the credit policy directives; these will affect enterprise independence and will relate to the minimum profitability to be expected from the investment, the date of repayment, interest rates, etc. The plan will also determine the major proportions of the allocation of means and probably also functional group goals (preferences).

Within this framework the bank must have adequate facilities to conduct a selective credit policy. The main objective of this selective credit policy will be to promote, through the allocation of means in the form of investment

credits, a rapid growth of the national income and a quick recovery of means. When considering the applications for credit, the primary criterion should be the efficiency of a realistic investment proposal as expressed by the recovery period of investments and the date of credit repayment. The contribution of enterprises to financing from their own funds influences precedence. The credit will be repaid from the own funds of the enterprise. Under this credit system the independent decision by enterprises will be influenced by central management not only through the various points of view of selection but also by methods of preference to which may belong also state subsidies connected with pre-determined aims.

Another major group of investments will be those in respect of which the state will reserve the right of decision-making for itself. The state will provide for the central shaping of the proportions of production and distribution and the development of the infrastructure by directly allocating the investment goods for these objectives. It will thus have the opportunity to realize the major investments in a planned manner, as foreseen in the long-term plans. The individual major projects of the productive sphere and investment possibilities of the non-productive sectors would thus be shaped by central decisions. It is, however, important to reduce in this field, too, the restrictions which hinder the quick realization of such investments. The decisions once taken on the basis of a thorough analysis of all aspects of national interest, particularly of the effects of the project in question on profitability and on foreign trade, the conditions should be secured for a more rapid implementation than is at present the case. It follows from the basic principles of the new system of economic control that "free" allocations should be abolished also with respect to this group of investments. The liabilities to be met after the completion of the investment project must also be fixed when working out the efficiency conditions of the investment permit paper. For the present, it seems most expedient to secure credits for the enterprise to cover part of the investment costs.

Up to now the appropriate ministries have had a basic role in the preparation and conduct of such investments, but the rights of the consumer have not been adequately realised.

It would be advisable to establish a permit system where not only the organs controlling production have a say in decision-making but the designers, the future users of the products, the domestic and foreign trade organs and the financial agencies may contribute to the decisions with sufficient weight. This would help in the more circumspect preparation of investments and the increased enforcement of complex investment considerations.

It can be expected from the transformation of investment financing that the distribution of investment sources will become more rational and their utilization more effective. The central investments will be stressed more than heretofore, and the decentralized amortization and development funds of the

enterprises will be used with less administration, greater independence and more economy. Financing by means of credit will make it possible to use investment more independently of local interests and more in accordance with national interests.

Financial management in cooperative farms

In the agricultural cooperative sector, the development of the economic guidance system is based in many respects on similar principles as in the case of enterprises, but it also shows certain features characteristic of cooperative management. Among other things, it assumes a level of prices which make it possible for most cooperatives to cover from their incomes the continuous costs of production and, in addition, be able to repay the credits used for expanding fixed and circulating assets. It appears advisable that certain cost conversions, which as of now are met by state subsidies, should be built into the price. To do this, the cooperatives must establish their own funds (amortization, circulation, sharing, and savings funds) and work out the new management regulations needed for them.

The credit system is also an important means of financial supervision in cooperative management. For the time being, cooperatives may use short-term credits for investments in continuous production which can not be covered from their own means. It remains a fundamental rule that short term credit supply must stimulate and increase the production of goods and the realization of achievements. By virtue of credits extended for the expansion of circulating and fixed assets, the credit system can play a significant role in promoting cooperative savings.

The cooperative tax system, the task of which is to improve consumption and savings ratios, will influence more than heretofore the regulation of income. In practice we must start from the viewpoint that the creation of conditions for the development of production and the necessary sources of strength is both a state and cooperative interest; moreover, we must see that the cooperatives are interested in increasing supplementary investments. That is to say, funds for personal consumption can be made to increase at the time of distribution if accompanied by an adequate rate of savings. We cannot ignore the fact that there are still considerable divergencies among the cooperatives as to the level of management; these differences derive primarily from land quality. To moderate these differences, it will be necessary in the future to introduce a land tax system based on differences in land quality.

According to our thinking, state support for cooperatives will be revised significantly. Supports will continue, however, for defined areas of investments and for the management of cooperatives with unfavourable natural conditions.

Investment-type support will be expressed in the realization of investments assuring the general conditions of production from state means. For the fundamental form of production supports for cooperatives with unfavourable natural conditions, the continuation of supports based on land quality and average yields over a number of years is justified, if done in such a way as to stimulate the production of goods.

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The efficiency of the methods outlined above should be served also by the increased role of synthetic financial balances. The importance of investigations into the stability of the currency's purchasing power and into the trends prevailing in the foreign-exchange management will also increase. All that implies that, alongside with a more scientific character of planning, the role of financial measures and analyses coordinated with the plan will increase as a means of controlling and keeping record of operative management and that higher requirements will be raised on the organs of financial administration.

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ФИНАНСОВАЯ И КРЕДИТНАЯ РЕФОРМА В ВЕНГРИИ

М. ТИМАР

За прошедшие 20 лет экономика Венгрии достигла значительного развития, которое, однако, не пропорционально возможностям, кроющимся в нашей экономической системе. Поэтому следует высвободить энергии, которые не могли в должной мере развернуться из-за неоправданной централизации хозяйственных решений.

Зачатки идеи экономической реформы можно найти во многих принятых нами с 1957 года мероприятиях, но решающий шаг будет сделан в начале следующего года с введением нового хозяйственного механизма. Основная идея реформы заключается в органическом соединении планового хозяйства и рынка. Эту цель предусматривается достичь оттеснением на задний план господствовавших до сих пор административных методов и усиленным использованием экономических рычагов. Фундаментальную роль приобретут различные факторы косвенного воздействия и стимулирования, в первую очередь, материальная заинтересованность.

Из основного требования вводимой в 1968 году новой системы цен следует, что часть возникающего у предприятий дохода должна отвлекаться государством пропорционально используемым в производстве основным и оборотным средствам — в виде платы за фонды, и пропорционально выплачиваемой заработной плате — в виде начислений на зарплату и отчислений на социальное страхование. Важнейшей формой налогообложения доходов предприятий будет налог на прибыль. Система регулирования налогообложения доходов представляет собой один из косвенных методов регулирования в новом механизме. Его функция заключается, с одной стороны, в воздействии на предприятия в соответствии с наметками народнохозяйственного плана, а с другой стороны

— в централизации части прибыли в государственном бюджете. К настоящему моменту сложилась такая точка зрения, что в большинстве областей промышленности отвлечение соответствующей части прибыли в бюджет целесообразно производить ступенчато, путем прогрессивного налогообложения.

В ходе развития системы хозяйственного управления изменится и система хозяйственной деятельности бюджетных организаций. Будут устранены чрезвычайно строгие и детальные предписания, препятствовавшие самостоятельности отдельных учреждений. Будут введены меры поощрения, стимулирующие сбережение средств, препятствующие излишним затратам и позволяющие органам переносить остающиеся на конец года бюджетные средства для использования в следующем году.

Известно, что наша экономика является «открытой», то есть, что у нас очень большое значение имеет внешняя торговля. Из этого вытекает один из основных вопросов нашей экономической реформы, заключающийся в обеспечении заинтересованности производителя и при реализации на внешних рынках. В области внешней торговли с ледует считаться с проблемами, связанными с расхождениями между внешними и внутренними ценами. Мы должны найти способ, позволяющий, с одной стороны, избежать крайних последствий влияния внешних цен на производство и обращение, но, с другой стороны, обеспечивающий воздействие мирового рынка на производителей и потребителей. Естественно, в переходном периоде определенную роль еще будут играть государственные субвенции, носящие, однако, только временный характер.

Реформа затронет также и ряд вопросов взаимной торговли стран-членов СЭВ. Предвидимое направление развития состоит в том, чтобы внешнеторговые соглашения не стремились к установлению товарных списков в полной детализации, а содержали во все большей степени свободные контингенты, заполняемые сделками самых предприятий. Процесс преобразования системы хозяйственного управления протекает и в других социалистических странах. Это обстоятельство будет способствовать постепенному совершенствованию форм и методов международного социалистического сотрудничества.

В новой системе управления повышенное значение приобретут финансы и кредит. В значительной мере изменится деятельность банков, во многих отношениях имевшая до сих пор лишь регистрирующий характер, которая, однако, в будущем будет оказывать сильное влияние на формирование хозяйственной жизни. Ведь если предприятие, желающее для покрытия своих временных потребностей в оборотных средствах получить кредит, не будет удовлетворять требованиям, то банк может отказать ему в кредите. До сих пор он не имел такой возможности, так как плановые показатели были обязательны и для него.

Решающее изменение произойдет и в финансировании капитальных вложений. Капиталовложения, требующиеся для поддержания и незначительного развития основных средств будут в будущем покрываться предприятиями за счет собственных фондов развития. В случае, если предприятия захотят осуществлять капиталовложения сверх создающихся у них в данный период фондов, они смогут обращаться к кредиту. Уникальные крупные объекты капитального строительства в производственной сфере и капиталовложения в непроизводственной сфере будут осуществляться за счет государственного бюджета. От преобразования финансирования капитальных вложений можно ожидать, что распределение капитальных ресурсов будет более рациональным, а их использование — более эффективным.

Развитие системы хозяйственного управления в сельскохозяйственном кооперативном секторе во многих аспектах строится на принципах, аналогичных перечисленным в отношении предприятий, но вместе с тем имеет своеобразные черты, соответствующие его природе.

J. Wilcsek

THE ROLE OF PROFIT IN THE MANAGEMENT OF ENTERPRISES*

Intensive development and increasing efficiency require a considerably greater role to be given to profits in management. The interpretation of profits. Profits as an objective and as a means. Profits can fulfil their increased role only under certain conditions. The price system, the market, cost accounting, tax policy, responsibility of enterprises for factors "independent" of them, proper orientation, contact with technological progress, a related system of incentives, as the main conditions.

A new stage of development has started in the Hungarian economy when intensive methods began to replace the extensive ones of an earlier era in the development of industry. In the early stages of socialist construction it was imperative to increase industrial production at the quickest possible rate in order to meet arising needs better. It was particularly imperative in the industrially underdeveloped countries to create as many new jobs as possible and to increase the weight of industry in the economy in order to raise the standard of living and the consumption of the working classes and to do away with unemployment. The methods of extensive development were really successful at the time. Industrial productive capacity, industrial employment and, together with it, the weight of the socialist sector, as well as national income, accumulation and consumption had grown rapidly.

The rapid but extensive development had, however, its drawbacks. The growth of labour productivity, the technical level, the up-to-dateness of products and technologies, the country's competitiveness in the world market were not satisfactory. A stage has been reached when intensive development, the emphasis on qualitative indicators of production became a pre-condition of further quantitative development itself. The importance of these requirements is all the greater in this country as the quickly mobilizable manpower resources

* The idea of increasing the role of profits had been put forward in Hungary long before Professor Liebermann's similar ideas became widely known, See e.g., G. Péter: A gazdaságosság és jövedelmezőség jelentősége a tervgazdálkodásban (The role of efficiency and profitability in a planned economy). Közgazdasági és Jogi Könyvkiadó, Budapest, 1956. Since 1957 a system of profit-sharing has been implemented in industry as well as in some other branches of the economy. Cf. Bokor-Gadó-Kürthy-Meitner-Sárosiné-Wilcsek: Javaslat az ipar gazdasági irányitásának uj rendszerére (A proposal for a new system of management in industry). Közgazdasági Szemle, 1957. No. 4.

have essentially been exhausted; bigger industrial production needs more and more raw materials which — because of the natural endowments of the country — can be obtained only from abroad. This, in turn, can be ensured only by rapidly growing exports. To increase exports is necessary also in order to expand the relatively narrow internal market of a small country so that a greater participation in the international division of labour may promote a further increase in economic efficiency by increasing the scale of production.

Intensive development policy is demanded also by the scientific and technical revolution which is going on in the world at a forced pace, since one of its consequences is the relatively rapid obsolescence of productive capacities, the coming into being of new needs, the quickening process of new products substituting the old ones. Peaceful competition with capitalism requires an enhancing of the up-to-dateness and competitiveness of the products and a reduction of the backwardness that undoubtedly exists in comparison to industrially developed countries.

In the period of extensive development the quantitative indicators were prevalent in the central control of industry: the indicators specifying the quantity of important products in physical terms and those relating to the volume of gross production in value terms. Though indicators of a qualitative character were prescribed even then, the whole system of material and moral incentives and the general methods for evaluating the work of enterprises were such that a ranking of the relatively abundant plan indicators was brought about where the quantitative indicators were undoubtedly prevalent.

Extensive development necessarily involved for central management a broad scale of indicators and, as a consequence of rapid development, at places a shortage of materials and problems of cooperation. In order to do away with shortages and to realize the production targets, central management increasingly reduced the decision possibilities of the enterprises and centralized both decision-making and management tasks.

Extensive development policies were thus accompanied by a system of economic management where the tasks of individual enterprises were determined by "breaking down" the plan and transforming it into plan instructions which regulated production and development; they regulated the distribution of production, the quantity and choice of the means to be used. In this system of central management the active role of money was relatively restricted, money flows essentially followed the movements of products.

Commodity and money relationships and the importance of the market were pushed to the background. Accordingly, neither profitability, nor profit itself could obtain proper weight in the management of enterprises. The central management tried to solve its tasks rather by prescribing partial indicators requiring the fulfilment of partial tasks and much less by means of synthetic indicators characterizing also efficiency. Though the Party became aware of a

series of harmful phenomena already in 1953—54 and took resolutions to improve the situation (mainly to reduce the number of compulsory plan indicators and pay more attention to efficiency aspects), this could not bear fruits, precisely because of the extensive character of development.

Intensive development policies not only enable but outright call for a change of methods and the reform of the system of economic management. The directives of the reform were approved by the Central Committee of the Party in spring 1966. Under the reform, decisions from the centre should be confined to the establishment of the main directions of economic development and the principal proportions within the economic structure as well as to the concretization of the economic measures necessary for the implementation of the former. In other respects, by heavily decentralizing economic decision-making, the increased use of the market, money and commodity relations will be relied upon. Price policy, financial, credit, interest and tax policies, foreign exchange regulations, customs policy and other similar economic methods will be called upon to assure the realization of central plan objectives. The use of a regulated market, the application of economic means instead of plan instructions involves a modification in the role of money and assigns to profit and profitability in the life of the enterprises a much greater role than before. Central control should be carried out not by a detailed prescription of tasks but by a purposeful influencing of decisions on the enterprise level, keeping in view, of course, the possible fullest and most efficient realization of the tasks set in the central plan.

For a long time, enterprises were looked upon as economic units which obtain central instructions and whose main task consists in carrying out these instructions by using the means put at their disposal. The enterprises operated in the framework of "independent accounting", they were given "operative economic independence" but as far as practical application is concerned, they often had no possibility to dispose or choose even in respect of the means to be used for carrying out the tasks, because these means were not convertible.

In the course of years several attempts have been made at strengthening the more efficiency-minded tendencies. These attempts, however, could achieve but meagre and transitory results and after a short time the original state was on the whole re-established. Genuine changes took place only after 1957 but, unfortunately, not even these can be considered to have been general since they did not cover the whole of industry.

The reform of economic management assumes a considerable growth of enterprise independence. Enterprise independence is not an end in itself but a *means* for realizing the development of the economy, for increasing economic efficiency.

As regards the independence of enterprises, the views can no longer be accepted according to which the tasks of the enterprises should be confined to carrying out the instructions received, and performing the tasks set from above.

The interpretation of enterprise independence goes beyond the requirement that enterprises should be given fewer instructions, that they be in a position to take decisions on several problems — they must actually manage themselves. Independence means also initiative on the part of the enterprises, the creation of new possibilities and new needs, it means risk-taking and the establishment of a connection between the development of and the results achieved by the enterprise.

The enforcement of the principle of economic efficiency assumes that it plays the role of a compass in enterprise decisions. It assumes that the enterprise takes a part in drawing up its plan; indeed, that it takes the initiative in it. It assumes that the enterprise will work not for momentary results but for lasting success and that its development will depend on its results.

However, the enforcement of the principle of efficiency has an obvious condition which has not been paid due attention up to now: it should be clear whether an enterprise decision answers the criterion of efficiency or not. Unfortunately, this has by far not been the case up to now. Decisions which seemed to be efficient from the point of view of the enterprise often turn out to be inefficient on a national scale and conversely. And this applies not only to deviations due to the differences in decision level.

According to some opinions national interests can be safeguarded only if all major decisions are taken centrally. This view was a natural concomitant of the false ideas about commodity production, the market, the possible uses of commodity and money relationships, which had dominated for a long time. Purposeful and correct decisions which correspond also to national economic interests can be assured only if enterprise interests coincide in their tendencies with those of the national economy, if the enterprise obtains correct orientation in the preparation of its decisions and if the economically sound decisions are coupled with proper material incentives. Since the false ideas about some of the economic categories did not ensure these conditions and often actually worked against them, enterprise decisions which would have supported national interests could be enforced only with difficulty. However, it should be possible to create the conditions for decisions taken on the enterprise level to be in harmony with national interests as far as the general tendencies are concerned, the more so as the decentralization of economic decision-making — except for the most important problems which have to be dealt with at the centre — is unavoidable precisely in order to increase economic efficiency and to diminish bureaucracy (and also with regard to the availability of information).

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In the recent practice of socialist countries, the importance of profitability and profits is growing in the control of enterprises and in the evaluation of

their performance and their whole economic activity. Nor has the political economy of socialism and its economic practice ever denied the importance of profitability, since it was considered the essence of independent accounting that enterprises should cover their outlays out of their receipts and make gains. In the period of extensive development, however, profitability was practically pushed to the background. Whenever the indicators had to be ranked according to what was more important, volume or profitability, there was usually no doubt. This was due to several factors.

The first of these was, of course, the so-called quantitative approach, pushed to the extreme, with its plan fetishism and bias towards the quantitative indicators of production. But it would be wrong to ascribe the neglect of the profitability aspect exclusively to the quantitative approach. The false ideas about commodity production and value categories in socialism are also to blame. Denial of the commodity character of the means of production, the prevailing concepts about the operation of the law of value and about the possibility of restricting it, the denial of economic obsolescence and similar dogmatic views almost automatically led to an underrating of the importance of profits and, as a matter of fact, became a source of the quantitative approach itself.

Since the 20th Congress of the Communist Party of the Soviet Union, the political economy of socialism made great progress. The new concept about the commodity character of products, the value categories and the operation of the law of value brought forward the qualitative problems and there has been also a change in the views on profitability and profits. It seems that after the 20th Congress the clarification of further questions has become both possible and necessary.

To many people the importance of profitability and profits in a socialist economy is not clear even today. There seems to be more or less general consensus that the maximization of national income may, as a broad approximation, ensure the optimal development of socialist economy. National income is, however, the totality of individual and public incomes and, from the point of view of the development of the socialist economy, the distribution between these two kinds of income is by far not immaterial. The development possibilities of the economy depend to a great extent on the volume and proportion of net social income. It would be a mistake not to recognize the importance of individual incomes from the point of view of development. Adequate increase of personal incomes may have a considerable influence on ambition, work discipline, the intensity and productivity of labour. The level and trend of personal incomes may strongly affect the domestic market and also the needs which are of fundamental importance for production and its development. Besides, the volume and development of net social income partly characterizes the efficiency of production and partly determines the possible rate of development.

Thus, beside the development of national income, that of net social income must also be followed with close attention. It is through the enterprises that net social income is realized. The bigger this income, the greater the possibility of maintaining and developing health, cultural, educational and social institutions, of making investments that will expand production, facilitate work and increase productivity. In a socialist society, the continuous growth of net social income is a *conditio sine qua non*, as a means to the maximum satisfaction of needs.

It makes a fundamental difference between the capitalist and socialist economies that in the former the capitalists expropriate the surplus of products, while in a socialist economy the surplus of products, the net social income serves in its entirety the interests of the working population. But even in our society there is a difference between individually distributed income and net social income. The latter is no profit but it is indispensable from the point of view of the development of the socialist economy. We are not at liberty, either, to increase the share of individual consumption in the distribution of national income voluntarily, to the detriment of accumulation which is necessary to ensure the expansion of public consumption and of production in order to lay the foundations for increasing the standard of living more rapidly in the future.

One may have often read that in a capitalist system the objective is the profit while in a socialist system it is the maximum satisfaction of needs. And this, indeed, sums up the difference between the two social systems. But this essential, radical difference does not mean that socialist enterprises should not be striving to achieve ever bigger profits — on the contrary. As a matter of fact, the gains of the socialist enterprises serve not the same objectives as those of the capitalists, they serve the fullest satisfaction of needs.

Unfortunately, the real importance of profits and the connection between profits and net social income were not sufficiently clarified hitherto. The view was widely held that to increase gains was primarily in the interest of the enterprise and not of society as a whole and if, instead of a profitable commodity the economy needed one which could be turned out only at smaller profits or even at a loss, it was the duty of the enterprise to produce the latter. Of course, in the system of material incentives it is in the interest of the enterprises to increase profits, but the whole economy, the entirety of the working population have at least as great an interest in it as the enterprise and its workers. The trouble is not that enterprises prefer to produce goods which earn high profits but that the production of goods which satisfy needs less or not at all will — owing to the deficiencies of the price system or due to the neglection of the relationship between demand and supply — earn bigger profits than does the production of goods in demand. In such cases the enterprise must not be blamed for having ceded to central incentives, rightly assuming that they represent the

national economic interest — the blame should be put on the incorrectly fixed prices, tax rates, or some other measure which would not orient in the proper direction.

According to another widely held view, it is the economic efficiency and not profitability that should be improved. This view would contrast, as it were, profitability to efficiency. Though the drive for higher enterprise profits was considered necessary, what was really aimed at was, in the final analysis, economic efficiency which was often inconsistent with profitability. A flagrant example is the case of the "G-indicator" which shows the efficiency of the export structure, indicating as it does the domestic inputs necessary to earn one Rouble or one Dollar. It was considered important to improve the value of this indicator, and yet it did happen not infrequently that, owing to measures which acted towards an artificial reduction of profitability, the enterprises lost their interest in producing precisely those products whose G-indicator was favourable.*

Economic efficiency must not be treated as a vague and escaping concept separated from profitability. Under the existing commodity and money relations profitability is the most important indicator of economic efficiency, even if it is not satisfactory in every respect. Economic efficiency, of course, cannot be equated with profitability if only because the former concept covers not only temporary but also long-term profitability. Should, however, profitability conflict with economic efficiency, this means that central management to pay due attention to certain changes which may have caused trou ble.failed

With the economic decisions strongly centralized, all such contradictions would have necessitated separate investigations and decision-taking. In the majority of cases this was practically impossible. The decentralization of decisions and the increased utilization of market, commodity and money relations will narrow down such contradictions and will generally enable to take fundamentally sound decisions based on the examination of the relationship between the momentary market situation and the future prospects. Where, however, central decisions will be maintained, it will be the duty of central management to take care that what is efficient for the economy as a whole should be, in the final analysis, profitable also for the enterprise.

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For some time now, profits have increasingly been used as a means to control industry in nearly all socialist countries.

* To compute the G-indicator inputs are taken into account in each production phase net of accumulation and then compared to the results of production.

In the U. S. S. R. experiments conducted on the initiative of Professor Liebermann and on the basis of the discussions which had taken place in the Pravda, have brought favourable results and so did the experiments aimed at re-forming the links between producers and consumers by introducing direct contracts, an increased utilization of commodity and money relations, and by increasing the role of profits. In Czechoslovakia, the reform of economic management now under way accords an outstanding role to profits in the appraisal of enterprises and strongly couples the interests of both the enterprise and the workers with profits. In the German Democratic Republic a resolution was passed by the Party as early as 1963 "On the new system of economic planning and management". The experiments which are under way for some years now in Bulgaria and the resolutions recently taken in Poland also emphasize the growing role of profits.

The transformation of the system of economic control in the socialist countries does not follow a uniform scheme. Nor will the forms in which profits are to perform their role in central management be uniform; they will conform to the peculiar features of the various economies. In Hungary e.g., when judging the categories connected with profits (the market, commodity and money relations), it must be taken into account that agriculture — where co-operative ownership as against state ownership of the means of production is predominant — is a branch of major importance and that some 35 per cent of national income enters into foreign trade. These characteristics give an objective justification to the increased attention paid to money, profits and market relations.

Profits are the most complex of indicators. They are, accordingly, suitable to guide both the enterprise and the central organs. The checking of any partial indicator involves the danger of pushing to the background or neglecting other, often equally important, partial indicators. The various indicators can be conceived of as parameters of the activities of enterprises. Each parameter is characteristic of some individual activity. In the final analysis, however, the value of the many parameters will have to be ranked for judgement or weighed on the basis of some principle, since otherwise it will not be possible to ascertain whether it was reasonable to surpass the target in the case of, let us say, ten parameters while the trend of another three was unfavourable. Easy and uniform orientation is possible only if the weighing of parameters is not left to individual (and thus unavoidably subjective) judgement but will be assured in advance institutionally and uniformly. In the final analysis, profits are the resultant of various parameters.

Profits are, however, not only an indicator but essentially more than that. This applies particularly to an economic mechanism where prices serve not only accounting purposes but their role grows to express also the value judgements of the market, with the active role of money considerably extended. The

increased use of commodity and money relations will serve the growth of economic efficiency and profits will become a means to serve the possibility of accumulation, of further progress.

Ever since 1957 profits have taken a prominent place in the system of indicators in Hungary. This statement is borne out by the fact that the interestedness of workers has been partly associated with the growth of profits. Unfortunately, this indicator and this interestedness still do not adequately serve the purpose of correctly reflecting the activity of the enterprise. One of the main reasons is that the conditions without which profits cannot take their due place in the system of indicators and in assessing the activities of enterprises, have as yet not been realized.

It has already been pointed out that in the present-day Hungarian economy profits still often disorientate and conflict with economic efficiency. As for the enterprise, greater advantage lies in greater profits, while for the economy as a whole it is determined by necessity and greater efficiency; the interests of the enterprise often conflict with social interests. This is, however, not necessarily so; it does not prove the unsuitability of the profit indicator, nor its incorrect application: it only reflects the incorrect evaluation of the factors influencing the development of profits, some deficiencies in the work of the central organs and the faults of our economic mechanism which need of correction as well as some weak points in our economics.

From among the factors influencing profits, prices should be mentioned first. Here, the question will certainly arise, why not mentioning prime costs first. The answer is: because at present it is the prices which have a decisive influence on prime costs themselves. For profits and profitability to orientate correctly it is the prices which must do so first. Within the economy, the price level and relative prices are, of course, in close connection with the productivity of labour. However, each of the enterprises contributes only a relatively small part of social labour to turning out a product. In the cost accounting of enterprises the costs of live labour amount only to 10 to 20 per cent of total production costs. Thus, from the point of view of the level of enterprise prime costs, it is the materials' prices that exert the greatest influence. If prices are incorrect, enterprise costs present a distorted picture and will mislead the manager as to the economically most advantageous volume and assortment of the materials which are the major factor in prime costs.

Profits will be affected by the prices of both the materials used and the products turned out. Apart from the final output of industry, a product turned out by some enterprise is a material for the user and may enter domestic or foreign trade, too. Therefore, correct orientation can be secured only by a price system which does not apply different principles in the price formation of materials and finished products, consumer goods and means of production. Thus, one of the conditions of increasing the role of profits is to discard the so-

called prime cost-type system of prices* and to accept also in everyday practice the fact that in a commodity-producing economy all materials, semi-finished and finished products assume in every phase the form of commodity. Thus, whether officially fixed prices or agreed prices are the basis of exchange, equivalence must be presumed.

Another condition connected with prices is that the principle of rigid stability must be given up and one of a more flexible price system brought in. This will enable us to follow — at least broadly — the changes in international and domestic value relations and the major changes in the relation of demand and supply. Without that even the most perfect price system would become obsolete in short time and would not provide proper orientation. It may be hoped that the new Hungarian price system will meet these requirements as well.

A further important condition for profits to fulfil their orientating role is that greater attention be paid to the conceptual and computational problems relating to cost accounting. In order to assess the profits, prime costs must be known. In many enterprises, however, the conditions of correct cost accounting are not secured, cost calculations are not sufficiently reliable. From many points of view it seems necessary to work out uniform methodological cost accounting directives for the various branches of industry. In our opinion, however, these directives must not hinder enterprises in establishing up-to-date methods of cost accounting for their own use, lest the central regulations put a brake on the development of cost accounting itself.

Among the conditions necessary to give a major role to profits, the importance of tax policies must be also mentioned. Tax policies are essential for regulating the extent of profits. Presumably, the charge on capital** and the wage tax*** will become the major forms for centralizing social net income. It may, however, be expected that turnover tax will also retain its important role for some time to come. Under socialist production relations both turnover taxes and price supplements are in fact means of price policy. Accordingly, to these still important financial institutions, the same principles apply as to prices. It must by all means be avoided that price policies and turnover tax policies go their own, separate ways.

It would be wrong to assume that appropriate prices, correct cost accounting and tax policies in harmony with these are already satisfactory conditions

* In the prime cost-type system of prices the methods of price formation are different for means of production and consumer goods, with profits established as a percentage of prime costs. In this system exchange based on equal values cannot be ensured.

** Charge on capital is a charge of tax character, to be paid by enterprises on their fixed and operative assets. (Its present rate is 5 per cent on average.)

*** Wage tax = Tax paid *by enterprises* as percentage of the total wage bill. (It is *not deductible from wages* and salaries earned. Its present rate is 15 per cent.)

for profits to play a primary role in directing, controlling and evaluating the work of enterprises. There are further, at least as important conditions whose realization demands a change in attitude.

At present the idea prevails that enterprises are generally responsible only for what depends on their own activities but cannot be made responsible for anything happening under the effect of factors independent of them. In actual practice, therefore, enterprises do not take any risks and it mostly depends on subjective decisions for what they are responsible at all. This attitude unfortunately leads only too often to shifting the responsibility on others.

Undoubtedly, the trend of profits is influenced by factors both dependent on and independent of the enterprise. At present, the independent factors are being left out of consideration institutionally. In practice, this means that the enterprise will endeavour to ascribe all unfavourable results to the effect of factors beyond its reach and claim the "correction" of its results on this account.* E.g. the "lack of orders" is often mentioned as something for what the enterprise is not responsible and entitled to correction. It is, however, not infrequent that the controlling authorities ascribe the good results to some independent factor and resort, on this account, to what is called "negative correction".

The method actually employed prompts the idea that in reality profits do not express anything; accordingly, if we intend to use them for anything, they must be "corrected". Another condition of increasing the role of profits is to do away with these views which are mistaken anyway.

As was pointed out before, profit is more than merely an indicator. In fact, profits express many things and have an outstanding role in judging the work of the enterprise even if they are often apparently influenced by independent factors. As a matter of fact, decisions are made in given economic surroundings, with a view to expected changes and developments. It is also frequent the case that the changes occur precisely as a consequence of enterprise attitudes.

Should the current economic operations of the enterprises depend to a high degree on their own decisions — except, of course, the major extensions and investments — and should central management not interfere with day-to-day operations, then not only the role but also the character of profits will change. It will not be possible any more to blame the great number of factors independent of the enterprise, or the constant interference from the centre; nor to evade managerial responsibility by having all major decisions approved beforehand.

Thus, for profits to assume their intended role, all endeavours aimed at correcting the real results on whatever account must be excluded in principle

* This is quite understandable in the system of plan instructions; the enterprise will make efforts to shift the responsibility to the body which issued the instructions.

and beforehand. It is not profits that should be corrected but — if the need arises — the factors affecting profits must be changed or modified. This modification may be deliberate and purposeful — as e.g. a change in centrally fixed prices — but it may happen under the effect of demand. No correction will be admissible in this latter case, either. Should the central organs, in the course of utilizing commodity and money relationships, deem it expedient to make the influence of foreign markets or domestic demand be felt in the case of certain commodities, it will not be reasonable to correct the results of the enterprises on this account, since such a correction would, in the last resort, neutralize precisely those effects whose assertion was deemed expedient.

It follows that emphasizing and increasing the role of profits assumes a greater independence of enterprises also in the sense that part of the risks which had been up to now borne directly by society will be distributed among them. It will be particularly reasonable to separate and shift on to the enterprises the risks of technical development and economic obsolescence and of changes in export prices; in some industries and with certain groups of products also the risks of changes in domestic prices. Simultaneously with risk-taking, provisions should be made, of course, to create the financial backing for these risks. Thus risk-taking will essentially boost the sense of responsibility of enterprise managers and will also enable to reach higher gains. Greater independence for enterprises means not only extended rights but also greater responsibilities. The increased scope of independent decisions and actual risk-taking is an important condition of the increased role of profits.

Further: for profits to fill their expected role and help in improving enterprise management, the future operations and development of the enterprise will have to be geared to the results achieved. This is not to mean that enterprises should be able to increase capacities or perform reconstructions only out of their profits. The centralized part of social net income will continue to remain an important source of investment, and the possibility of re-grouping should also remain. It is, however, an essential difference whether the means allocated by the centre are given full, partial or complementary character.

The close connection between profits and enterprise development should be interpreted as meaning that it is a condition of further development of the enterprise to take place — at least partially — out of the resources created by the enterprise itself. Enterprises operating at a deficit, unable to build up reserves or to contribute to carrying common burdens, should be developed in exceptional cases only. When evaluations and central investment allocations are made, it should, of course, be taken into account that enterprise make different contributions to the state budget. New enterprises will have a claim to central financing even in the future.

*

The considerably increased role of profits assumes also a change in the system of material incentives. Even today, there is some interest attached to profits, i.e. to the rate of profitability or to the volume of gains. On the average, four to five per cent of the income of wage and salary earners originate from profit-sharing. This rate showed, however, a diminishing tendency in comparison to total earnings in the course of recent years.

If, however, the total earnings of the executives of enterprises are analysed, profit-shares represent an even smaller part. With executives, the premia have an outstanding role in addition to basic salaries: in some cases they may amount even to 40 per cent of basic salaries. In comparison to premia, the profit share of executives is negligible. The fact that it still has some influence on them is due to their justified feeling of responsibility for their co-workers and subordinates.

In a system of manageieent and control where profits have an outstanding role, it will not be expedmnt to retain the present proportions in the earnings of executives. If profits are deemed to be characteristic of performance, it is not justified to give tenfold weight to other factors, evoking thus the dangers inherent in incentives based on partial indicators.

The scheme of bonuses now employed is built on a system of multiple indicators, compulsory prescriptions and incentives to carry out partial tasks. The maintenance of this scheme would be in contradiction with the primary role of profits. The incomes of executives should be made much more dependent on profits and bonuses be done away with altogether or reserved as an award for exceptional achievements.

No evaluation of the work of executives can be independent from judging the performance of the enterprise. If higher profits are a criterion of good performance, they should also be used as a yardstick of executive work. Otherwise, the interests of executives would conflict with the interest of the enterprise and of the workers, a case that should by all means be avoided.

It is an important objective of the new system of economic management now under way to accelerate development and to increase economic efficiency. In the new system of management and control the role of profits will considerably grow in importance, a development both reasonable and necessary. It is, however, obvious that profits can be expected to fulfil their important role only if the conditions are also created which enable profits to do so. In a socialist economy profits may be an end as far as the enterprise is concerned, but from the point of view of society, however, they are a means to satisfy needs to the fullest. It should, therefore, be considered a prime condition that profits influence enterprise decisions in a direction which is in harmony with the fundamental objectives of the economy. To the extent that this can be ensured, profits will indeed serve the aims of socialist construction.

РОЛЬ ПРИБЫЛИ В УПРАВЛЕНИИ ПРЕДПРИЯТИЯМИ

Й. ВИЛЧЕК

Политика экстенсивного развития народного хозяйства сопровождалась сильной централизацией системы хозяйственного управления, для которой характерна разбивка показателей народнохозяйственных планов по предприятиям и предписание их в обязательном порядке. В свое время это привело к значительным успехам, но сегодня уже необходимо перейти к интенсивному развитию. На передний план выдвигается форсированное повышение экономической эффективности. Значительно сокращается число принимаемых в централизованном порядке решений, предприятия получают широкий круг прав по принятию решений. В результате всего этого на передний план выдвигается переоценка роли прибыли. Ее роль увеличивается во всех социалистических странах. В Венгрии реформа хозяйственного управления выдвигает на передний план прибыль не только как показатель и основу оценки деятельности предприятий, но и как орудие, служащее максимальному удовлетворению потребностей.

Развитие экономической науки по-новому осветило товар и деньги, рынок и, вообще, стоимостные категории. Значение прибыли было нами опознано только сейчас, хотя оно никогда и не отрицалось социалистической политической экономией. Все же были мнения, что прибыль не может правильно ориентировать, что основной является не прибыль, а экономическая эффективность. Между ними часто возникало противоречие, что повышало и мотивировало сильную централизацию принятия хозяйственных решений. Это противоречие, однако, не является объективной необходимостью. Надо создать такое положение, чтобы предприятия на основании прибыли (в данный момент и в перспективе) могли правильно ориентироваться, и принимаемые ими решения, таким образом, соответствовали требованиям экономической эффективности и центральной воли.

Использование прибыли в центральном управлении требует осуществления ряда важных условий. Из их числа в статье подчеркиваются следующие: Преобразование системы цен, унификация принципов ценообразования предметов потребления и средств производства, усиление гибкости системы цен. Улучшение исчисления себестоимости и признание его специфики на предприятиях. Налоговая политика, соответствующие методы отвлечения прибылей. Ответственность предприятия и принятие им на себя риска, независимо от того, влияют ли на его результаты зависимые или независимые от него факторы. Обеспечение покрытия риска. По меньшей мере частичная зависимость возможности развития предприятия от достигаемого им результата. Изменение системы материальной заинтересованности, особенно руководителей, но, вообще, и всех работников таким образом, чтобы личные доходы в усиленной мере зависели от достигнутых результатов.

J. BOGNÁR

LA CONCEPTION DU COMMERCE EXTÉRIEUR DANS LE NOUVEAU MÉCANISME ÉCONOMIQUE

Certains points de départ de l'action économique rationnelle sont valables pour tous les systèmes socio-économiques existant dans notre époque. La nécessité de l'action économique rationnelle lie, malgré les différences existantes, tous les participants de l'économie mondiale. Ce fait rend possible l'augmentation du commerce extérieur hongrois dont l'efficacité joue un rôle privilégié dans le nouveau mécanisme économique. L'exportation est, en effet, équivalente à 40% du revenu national hongrois. La coopération industrielle avec les pays occidentaux offre des possibilités nouvelles pour le commerce extérieur hongrois.

Depuis l'établissement définitif de l'économie marchande et monétaire, chaque système socio-économique vise à l'action rationnelle économique. Certains critères de l'action économique rationnelle sont inséparables des facteurs qui déterminent le déroulement et les limites de l'action mais d'autres critères s'appliquent à toutes les sociétés régies par des conditions commerciales et financières, c'est à dire, qui ont rompu avec une économie de type traditionnel.

Parmi les facteurs indiquant le champ de l'action économique rationnelle et ses limites, les plus importants sont, d'une part, les rapports de propriété qui sont formés et, d'autre part, le caractère et la structure du pouvoir politique donné, de même que les buts lointains et proches de la société influencés par ces deux facteurs.

Par exemple, la croissance de l'accumulation peut être une exigence dans l'économie capitaliste, mais ce but ne peut être réalisé que si le profit augmente. Il serait irrationnel d'attendre dans l'économie capitaliste la reprise de la conjoncture d'investissement de la diminution du profit des capitalistes. Il est possible que, du point de vue de la croissance, les salaires des couches d'importance primordiale ne soient pas assez stimulants dans l'un des pays socialistes, mais en renforçant les stimulants, on doit toujours partir du principe de la répartition des revenus selon le travail, car dans le socialisme la répartition des revenus à titre de propriété est impossible.

Certains points de départ de l'action économique rationnelle et de ses postulats sont quand même valables pour tous les systèmes socio-économiques existant dans notre époque, ainsi — en premier lieu — le fait que l'action

économique est toujours orientée vers la réalisation de certains surplus (profit, bénéfice). Par contre, dans un ménage familial la répartition des biens disponibles se fait en fonction des besoins. Ces biens et les énergies de développement sont en effet limités par rapport aux objectifs de la société et aux prétentions des individus et, pour cette raison, on doit les employer de telle façon que par leur allocation le résultat optimal soit atteint. Ceci est le principe de l'efficacité économique, qui est le postulat suprême de l'économie rationnelle.

Naturellement, ce postulat ne peut être atteint que si, du point de vue de leurs différentes possibilités d'emploi, les moyens à investir sont comparables et convertibles.

Mais l'action économique rationnelle a certaines limites; ainsi, par exemple, dans le capitalisme, le fait que l'action, qui du point de vue micro-économique (de l'entreprise) est rationnelle, peut être irrationnelle du point de vue sociale. Ou encore dans les pays en voie de développement, la survivance d'une économie traditionnelle et le manque extrême en énergies nourrissant et déterminant la croissance économique sont de tels obstacles.

De même aussi, dans le socialisme, l'action économique rationnelle a-t-elle ses limites; nous pouvons considérer comme telles l'insuffisance des expériences accumulées dans la direction économique centrale ou la faiblesse relative des stimulants et des motivations économiques.

Mais la nécéssité de l'action économique rationnelle lie, malgré les différences existantes, les différents participants de l'économie mondiale et rend possible à toutes les parties actives la compréhension mutuelle des mobiles économiques et des facteurs moteurs. Se servant d'une autre méthode d'approximation: elle rend calculables les différentes normes d'action et les réactions de comportement des différents participants se formant dans les différentes situations.

Mais les normes d'action des différents participants et les réactions de comportement ne peuvent être reconnues et prévues avec une sûreté relative que dans le cas où nous connaissons et considérons comme donnés la course de l'action économique rationnelle et les facteurs socio-économiques déterminant ses limites.

De cette manière, peuvent se développer la coexistence pacifique et la compétition dans l'économie mondiale de nos jours, car la nécessité de l'action économique rationnelle comporte aussi des relations commerciales étendues, l'adaptation des impulsions provenant de l'économie mondiale, ainsi que la répartition raisonnable du travail et la coopération dans la solution des problèmes concrèts de la politique économique.

Dans l'économie centralement dirigée, l'action économique rationnelle contient différents cercles (sphères).

a) La conception de politique d'économie du pouvoir central, soit l'ensemble des mesures prises dans l'intérêt de sa réalisation. (Nous l'appelons

ordinairement le plan macro-économique, mais il ne l'est que du point de vue de la décision, et non du point de vue des courants qui se forment.)

b) Les actions et aspirations des unités économiques (entreprises, coopératives, micro-économie).

c) Les intérêts, aspirations, jugements de valeur, et hypothèses des membres de la société se manifestant dans des actions concrètes ou dans les conduites.

d) Les courants économiques concrèts qui se forment dans les différents cercles à la suite d'actions institutionnelles ou individuelles différemment motivées. (C'est la macro-économie dans le vrai sens du mot.)

C'est le mécanisme économique qui lie ces actions économiques se déroulant dans les différents cercles et provenant de motifs différents.

Le mécanisme économique signifie, en effet, la disposition concrète et les modifications interdépendentes des catégories économiques existantes et qui produisent leur effet dans la société basée sur la répartition de travail et la production de marchandises. (Monnaie, crédit, intérêts, marchandises, salaires, profit, subventions, primes, etc.)

Les éléments constituant le mécanisme sont élastiques; leur poids relatif l'un à l'autre varie, il peut être modifié selon les buts de développement formulés par le gouvernement, le niveau économique et les réactions présumées des unités économiques et des individus.

Nous considérons le mécanisme valable à une certaine date comme un modèle qui peut être optimalisé selon certains critères. Mais c'est le système comme unité, qui doit satisfaire certaines conditions, et non ses éléments isolés. Dans ce sens, le système est intérieurement unitaire et cohérent, bien que ses éléments composants exercent éventuellement des effets opposés.

En princpe, les critères relatifs au système peuvent être résumés dans un seul postulat: le mécanisme en vigueur doit faciliter l'optimalisation de la croissance économique, c'est-à-dire assurer le taux de croissance le plus élevé qui peut être atteint dans les conditions d'équilibre.

Dans ce but, un bon mécanisme économique doit stimuler des actions et des décisions micro-économiques qui, du point de vue social aussi, sont appropriées, à savoir, conformes aux conceptions de la direction économique centrale. D'autre part, le mécanisme doit faire parvenir des informations à la direction centrale, ainsi que dans les différents secteurs économiques, pour que la situation, qui s'est produite à la suite d'une décision micro-économique donnée soit connue et calculée par les autres intèressés.

Donc, en cas d'une conception saine de la politique d'économie, le mécanisme stimule plus efficacement l'action micro-économique et fait parvenir des informations plus complètes dans les autres branches de l'économie que ne le fait le système complexe d'instructions conçu sur la base de nos connaissances actuelles et prenant la forme du plan.

Naturellement, on doit prendre en considération le fait que les décisions des unités micro-écronomiques et des individus ne dépendent pas exclusivement des effets produits par le mécanisme. Il est possible, par exemple, que dans un pays sous-développé le mécanisme stimule à la croissance des investissements, mais que l'instabilité politique et la situation précaire du gouvernement conseillent de prendre une attitude réservée vis-à-vis des investissements. On peut imaginer aussi que le gouvernement d'un pays socialiste veut augmenter les différences de salaires existant entre l'activité hautement qualifiée et le travail non-qualifié, mais que cela heurterait la mentalité générale. Dans un tel cas, la possibilité d'obtenir un meilleur revenu ne stimule pas les travailleurs accomplissant un travail hautement qualifié.

D'autre part, le gouvernement (le pouvoir central) doit prendre en considération les différents facteurs politico-autoritaires pour la prise de ses décisions économiques. Chaque décision économique importante en connection avec la concentration ou avec la nouvelle répartition de certaines ressources matérielles et spirituelles, avec la stimulation plus forte de certaines couches ou de territoires, ou avec la modification de la structure économique établie, influence les relations autoritaires-politiques déjà existantes. En même temps, les décisions économiques les plus importantes déséquilibrent les relations d'équilibre existant entre les facteurs autoritaires-politiques et mènent à leur nouvel arrangement.

La croissance économique serait fort accélérée si les agents de la vie économique (entreprises et individuels) recevaient des impulsions pareilles du mécanisme, de la politique et de la mentalité sociale dominante. Mais une telle possibilité exige la rencontre heureuse de toutes les circonstances.

Il s'ensuit logiquement de ce qui précède que le pouvoir central ne peut decider à son gré du moment de l'introduction d'un tel nouveau mécanisme économique qui fait prévaloir le mouvement interne de l'économie et ses relations de force. L'introduction d'un tel mécanisme a quatre conditions préalables fondamentales:

1. Développer des rapports de propriété caractéristiques au nouveau système socio-économique — dans ce cas, le socialisme — et les rendre dominants dans l'économie.

Les relations de force internes de l'économie sont également, en effet, des relations de force socio-politiques. Il est évident qu'au début de la transformation socialiste, le mécanisme faisant prévaloir les relations de force historiquement formées de l'économie aurait favorisé les capitalistes dans l'industrie et les riches paysans dans l'agriculture — après la réforme agraire.

Donc, dans cette période, un tel système de direction était nécéssaire qui pouvait rendre possible la croissance rapide du revenu national et la reconstruction de l'économie ruinée au cours de la guerre — tout en soutenant le

secteur d'État et coopératif et en freinant, à un certain degré, l'activité des autres secteurs.

Il s'en suit que l'introduction d'un mécanisme économique homogène à ce moment n'aurait pas été possible.

2. La période de l'accumulation à pas forcé (exigée par l'accélération de la croissance d'une économie relativement arriérée, et par la modification pressée de la structure) et du regroupement de la main d'oeuvre qui en résulte, doit être terminée. W. W. Rostow, dans sa théorie à la mode sur les étapes de la croissance économique, appelle cette période l'étape du «take-off». (Nous ne mentionnons qu'entre paranthèses que de notre part nous considérons la théorie de Rostow comme une variante de «l'école de non-équilibre» qui montre beaucoup d'affinités avec les conceptions de F. Perroux, Albert Hirschmann, Hans Singer, H. Leibenstein et d'autres. Mais nous ne sommes pas d'accord avec les conceptions de W. W. Rostow, en tant qu'il place les formations socio-économiques qu'on peut trouver dans le monde d'aujourd'hui *l'une à côté de l'autre* (en méconnaissant leur véritable caractère, les causes de leur production et leurs forces motrices), dans le temps *l'une après l'autre.* Il est, en effet, évident que l'économie des pays de l'Europe de l'ouest n'a jamais été dans l'état dans lequel se trouvent actuellement les pays en voie de développement. Mais une discussion détaillée à ce sujet nous mènerait trop loin.) La croissance subite de l'accumulation est, en effet, associée, d'une part, avec les différentes formes de l'épargne forcée et, d'autre part, avec la concentration des profits se formant à différents endroits. En effet, les profits se réalisent dans l'agriculture et dans les branches d'industrie de consommation, mais on doit les employer au développement des branches industrielles d'investissement. Il est évident que l'accumulation à pas forcé et la modification de structure qui est associée au regroupement de la main d'oeuvre ne sont possible que dans un modèle de direction centrale.

3. La réalisation d'une réforme économique approfondie demande un système socio-économique consolidé et un gouvernement d'autorité indiscutable. En effet, une réforme économique approfondie est associée avec un certain déplacement du centre de gravité du pouvoir, ce qui serait inimaginable en conditions d'équilibre incertaines. Sans doute, en cas d'une réforme pareille, la base du pouvoir s'élargit après un certain temps, mais dans la période de transition (au moment de la modification de l'état de l'économie) des divergences peuvent surgir même dans le cercle des plus forts supporteurs du système; la décentralisation diminue le pouvoir directe de la superstructure politique et, aussi, les ennemis du système peuvent s'activer. Les divergences qui se produisent parmi les adepts du système peuvent être mises sur le compte du fait que dans toutes les questions relatives à la nécessité de la réforme (sa profondeur, son temps d'application et son interprétation) on ne peut pas aboutir à une identité totale des vues. On doit encore prendre en considération

que, dans le sens le plus étroit du mot, un changement d'état de l'économie est associé aux possibilités de troubles économiques nombreuses qui peuvent, en eux mêmes, être dangereux pour les gouvernements instables.

4. Dans la période de la croissance économique accélérée de telles conditions quantitatives, qualitatives et structurelles doivent se former, qui rendent possible l'intégration favorable de l'économie nationale en question (ou au moins sans désavantages plus profonds) dans le commerce mondial guidé par le mécanisme du marché mondial d'aujourd'hui.

Ces quatre conditions fondamentales préalables étaient présentes dans l'économie hongroise au milieu des années soixante. Par conséquent, les conditions de l'introduction du nouveau mécanisme économique sont maintenant mûres.

Dans ma conférence — comme cela vous est connu — j'analyse en premier lieu les problèmes du mécanisme économique et du commerce extérieur (d'une participation plus intense au commerce mondial) mais avant de procéder avec l'analyse détaillée des actions réciproques entre ces deux facteurs, je voudrais faire deux remarques.

La première est que, jusqu'à présent, je n'ai discuté que les conditions objectives de l'introduction du nouveau mécanisme, peut être un peu sévèrement et refusant tout autre point de vue. Mais il est évident que l'introduction d'une réforme économique profonde demande un gouvernement prévoyant et une opinion publique politiquement formée. Un gouvernement prévoyant est nécessaire, car l'introduction de toute réforme est associée temporellement avec des risques et des difficultés. Un gouvernement énergique ne se charge de ces risques seulement si la négligeance de la disposition (c'est à dire le rejet de la réforme ou son ajournement) dans une période moyenne ou plus longue, signifie une risque plus grand que l'introduction de la réforme. De ce point de vue, la situation actuelle est favorable, car au cours des dernières années, l'économie a augmenté, mais le rythme de la croissance s'est ralenti. En 1965 le revenu national était de 25% supérieur à celui de 1960, mais le plan a prévu une croissance de 36%. Pour quelle raison peut-on considérer comme favorable, du point de vue de la réforme, une augmentation de l'économie, alors que le rythme de la croissance ralentit? Parce que dans le cas de stagnation ou de régression, une crise se produit, ce qui d'avance rend impossible la préparation soignée et réfléchie de la réforme. Par contre en cas d'un rythme de croissance élevé les dirigeants économiques ne comprendraient pas que la réforme est en tous cas nécessaire.

On place habituellement devant les gouvernements deux exigences contradictoires: qu'ils soient prévoyants et qu'ils agissent au meilleur moment — mais qu'ils apportent les décisions en conformité avec la volonté de l'opinion publique. Toutefois, il est évident que la prévoyance du gouvernement n'est pas et ne peut pas toujours être en accord avec la volonté de l'opinion publique.

Aujourd'hui en Hongrie cet accord sur la nécessité de la réforme économique s'est réalisé; car les fautes relevées dans le fonctionnement de l'économie sont ramenées par la majorité des gens, non pas au hasard ou aux erreurs de quelques personnes, mais à l'organisme lui-même, c'est-à-dire au mécanisme économique. Donc, dans ce sens, l'opinion publique préfère la fermeté, visant l'élimination des fautes fonctionnelles à l'hésitation, réserve de l'activité et l'attachement à l'ancien.

Ma seconde remarque se réfère à l'appréciation de l'ancien mécanisme économique. Au cours de mes analyses antérieures nous avons prouvé que l'introduction du mécanisme économique reflétant le mouvement interne de l'économie et ses relations de force ne peut se faire n'importe quand; en Hongrie, ces conditions se sont développées vers la moitié de cette décade. Mais cette constatation ne signifie nullement que le mécanisme concret qui s'est développé dans les différentes périodes de l'histoire économique, avec toutes ses caractéristiques, était nécessaire ou même bon. En appliquant une comparaison simple, le fait que quelqu'un ne peut s'acheter une nouvelle robe ne signifie nullement qu'il ne peut pas refaçonner ou faire réparer l'ancienne. Les marxistes dogmatiques-vulgaires interprêtent la conception de la nécessité trop largement; c'est-à-dire qu'ils déduisent d'un seul postulat tout un système d'actions concrètes et d'événements, pour la plupart sur une base logique. Mais il est évident que les principes politiques et économiques, comme les éléments de l'action humaine rationnelle, ne sont pas vrais ou justes en eux-mêmes, mais dans leurs rapports et leur combinaison au sein d'un processus et dans tout un système d'effets réciproques se formant avec d'autres facteurs. Avec une expression empruntée aux sciences naturelles, on pourrait dire que certains principes de l'économie politique, comme les mobiles de l'action humaine rationnelle, sont valables seulement sur une certaine échelle et selon un système chronologique.

Il est évident — par exemple — que dans la période du démarrage, l'accumulation a dû être concentrée et augmentée. Mais il n'est pas du tout certain que dans l'intérêt de la concentration il était nécessaire ou opportun de priver les entreprises de tout *profit*, même du fonds de renouvellement d'amortissement. Dans l'intérêt de la croissance de l'accumulation, l'application de certaines formes de l'épargne forcée était inévitable, mais il était blamable d'élever l'accumulation au dessus de la limite optimale, car dans la première période de l'industrialisation également la capacité d'absorption de l'économie est-elle limitée. Par conséquent, le taux trop forcé de l'accumulation a causé non seulement des problèmes politiques, mais a mené au retardement ou même au blocage complet des investissements, ou à l'augmentation de leur coût.

L'option, selon laquelle nous avons dû concentrer les énergies existantes et potentielles de l'économie pour l'industrialisation était au fond juste. Mais

la mesure était erronée et a mené au drainage complet des énergies de développement de l'agriculture. Par conséquent, la production industrielle et agricole s'est désynchronisée et la croissance rapide de la production industrielle a été associée avec la stagnation de la production des marchandises agricoles et même, pendant une courte durée, avec sa diminution. Mais une telle situation met en péril le développement de la technologie, car on doit diminuer l'exportation agricole et augmenter son importation; par conséquent, on ne dispose pas du pouvoir d'achat (devises) nécessaire pour l'importation des biens d'investissement modernes.

Le mécanisme économique qui s'est développé au cours des difficultés et situations de force était, à son tour, plein de contradictions et inconséquences et a abouti souvent, par lui même, à des conséquences qui n'étaient voulues par personne. Par exemple, l'industrialisation a commencé avec l'épargne des importations; on aurait donc dû freiner, par des moyens économiques propres, la croissance de la demande de marchandises importées. Cela s'est réalisé en partie, car le monopole d'état du commerce extérieur a rendu possible la planification de l'importation — c'est-à-dire le blocage de la croissance injustifiée de l'importation mettant en péril les conditions d'équilibre. Mais, de l'autre côté, dans les sphères d'investissements et de production les prix des produits d'importation étaient fixés trop bas et, de ce fait les entreprises devenaient interessées dans la croissance de l'importation. Bien souvent, la marchandise produite à l'intérieur et destinée à remplacer l'importation ou la matière première était bien plus chère que les produits importés. Par conséquent, les entreprises n'ambitionnaient pas le remplacement de l'importation, mais l'obtention forcée d'un plus grand contingent d'importation.

Ainsi l'introduction des prix des produits d'importation qui a été effectuée contrairement aux objectifs de la politique d'économie, n'était ni nécessaire ni rationnelle. Au contraire, c'était une grave erreur.

Il est donc évident qu'un système cohérent comme le mécanisme économique ou un flux économique quelconque, ne devient pas rationnel dans son ensemble si les premières décisions, qui rendent possible respectivement motivent le fonctionnement du système ou le démarrage du processus, sont justes et rationnelles en principe (c'est-à-dire en eux-mêmes et pas dans leurs proportions, respectivement dans leurs interdépendences avec des autres facteurs). Une décision, qui est juste en principe, peut devenir notamment erronée dans ses proportions (à l'égard de sa gamme) et plus tard, dans des états de nécessité, tant d'erreurs et torsions s'accumulent et exercent leur influence sur l'économie que la situation nouvelle peut même être opposée à la décision initiale.

Quant à la situation actuelle du commerce extérieur, il faut faire mention, tout d'abord, du fait que la Hongrie de nos jours est un pays très sensible à l'importation, en conséquence de ses ressources économiques et naturelles. Cela signifie que la cadence d'augmentation de l'importation est toujours plus

rapide que celle du revenu national. Il est donc évident que, pour assurer l'équilibre de la balance des paiements, l'exportation doit augmenter également d'une façon rapide. Pour comprendre la situation il est indispensable de savoir que la croissance par unité (1%) du revenu national entre 1960 et 1965 s'est accompagnée d'une augmentation d'importation de 2,1%, tandis que l'exportation augmentait d'une mesure plus considérable encore.

De même, il faut prendre en considération que le marché intérieur est limité en raison du chiffre de la population (10 million); par conséquent, l'établissement de l'industrie moderne exige la conquête et la préservation des marchés d'exportation.

Les produits de l'industrie moderne: les installations mécaniques et les articles de consommation industriels représentent 65% de l'exportation vers les pays du C. E. E. (l'exportation à l'Union Soviétique consiste en 76% de ces produits).

Les produits finis ne représentent cependant que 22% de l'exportation vers les pays capitalistes développés. Dans un pays qui est sensible au point de vue du commerce extérieur, il est particulièrement important que les normes de l'économie locale (comme, par exemple, entre autres les rapports de valeur et les moyens de stimulation) se rapprochent graduellement des normes du marché mondial. L'exportation joue notamment un rôle de plus en plus grand dans l'économie nationale; 40% du produit national parviennent déjà à être exportés. Cette proportion augmente cependant — comme déjà dit — rapidement, et l'augmentation de 1% du produit national entraîne une augmentation de l'exportation de 2,3—2,4%. De même, il faut prendre en considération que la période de l'industrialisation ayant pour but l'épargne de l'importation a pris fin et que l'objectif en ce qui concerne l'avenir est l'augmentation ultérieure des exportations plus rentables.

La tâche est alors d'assurer le plus de produits d'exportation possible, pouvant tenir tête à la concurrence à tous les marchés.

Pour pouvoir accomplir cette tâche:

a) il faut introduire un cours de devise se basant sur une évaluation raisonnable des rapports de valeur, afin qu'on puisse juger si l'activité du commerce extérieur est rentable ou déficitaire. Naturellement, les autres éléments du nouveau mécanisme — comme, entre autres, la transformation de la monnaie dans un équivalent économique unique, l'adaptation des marchandises aux conditions de demande et d'offre, le développement du profit en un critère universel d'économie, les nouvelles formes des stimulants matériels — attribuent tous à un calcul réel.

b) Le cours de devises se basant sur l'estimation correcte des conditions de valeur couvre les prix de revient locaux pour la plupart des marchandises. Par conséquent, les recettes en prix des entreprises exportatrices peuvent être rattachées aux recettes en devises. Dans ce cas, l'entreprise exportatrice

est intéressée à l'augmentation de sa production d'exportation, à l'établissement convenable de sa structure et à l'amélioration de ses service et de ses produits, afin de pouvoir augmenter ses recettes.

Le système des primes de devises augmente davantage l'intérêt des entreprises productrices.

c) L'importance et la responsabilité des usines productrices dans l'exportation doivent être intensifiées, pour cette raison, il faut décentraliser l'activité du commerce extérieur sous des formes de structures variées. En dehors de l'exportation directe des usines productrices, les entreprises spécialisées dans le commerce extérieur subsisteront dans certaines branches, tandis que dans les autres elles exerceront leur activité comme commissionnaires de l'usine productrice.

Il faut rendre possible aux entreprises industrielles d'établir dans l'intérêt de l'augmentation de leur exportation, une coopération avec les sociétés étrangères.

d) Il faut rendre graduellement libre — dans les cadres réels — l'importation des moyens de production et des matières premières. Le rapprochement des prix intérieurs et des conditions de valeur des prix du marché mondial a pour résultat que les entreprises ne favorisent le produit d'importation que dans le cas où, par celui-ci, elles sont capables de produire une quantité plus considérable ou à un prix meilleur marché. Il faut se rendre compte naturellement que la libéralisation de l'importation sera moins intense dans cette «période transitoire» que par la suite. Dans l'époque transitoire, quelques flux de la vie économique sont déjà influencés par le nouveau mécanisme, tandis que les autres restent sous l'influence des réglements provisoirs divers.

Les problèmes de la période transitoire sont à analyser au fond, étant donné que le succès des réformes se décide en général dans la période transitoire. Si, dans cette période, des troubles d'équilibre d'une mesure inattendue se produisent, il faut prendre des mesures de force, et il n'est pas certain du tout que les buts initiaux puissent être atteints après le dénouement de la situation d'urgence complexe.

In n'y a aucun doute que dans la période transitoire on peut s'attendre à des problèmes dans le commerce extérieur, tant à l'égard de l'exportation que l'importation. Il faut graduellement abolir, par exemple, l'exportation des articles qui ne peuvent atteindre le niveau de coût auquel l'acquisition de devises est au moins tolérable. Il est évident cependant, que par suite du nouveau mécanisme, des nouvelles capacités d'exportation se produisent. Néanmoins, il serait difficile d'anticiper et de savoir en combien de temps les tendences prévues à la hausse et à la baisse pourront se compenser.

De même il est évident que dans la période transitoire l'importation augmente, d'une part, par suite des intentions des entreprises tendant à l'augmentation de leur production, et, d'autre part, en raison des facilités accordées à

l'importation (libéralisation relative). L'importance du phénomène dépendera de la mesure dans laquelle les exportations économiques augmenteront ou non, par suite du surplus d'importation. Si cela se réalise, on ne doit que créditer à l'avance le surplus d'importation, dont résulte une circulation économique plus efficace et unifiée.

Alors la direction économique doit, sans doute, suivre avec un soin particulier le cours des évenements dans la période suivant l'introduction du nouveau mécanisme.

Quelques difficultés et problèmes sont à prévoir, bien que leur ordre de grandeur dépend de la formation concrète des événements. D'autres difficultés et problèmes divers peuvent cependant encore surgir d'une façon inattendue. C'est pourquoi il est important que la direction économique dispose de réserves suffisantes au moment de l'introduction, afin de pouvoir compenser, ou tout au moins apaiser les phénomènes négatifs probables.

Le mécanisme économique à introduire assure alors les conditions premières de l'augmentation de l'exportation, et rapproche les normes, les exigences et les effets des trois marchés (marché interne, pays du C. E. E., et marché mondial).

Il est encore douteux qu'il y ait des possibilités d'augmentation de l'exportation hongroise vers les marchés extérieurs, respectivement dans les pays du C. E. E. et sur le marché mondial au sens large de ce mot.

Évidemment, c'est encore le mécanisme économique ancien qui reste valable sur les marchés du C. E. E., abstraction faite de quelques changements ou corrections plus ou moins importants. La Hongrie doit donc tendre, par ses propositions et idées, à l'établissement d'un tel mécanisme dans les relations économiques entre les pays-membre du C. E. E. qui:

a) rend plus efficace la répartition internationale de travail à l'aide des nouvelles conditions de prix et de valeur;

b) accélère le développement technique par l'augmentation des exigences qualitatives et la stimulation plus intense de l'industrie des différents pays;

c) laisse une marge plus large à la concurrence se formant pour l'obtention d'un marché, entre les entreprises industrielles des pays divers;

d) favorise les accords directes entre les entreprises par la décentralisation des compétences;

e) encourage les accords multilatéraux et coopérations se réalisant sur un marché tiers par l'introduction de devises convertibles.

L'introduction de n'importe quel nouveau mécanisme suppose la coopération de tous les intéressés. Par conséquent, lors de son établissement, il faut prendre en considération un grand nombre d'intérêts divers et souvent contradictoires. Il est donc à présumer que l'introduction d'un nouveau mécanisme quelconque ne peut se faire que graduellement et doit être temporellement fort réparti.

La perspective du nouveau mécanisme ne change cependant pas le fait que la Hongrie — comme les autres pays du C. E. E. — est tenue à l'accomplissement des obligations internationales qu'elle a prises et qui sont encore valables. L'accomplissement des obligations fixées par des contrats internationaux est en effet la base de la confience et de la coopération entre les pays.

Des problèmes compliqués surviennent aussi à l'égard de l'augmentation des exportations destinées à des pays occidentaux. Nous avons déjà mentionné l'essentiel de ces problèmes: les produits finis ne représentent que 29% de cette exportation. (La participation de ces produits à l'exportation vers les pays du C. E. E. est — comme déjà dit — de 65%.) La Hongrie étant très pauvre en matières premières, est obligée d'importer les matières premières industrielles les plus importantes, à l'exception de la bauxite. Nous n'avons donc pas la possibilité d'augmenter considérablement notre exportation en matières premières. A présent, notre agriculture se développe et s'intensifie vigoureusement, mais les règlements et les accords agraires du Marché Commun bloquent le développement de nos exportations. En effet, l'effet multiplicateur de l'échange des produits agraires est faible étant donné que ces produits sont consommés immédiatement.

L'avenir de notre exportation industrielle vers les pays capitalistes développés dépend de notre réussite dans nos efforts pour trouver des partenaires, des constructions et des méthodes modernes susceptibles d'ouvrir la voie aux marchandises hongroises dans ces pays. Il faut notamment prendre en considération que les importateurs occidentaux sont plutôt intéressés par l'importation des produits du Marché Commun, étant donné que la circulation des marchandises dans ce terrain géographique-économique est la conséquence naturelle des accords industriels de vaste envergure, qui ont été conclus et que les traditions et aussi l'habitude la favorisent: ces produits ne sont pas chargé par les douanes, les conditions de paiement sont unifiées, le vendeur est bien connu, etc. On pourrait encore énumérer toute une série d'avantages et de bénéfices inhérents à la structure dont les importateurs favorisant les produits du Marché Commun sont bénéficiaires.

Considérant ces circonstances, je pense que l'augmentation et l'amélioration de la structure de l'exportation hongroise vers les pays occidentaux développés ne peuvent être résolues que par une coopération industrielle.

J'entends, par «coopération industrielle», des relations techniques régulières qui se développent entre deux unités productrices, avant ou après des échanges, tels que livraisons mutuelles sur la base d'un développement commun, participation commune dans la construction des projets importants, coopération sur un marché tiers, achat des brevets, échange de documentations, achat des pièces détachées nécessaires à la production locale contre produits de même type, etc.

Je soulignerai dans une seule phrase que dans les deux dernières années on a conclu des accords de coopération avec de nombreuses firmes mondiales de

l'Ouest. Entre ces sociétés, il se trouvent aussi — bien qu'elles ne soient nombreuses — des firmes belges.

Néanmoins, dans l'intérêt de l'augmentation rapide de la coopération industrielle ainsi que des livraisons mutuelles, on doit encore surmonter des obstacles psychologiques importants des deux côtés.

Un tel obstacle psychologique résulte de la façon de penser et des réactions (des réflexes conditionnels) de la période de la «guerre froide». Nous rencontrons des deux côtés certaines peurs politiques se nourrissant de la supposition que la communication intense économique et scientifique désorganise la cohésion interne des systèmes socio-économiques en vigueur, ainsi que l'ordre de l'équilibre politique basé sur cette cohésion. Il est évident cependant, que les systèmes socio-économiques différents ne disposent pas seulement d'un autodéveloppement nourri par eux-mêmes, mais aussi d'un développement se produisant sous l'influence de la concurrence et des impulsions venant du monde, cest-à-dire des autres systèmes socio-économiques. Dans ce sens, deux systèmes socio-économiques confrontés ont besoin, ou peuvent avoir besoin l'un de l'autre.

Personne n'oserait affirmer que l'intégration occidentale, la planification française ou hollandaise et la politique économique en résultant, ou bien l'idée de l'économie elle-même, aurait atteint son état présent sans avoir concouru avec les pays socialistes.

Mais les représentants des pays socialistes ne pourraient pas non plus alléguer qu'ils auraient pu maîtriser aussi vite la manière de penser dogmatique sans la concurrence des pays capitalistes et qu'ils seraient arrivés à des idées aussi hardies que celles incorporées, par exemple, dans le nouveau mécanisme économique.

La communication entre les deux parties confrontées a même présenté jusqu'ici des avantages pour chacune des parties, et les relations se réalisant sous le signe de la coexistence pacifique leur assurent vraisemblablement plus de préférences encore.

L'autre obstacle psychologique est le produit du dogmatisme économique — dogmatisme qui existe de chaque côté — qui s'exprime dans la croyance que seuls les pays et les entreprises agissant dans des systèmes économiques identiques ou pareils, sont capables d'une coopération fructueuse.

La science d'économie politique nous enseigne cependant, que même les économies agissant sur la base de principes différents peuvent synchroniser quelques-unes de leurs actions, même fort importantes. On a besoin de la synchronisation des procédés économiques et non pas des énergies effectives, étant donné que le même résultat définitif peut être atteint par des voies fort différentes (à l'aide des forces effectives). Dans chaque système socio-économique il faut naturellement savoir, quelles sont les méthodes par lesquelles le but donné (le résultat) peut être atteint. Dans une coopération, soit plus étroite,

soit plus large, il est indispensable de disposer en temps voulu de certains résultats déterminés et synchronisés, appliqués à certaines fins: produits, marchés ou technologies élaborées.

Pour en finir, je veux mentionner que le nouveau mécanisme économique ouvre de très larges perspectives sur le plan socio-politique et scientifique.

La conscience collective de la société socialiste, à savoir la façon dont cette société juge d'elle-même et du monde, change. En conséquence la science commence à s'occuper de l'ensemble des problèmes réels de la société socialiste agissant et vivant de nos jours, afin de promouvoir la planification de l'action économique et politique rationnelle. L'opinion publique a reconnu qu'il y avait des variantes différentes pour la solution des problèmes économiques et politiques surgissant dans la société socialiste. Il s'ensuit logiquement que pour la discussion et la confrontation des variantes (sortant des principes fondamentaux socialistes, mais s'en écartant tout de même considérablement) il faut assurer des institutions politiques. Les opinions et aspects différents ne peuvent se combattre que sur le champ de la démocratie politique; de ce fait, la démocratie politique et la vie publique sont à développer d'une façon résolue.

Les effets du nouveau mécanisme économique ne peuvent se développer cependant, que si la situation internationale évolue favorablement, ou au moins d'une façon tolérable. La tension imminente de la situation internationale, la proximité du danger de guerre — pour ne pas parler de la guerre elle-même — amènent chaque pays à la centralisation et non pas à la décentralisation de ses pouvoirs (politique et économique). L'armement de vaste envergure surpasse — tout particulièrement de nos jours — les capacités économiques des petits pays; par conséquent, il rend impossible, d'une part, le développement normal de l'économie et, de l'autre, l'application des stimulants économiques. L'instabilité de la situation internationale caractérisant la période du danger de guerre ainsi que les décalages et sursauts qui l'accompagnent dans la situation politique interne provoquent nécessairement une atmosphère opposée tant à la démocratie politique qu'aux exigences de l'économie rationnelle. Se référant à la connexité entre le développement de l'économie hongroise et celui de la situation internationale, je veux souligner encore une fois que la prospérité économique de chaque pays, mais surtout des petits pays, dépend finalement, dans cette époque surchargée d'interdépendences, des aspects internationaux.

Mais il n'y a aucun doute que l'introduction du nouveau mécanisme représente un nouvel élément dans la longue série des changements et des progrès qui ont vu leur commencement dans l'histoire de l'action socio-économique rationnelle dès l'apparition du socialisme.

КОНЦЕПЦИЯ ВНЕШНЕЙ ТОРГОВЛИ В НОВОМ ХОЗЯЙСТВЕННОМ МЕХАНИЗМЕ

Й. БОГНАР

Со времени появления регулярных товарно-денежных отношений все общественно-экономические системы стремятся к рациональной хозяйственной деятельности.

Отдельные исходные положения и требования рациональной хозяйственной деятельности действуют во всех общественно-экономических формациях, существующих в настоящее время, так, прежде всего, то положение, что хозяйственная деятельность всегда имеет своей целью достижение определенного прироста (прибыли, выгоды).

Необходимость рациональной хозяйственной деятельности связывает различных участников мирового хозяйства, несмотря на существующие различия, и дает всем участникам возможность взаимопонимания экономических мотивов и движущих факторов.

Мирное сосуществование и соревнование в современной мировой экономике может сложиться таким путем, поскольку необходимость рациональной хозяйственной деятельности включает в себя развернутые торговые связи, восприятие импульсов, поступающих из мировой экономики, а также рациональное разделение труда и кооперацию, формирующиеся в ходе решения проблем экономической политики.

Рациональная хозяйственная деятельность в централно управляемой экономике охватывает различные круги (сферы):

а) концепцию центральной власти;

б) деятельность хозяйственных единиц;

в) интересы и стремления членов общества;

г) конкретные хозяйственные процессы.

Эти виды хозяйственной деятельности, происходящие в разных кругах и вытекающие из разных мотивов, объединяются хозяйственным механизмом.

Эффективность внешней торговли занимает привилегированное место в новом хозяйственном механизме. Дело в том, что экспорт играет все более возрастающую роль в народном хозяйстве, около 40% национального дохода поступает в экспорт. Следовательно, задача заключается в обеспечении как можно большей экспортной продукции, конкурентоспособной на всех рынках.

Для осуществления этой задачи необходимо:

а) установить валютный курс, основанный на реальной оценке стоимостных отношений;

б) увеличить роль и ответственность производственных предприятий в экспорте;

в) постепенно, в рамках реальных возможностей, либерализовать импорт средств производства и сырья.

Проблемы переходного периода надо тщательно анализировать, ведь судьба реформ обычно решается в переходном периоде.

Будущее нашего экспорта в развитые капиталистические страны зависит от того, удастся ли найти партнеров, внешеторговые конструкции и современные методы.

На мой взгляд, увеличение экспорта в развитые капиталистические страны и улучшение его структуры возможно лишь путем промышленной кооперации. Под «промышленной кооперацией» я подразумеваю систематические технические связи, устанавливаемые между двумя производственными единицами до или после товарообмена; такими являются, например, взаимные поставки товаров на основе совместного развития, совместное участие в разработке значительных технических проектов, сотрудничество на третьих рынках, покупка лицензий, обмен документацией, приобретение деталей, необходимых для отечественного производства, в обмен на изделия подобного типа и т. д.

Однако для быстрого роста промышленной кооперации и взаимных поставок товаров необходимо преодолеть значительные психологические преграды с обеих сторон. Но экономическая наука научит нас, как можно согласовывать некоторые — очень важные — виды деятельности хозяйств, действующих даже на основе различных принципов.

Внедрение нового хозяйственного механизма в Венгрии означает новый элемент в длинном ряде преобразований и достижений, осуществленных с появлением социализма в истории рациональной хозяйственной и общественной деятельности.

I. Fenyő

THE NEW SYSTEM OF MANAGEMENT IN HUNGARIAN HOME TRADE

The implementation of the reform of economic management requires changes also in the control and management of trade. The author surveys the development of the organization and methods of home trade from 1945 up to the present and then reviews the changes to be introduced. Trading enterprises and cooperatives will obtain more independence in their activities and it is expected that a healthy competition will develop for the buyers' money.

Hungarian state and cooperative trade organizations play an important part in the marketing of the goods produced by industry and agriculture, in satisfying the demand of the population for consumer goods and in the realization of the objectives of economic development. The domestic marketing of consumer goods is handled by more than 200 state enterprises and 600 farmers' cooperatives, and a number of other industrial and agricultural enterprises and agricultural producers' cooperatives are also engaged in trade. Consumer goods may be bought in some 48 000 shops with an aggregate floorspace of nearly 4 million square metres. In 1966 the turnover of retail trade and catering organizations surpassed 95 thousand million Forints. In recent years retail trade developed at a quick rate, the last ten years saw an increase of more than 80 per cent.

The importance of Hungarian home trade organizations is shown by the fact that about 75 per cent of the total money expenditure of the population are spent on various goods — consumer goods, smaller producer goods, building materials — and on material services. More than 80 per cent of this money are spent in the shops of the state and cooperative trade organizations as well as in catering establishments. The rest is shared by the producing and other non-trade enterprises and cooperatives, the producers selling on the free market and, to a small extent, by private artisans and small tradesmen. Over 50 per cent of all industrial output for final use (producer and consumer goods) reach the consumers through the channels of home trade. 48 per cent of the industrial goods are supplied by the food industry, 27 per cent by light-industrial and 25 per cent by heavy-industrial enterprises. The majority of agricultural products undergoes industrial processing before entering the network of trade.

In Hungary, some 330 000 people, about 6 per cent of all earners, are engaged in commercial activities. They handle a steadily growing volume of trade, striving to develop up-to-date methods of marketing and selling, increasingly to meet the requirements of socialist construction.

The state and cooperative trade organizations came into being at a period when economic policy was still focussed on the problems of post-war reconstruction. However, with the stabilization of economic conditions and the acceleration of economic progress, the demands on home trade also increased. The money income and the purchasing power of the population grew quicker than total income and thus demand increased to a greater extent than consumption, becoming at the same time more differentiated. Rapidly growing demand in the domestic market increased the demands on home trade and contributed to raising the standards of socialist trade.

The present system of management in home trade

As the economic mechanism in general, the system of management in home trade, too, was centralized to a relatively high extent. About 15 to 16 per cent of total turnover were transacted by retail, semi-wholesale and catering enterprises directly under the supervision of the Ministry of Home Trade. A further 46 to 47 per cent came within the scope of retail and catering organizations under the supervision of the county councils and about 29 per cent were handled by the farmers' cooperatives. 8 to 10 per cent of the turnover fell to special trading organizations supervised by other ministries (e.g. the sale of books, pharmaceutics, stamps, crude oil derivatives, etc.).

Control measures took mainly the form of compulsory plan instructions issued by the supervisory bodies to enterprises and cooperatives both for their selling and purchasing activities. Employment, wages and other costs as well as the extent of the profits to be realized and paid into the state budget were regulated by the plan. Apart from negligible exceptions, both consumer prices and the prices to be applied by suppliers in their dealings with the commercial organizations, as well as the trading markups were determined centrally, by administrative methods. Both the suppliers and the purchasing companies were obliged to enter into contracts in respect of the goods prescribed in the plan. The means to finance the investments were secured by the state out of the budget; building capacity, machinery and equipment (both home produced and imported) were allocated. The imports of consumer goods were similarly specified in the plan.

In the wake of developing demand and supply, however, this rigid system of control reflecting earlier conditions proved to become more and more a hindrance to trading functions. In the last resort, the ensuing contradictions

affected the supply of the population with commodities in an adverse manner and had an unfavourable influence on the satisfaction of demand and on the marketing conditions of production. Since the interests of the enterprises and cooperatives were coupled with the realization of the plan targets, the plan was often identified with the concept of needs, although it could not always reflect the rapidly changing conditions of life. On the one hand, there were relatively many commodities in respect of which the demand of the population could not be fully met by trade; on the other hand, dead stock was continually growing.

The main problem consisted in the fact that domestic production could not satisfactorily meet all requirements of home trade in respect of commodities and choice. The organization of home trade was not only rigidly separated from industry, but the scope of activity of the retail, wholesale and catering organizations was also strictly delineated. Goods were supplied to retail shops by the intermediary of wholesale enterprises. Retail enterprises and cooperatives had — apart from negligible exceptions — no direct connection with either industrial or foreign trade enterprises. At the same time, wholesale trade was organized on a regional basis, with the scope of activity of most enterprises limited to one or, at most, to a few counties. Therefore, instead of the enterprises, it was the ministry in control of wholesale trade which had to conclude the contracts with the industrial and foreign-trading enterprises not only for the goods specified in the plan but for almost the whole range of commodities.

Wholesale trade in foodstuffs was of lesser importance. The major part of the turnover in this field being made up of quickly perishable goods, part of the food producing enterprises fulfilled also the role of wholesaler and directly supplied retail enterprises and cooperatives.

The recent advance of more flexible methods

In recent years trade has achieved important results in an ever wider field in setting the fashion, developing new products, introducing new commodities and expanding the choice of goods. As an effect of these developments, the goods supplied by industry have become more up-to-date, their standard rose and they came closer to conforming to demand. This possibility induced the trade organizations to apply market research to an increasing extent and to utilize its results in placing their orders. In order to increase the interest of industry in producing fashionable and up-to-date goods, trading enterprises have been given the right to pay a premium above the official price for such goods. From these extra returns the industrial enterprises can offer bonuses to the workers who achieved good results in the development of new products. The public is also willing to pay a higher price for such goods. When the production of an article of this type reaches a large scale, the price goes down and the premium is abolished.

Home trade increasingly utilized the advantages arising from the international division of labour. In the years 1958 to 1965, imports of consumer goods rose by 179 per cent. The supply of goods was complemented with a special new form of the international exchange of goods, a scheme under which an exchange of commodities took place between Hungarian home trade organizations and the corresponding organizations of the other socialist countries in order to extend their range of goods. Under this scheme, home trade imported in the last five years goods to the amount of 3.3 thousand million Forints.

In order to influence demand or supply, in recent years the consumer prices of certain goods have been more frequently changed and certain relative prices modified. The reduction of the price of citrus fruit, coffee, tea and other colonial goods, refrigerators, motor-cycles and other consumers' durables as well as of some textiles and clothing articles had a favourable effect on demand. At the same time, the restriction of demand was aimed at by raising the price of spirits. The raising of the (consumer and state purchase) price of some animal products served to foster production and to establish market equilibrium.

The introduction of end-season sales and price reductions in socialist trade meant a certain break through the barriers of the rigid price system. In these realizations mainly clothing articles were sold, which are most sensitive to changes in demand. For some years now, seasonal goods are being sold at the end of winter and summer with reductions between 20 and 40 per cent. In this way the accumulation of stocks in seasonal goods and their deterioration, due to stocking, are prevented and the saleability of stocks maintained. The sales at temporarily reduced prices make the goods also available to the class of purchasers who would not have bought them at the original prices. Similar objectives are served by the lasting reduction of the price of out-of-fashion goods or of those no longer in demand for various reasons and particularly of those which are not produced or imported any more.

From among commercial methods, the hire-purchase system has come into the fore these last years. Between 1961 and 1965, 25 per cent of all consumers' durables were sold on this basis. Consumer credits afforded a means for home trade to influence demand, in accordance with the position of stocks and the possibilities of production.

In order to be able to employ commercial methods over a wider field, the operational conditions of trading enterprises and cooperatives, and certain methods of economic control had also to be modified. To this end, first the planning system used in home trade had to be revised. Beginning with 1964, the number of compulsory plan indicators was gradually reduced and later even abolished. At present, the enterprises and cooperatives are drawing up their plans independently, relying on adequate information and adapting themselves to circumstances and conditions under which they have to operate.

In 1966 a new system of commodity delivery contracts has been introduced. Under this system, industrial and commercial enterprises are obliged to contract only for a few commodities specified in the plan. In respect of the other goods and commodity ranges (which make up by far the greater part of the turnover) they are free to enter into contracts according to actual needs, weighing only their own advantages. The import possibilities of home trade have also been extended.

It is a change of great importance that trading enterprises and cooperatives now dispose of a so-called risk-bearing fund, established on the basis of coefficients centrally fixed by the ministry and differentiated by groups of products. This fund is used to cover the end-of-season sales, the depreciation of commodities and the bonuses paid to salesmen for selling the goods which are difficult to dispose of.

The system of incentives in home trade has also been considerably improved. The system of paying a sales bonus, whereby the earnings of salesmen move parallel to actual turnover, has become more and more general. Since 1957 the workers of enterprises have come to be directly interested in the economic results of the enterprise, in its profits. At the end of the year they are allocated a share from a definite part of profits earned.

These measures have gone a long way towards improving the conditions of commercial work and increasing its flexibility. But, of course, they could not solve the fundamental problem. This necessitated a comprehensive reform of economic control, a reform which transformed also the activities and the conditions prevailing in home trade.

The reform of the mechanism of control in home trade

The reform of the economic mechanism sets itself the task and also enables to strengthen the system of socialist planned economy and to improve it by the application of more advanced methods. When working out, however, the new conditions of planning and of the planned economy, the reform takes into account commodity and money relationships, market requirements and the functioning of the market mechanism. The home-trade enterprises and cooperatives unfold their activity mainly on the domestic market of consumer goods; their planned development depends on the functioning of this market. The increasing role of the market, the use of the market mechanism will emphasize the role and importance of trade in the economy in general and in the production process in particular.

Planning and the market mechanism

The market mechanism and, within it, the domestic market of consumer goods, is directed, regulated and influenced by the state according to the principles and objectives of the planned economy. The economic policy of the state is given concrete formulation in the national economic plan and it is thus the plan which determines the objectives and the tasks as well as the measures of their implementation.

The plan will, however, determine only the major economic objectives, proportions and relationships, the main trends of the economic processes. The volume of the home-trade turnover is affected by the plan through the determination of the development trends of major factors influencing the domestic market of consumer goods. Thus, the national economic plan determines — among others — the major relationships of the distribution of national income and, within this framework, also the share allocated to private consumption. It is an essential part of the economic plan which determines, as a guiding principle, the money income and purchasing power of the population, as well as the real wages and real incomes and their interrelations. The national economic plan also determines the development of the commodity funds of home trade by establishing the industrial and agricultural production targets, the pattern of production and the principles of product allocation. The national economic plan provides for the investment funds that may be drawn upon by home trade as well as the manpower requirements of the trading organizations. In this manner the plan fundamentally determines the development trends of home trade and of the enterprises and cooperatives.

The general principles of the new economic mechanism, valid for all branches of the economy, apply also for the field of home trade. But trade has its own internal mechanism. The reform promotes a more successful realization of the objectives of trading policies and enables a more efficient operation of trade, its better harmonization with the interests of the economy, of state and cooperative enterprises and of the population (the buyers).

It is a well-known fact that the production taking place in the socialist countries is also commodity production. From this fact it follows that the enterprises and cooperatives have to produce for the market, to satisfy needs. Market is the meeting place of demand and supply where only such producer and consumer goods will find a purchaser which answer the requirements of the buyers in respect of price, choice, quality, terms of delivery and other conditions. It lies thus in the interest of industrial and agricultural producers to turn out marketable goods and to conform in their conditions of supply to the requirements raised by the buyers and to the market situation.

The functioning of the market is regulated by the state by means of economic measures and its development directed according to the objectives

of the economy as a whole. Thus, market demand is influenced by the manipulation of purchasing power, the regulation of the possibilities and conditions of investment, the rules affecting foreign exchange and foreign trade, and the various measures of financial policy. The new price system and the flexible price mechanism taking into account market requirements will also have an important role in bringing about the equilibrium of demand and supply. This will enable prices more efficiently to fulfil their economic functions and market conditions to increase their determining role in price formation.

The prices of basic means of production and of articles of mass consumption will continue to be centrally fixed. This will create better conditions for ensuring the stability of the price level, and prevent unintentional price changes to affect detrimentally the realization of measures aimed at raising the standard of living. With other products, the upper or lower limit of the realizable consumer price will be set and between these limits the price will be established by agreement between the purchasing and selling companies. The price of some commodities, on the other hand, will be agreed upon by the selling and purchasing enterprises according to the actual sales conditions, without any central regulation.

The operation of the market will be regulated by the state also on the supply side. In the national economic plan the resources to be used for developing productive forces and their allocation among various branches of the economy are accounted for. Thus, in respect of consumer goods, the national economic plan duly takes into account the possibilities of expanding their domestic production and increasing their imports.

Central control and enterprise independence

The operation of enterprises and cooperatives as well as the conditions of their independence will be regulated by the state primarily by means of economic measures. The principal instrument will be the new system of financial management. Under this system both enterprises and cooperatives will be compelled to use the financial means available to them (inclusive of investment funds) with great deliberation and in an efficient manner in order to achieve the greatest possible output or turnover. Manpower supply, professional training and the maintenance of schools will continue to remain the responsibility of the state. Their central control will influence the manpower utilization of the economic units. Imports will be influenced by the state through rules affecting foreign exchange and customs, and by enforcing the obligations undertaken in interstate agreements.

State and cooperative enterprises will decide on their economic activities independently, knowing and taking into account the national economic plan

and the measures of regulation and incentives based on it. To this end they will work out, obviously in a more thorough manner than hitherto, their plans and their short- or long-term objectives. The material and moral consequences arising from their decisions will be borne by the enterprises (cooperatives) themselves; the risks will be theirs.

In the course of the reform's implementation, in home trade, too, the aim is to ensure for the enterprises, cooperatives and major units of the trading network (e.g. the department stores) the possibility of independent decision-making in respect of turnover, development and management problems. It is the intention to create a mechanism which will impel the trading organizations to satisfy demand to the greatest possible extent and which promotes the efficient absorption of the purchasing power — achieving all this by ensuring the favourable economic result (profit) for the enterprise or cooperative.

The reform will create the material and financial conditions for independent decision-making also in trading enterprises and will extend their authority. They will be in a position to solve the problems connected with the extension of the trading network on the basis of their own decisions and by using their own financial and credit resources, with the exception of major investment projects exceeding the limit of 100 million Forints. With the introduction of the reform the trading enterprises will be allocated by the state an adequate amount of working capital which will allow them to draw on bank credits only when preparing for the main season, provided that otherwise they manage their stocks efficiently. Economizing on wages will be promoted by a wage tax amounting to 25 per cent of the wage bill, and not deductible from wages paid out. It will be an incentive for the efficient utilization of fixed assets that an annual charge of 5 per cent will have to be paid on the gross value of assets (immovables, machinery, etc.).

As an important feature of independence, trading enterprises, too, will be entitled to form a reserve fund from the part of profits withheld after payment of taxes due to the state, in order to provide for occasional financial difficulties. To meet possible losses due to a fall in prices, the recently introduced system of risk-bearing funds will, of course, continue in force.

Conditions of full independence will, obviously, exist only for enterprises and cooperatives. But also the independence of individual shops, department stores, hotels, warehouses within a trading enterprise will be somewhat greater than before. In bigger units, the operational profits of which can be assessed separately from book-keeping records, the earnings and share in profits of those working there will depend not only on the profitability of the enterprise as a whole but also on that of the unit in question.

Decentralization of a considerable part of economic decisions assumes an intensified market research and, in general, the availability of market and other economic information to the enterprises. In the years to come, data

supply and processing as well as administration must be mechanized to a growing extent and over an ever wider field.

The role of competition in home trade

A rational organization of production and turnover as well as specialization require trade to be carried out by economically independent and organizationally separate enterprises and consumers' cooperatives. The enterprises are founded by the state, the consumers' cooperatives by certain strata of the population. The independent organizations compete in the market, led in their activities by their own material and moral interests. The state will, however, create the conditions within the framework of the economic mechanism which make the group-interests of the separately functioning enterprises and cooperatives develop in accordance with the interests of society as a whole, and which make the combined interests of these groups express, in the last resort, the social, national economic interests. While making efforts to secure advantages for themselves, the competitive efforts of the enterprises should promote, in the final analysis, the realization of the objectives of economic policy.

Utilization of the possibilities afforded by competition depends, however, not only on the decision of the enterprise but also on the compelling forces of the economic mechanism and the market. All these, taken together, induce the enterprises and cooperatives to take part in competitions, to weigh up the advantages and disadvantages to be expected from competition. Finally, these forces will induce the enterprise to take a rational decision, to reckon with its competitors when organizing its own activities and to employ in the competition the methods and means which prove (or are expected to prove) the most efficient.

With the aim of achieving ever greater economic results, competition also promotes a better satisfaction of social needs. Competition enables the buyers to choose between the various sellers free of economic pressure and promotes the development of more favourable conditions to meet demand.

Competition between suppliers begins in industry, in production. The industrial enterprise, too, is interested in producing as much and as efficiently as possible, for sale. The means used are a greater supply, wider choice, higher quality, more favourable prices and more advantageous terms of delivery. The reform envisages a gradual development of competition for the buyer's money, for the purchasing power appearing in the market, not only between individual enterprises but also between different industries, groups of products and even individual products.

Increasing economic competition implies also growing imports of consumer goods. The reform also enables home trade organizations to import such

consumer goods as are not turned out by domestic industry or not at the level desired or in smaller quantities than necessary or under unfavourable conditions. Imports will be an important means in the hands of home trade for managing the equilibrium of market demand and supply. This fact will, at the same time, induce producers to meet the requirements of trading organizations more satisfactorily — otherwise they would risk losing their orders.

Competition is to grow also within the trading network itself. Its conditions are ensured by the great variety of trading organizations. Beside the competition between trading enterprises and cooperatives, also the competition between individual shops and trades will grow in importance. The supply of commodities is bound to improve because, after the introduction of the reform, industrial and wholesale enterprises, state farms and even agricultural producers' cooperatives will be in a position to open shops, whereas retail shops will be able to buy their goods directly from industrial enterprises, and retail food shops directly from agricultural cooperatives. Private dealers and independent small artisans will also have a scope of activity.

Under the new mechanism, trading enterprises, cooperatives, shops and other units of the trading network will have to operate more efficiently and give a better service. Their results will be determined by the degree to which buyers are satisfied with their activities, by their capacity to acquire more and more buyers. Efforts in this direction will, in all certainty, act towards doing away with most of the existing contradictions in trading activity. The reform is expected not only to accelerate the development of trade but also to improve the quality of services.

Conditions and circumstances of the period of transition

The reform of the economic control system can be introduced only with a definite deadline set for the economy as a whole. The careful preparatory work is still in process and several of the details — also in the domain of trade — still wait elaboration. In 1967, however, several elements of the new mechanism are already being employed both in trade and in other branches of the economy. The majority of enterprises and cooperatives are already seeking out and availing themselves of the possibilities that can strengthen their position on the market. Commercial activity is being carried out in 1967 still under conditions of the old mechanism but, to a growing extent, in the spirit corresponding to the new principles.

With the introduction of the new system of economic control in 1968, the conditions for its full application will emerge but gradually. Some time, a few years probably, will be needed before a total harmony of economic circumstances will prevail and the new mechanism can operate with the expected

effect and efficiency. It is particularly important — and this is also expected from the new mechanism to fulfil — that the market equilibrium of demand and supply becomes established also in detail. This will require adequate reserves of money and goods. The new mechanism may bring about changes in the economic structure which are at present still difficult to assess. This is another reason why reserves are needed.

The creation of reserves depends, however, on the way in which the effects of the reform will make themselves felt. The economic measures regulating the operation of enterprises will, at any rate, contribute to the creation of adequate reserves and to their most efficient utilization in the interest of economic progress. Also bank credits to finance the extension of fixed and working assets, and thereby the creation of potential reserves, will be drawn upon primarily by the enterprises which expect from this an increase both in the volume of sales and in profits.

Obviously, with the new system coming into operation there will still remain some consumer goods whose production and allocation will have to be regulated temporarily by central administrative measures. These will be the goods where actual demand surpasses supply and the increase of production or imports cannot be organized within a short time. Such and other considerations may make it necessary to maintain centrally fixed prices for more products than should be required at a later date. Thus, the creation of the conditions of market equilibrium can be only gradually left to the purposefully regulated market automatism. However, due to the reform, the scope of direct state interference, the role of administrative measures will continually diminish.

Owing to the remaining problems of market equilibrium, the monopolistic position of some industrial enterprises will for some time still pose certain problems. It may, however, be expected that the means made available to trade under the new system (imports, expansion of production, etc.) will counterbalance the harmful monopolistic effects. In a situation of market equilibrium and with an adequate supply of goods, even the monopolistic producer is compelled to expand his market.

The increasing role and importance of home trade can be observed at present already. The emphasis on the marketing process has given an impetus to the rapid spread and progress of up-to-date commercial methods. A more vigorous and profitable home trade may, in turn, become an important lever in establishing the success of the economic reform and in promoting a more efficient development of the economy as a whole.

НОВАЯ СИСТЕМА УПРАВЛЕНИЯ В ВЕНГЕРСКОЙ ВНУТРЕННЕЙ ТОРГОВЛЕ

И. ФЕНЬЕ

Для имевшейся до сих пор системы управления внутренней торговлей была характерна значительная централизация. Задачи предприятий и земледельческих кооперативов определялись их органами управления посредством плановых директив. Розничные цены и проценты прибылей устанавливались в централизованном порядке. Как поставляющие, так и закупающие предприятия были обязаны заключать контракты по распределяемым в плане товарам. Развитие торговой сети финансировалось государством.

Такая негибкая система управления тормозила развитие внутренней торговли и оказывала неблагоприятное влияние на обеспечение населения товарами.

После 1957 года и во внутренней торговле все большее распространение стали получать более гибкие методы. Внутренней торговле были предоставлены финансовые возможности для стимулирования промышленности. Импорт предметов потребления увеличился на 179%. В интересах расширения рынка ведомством цен чаще изменялись розничные цены.

Была введена система посезонных распродаж и уценок. Торговые предприятия в конце зимы и лета реализуют товары, запасы которых остаются на конец сезона или оказываются слишком большими, с 20—40%-ной скидкой. Приблизительно 25% предметов длительного пользования реализуется торговлей в кредит.

Постепенно сокращалось число предписываемых предприятиям плановых показателей и в 1966 году планы утверждаются уже самими директорами предприятий. По большинству товаров было отменено обязательное заключение поставочных контрактов. Увеличилась и роль материальной заинтересованности. В розничной торговле уже большинство работников оплачивается по системе процентов, где заработок продавцов всегда зависит от достигнутого оборота. Из устанавливаемой в централизованном порядке доли прибылей предприятия торговым работникам также выплачивается участие в прибылях.

Эти значительные изменения, однако, сами по себе не могли разрешить фундаментальных проблем имевшейся до сих пор системы хозяйственного управления.

Реформа системы управления внутренней торговлей ставит целью повышение уровня и эффективности планового хозяйства, однако, таким образом, чтобы одновременно был использован и рыночный механизм. С повышением роли рынка в системе хозяйственного управления увеличивается и роль внутренней торговли во всем народном хозяйстве.

Народнохозяйственным планом для внутреннеторговой деятельности определяются лишь важнейшие целевые установки и пропорции. В плане же намечаются и экономические меры, регулирующие рынок. Из их числа с точки зрения внутренней торговли наиболее важными являются экономические меры, влияющие на спрос населения, развитие производственных мощностей, а также на возможности импорта.

Предприятия и кооперативы внутренней торговли получают целевые установки народнохозяйственного плана лишь в информационном порядке, на регулируемом государством рынке они развивают самостоятельную деятельность. Они сами принимают решения о своей хозяйственной деятельности. За исключением крупных уникальных объектов капитального строительства, превышающих 100 миллионов форинтов, предприятия и кооперативы сами будут решать, сколько средств им обращать на развитие своих основных фондов и какой кредит им для этого использовать. Самостоятельность предприятий повышается государством и посредством того, что им предоставляются соответствующие финансовые фонды. Увеличивается также и самостоятельность крупных хозяйственных единиц внутри предприятий, — универмагов, гостиниц, складов.

Материальная заинтересованность предприятий поощряет их к участию в экономической конкуренции на рынке. В отношении отечественных промышленных предприятий важным средством конкуренции будет увеличивающаяся возможность импорта внутреннеторговыми предприятиями. Конкуренции будет способствовать также и исключительная разнообразность торговых организационных форм. На рынке будут присутствовать государственные и кооперативные предприятия, а также частная кустарная промышленность и частная торговля. Возможность открывать магазины будут иметь промышленные предприятия и внешнеторговые организации, а также сельскохозяйственные предприятия.

Реформа и во внутренней торговле будет введена с 1-го января 1968 года. Однако, мы рассчитываем на то, что новый механизм окажет предусматриваемое действие и даст ожидаемые результаты лишь через несколько лет.

При введении реформы еще будут иметься такие предметы потребления, производство и оборот которых необходимо будет регулировать административными мерами

По всей вероятности, будет больше, чем это было бы желательно, таких товаров, цены на которые будет устанавливать и закреплять государственный комитет цен. Потребуется определенное время, пока удастся прекратить монопольное положение отдельных промышленных предприятий при помощи соответствующего импорта и других мер.

Все же благоприятное влияние реформы чувствуется уже и в наши дни. А более быстрое и экономически эффективное развитие внутренней торговли, по всей вероятности, окажется значительным рычагом успешности экономической реформы, более эффективного развития всего венгерского народного хозяйства.

É. EHRLICH

INTERNATIONAL COMPARISONS BY INDICATORS EXPRESSED IN PHYSICAL UNITS

The author first examines earlier attempts at international comparisons, pointing out their relative merits and shortcomings. Then she proceeds to acquaint the reader with a new method elaborated by F. JÁNOSSY. She also presents some results obtained with the aid of the new method, comparing per capital income in 15 capitalist and 5 socialist countries.

The problem of comparing the level of economic development in different countries has in recent years increasingly attracted the interest of economists. Reports on investigations of this kind are presented with growing frequency.

From the complexity of the notion of the level of economic development it follows that its numerical expression will be possible only by means of synthetical indicators which show the efficiency of the national economy as a whole. Per capita national income may be considered such a comprehensive indicator appropriate for being used in international comparisons of economic development levels.

Let us first briefly review the various methods of computation elaborated and used for the international comparison of economic development levels.

1. A basic direction of international comparisons is represented by investigations where the synthetic indicators expressed in value terms are broken down into their elementary factors and converted into a comparative currency item by item. This procedure is called the "re-pricing method".

In 1955, Milton *Gilbert* computed with this method the gross national product per head in eight European countries and compared them to the level of the United States [1].

Essentially the same method was used for computing per capita national income in socialist countries by the Working Group on National Income under the Standing Economic Committee of the Council for Mutual Economic Assistance.

A somewhat similar method was used by Colin *Clark* [2] who compared the national income per earner in certain countries by establishing a so-called "International Unit". According to his definition: "One I. U. of real income was taken as the quantity of goods exchangeable in the United States for $ 1, over the average of the decade from 1925 to 1934." He converted the factors of

national income of the countries under review with the aid of this I. U. as a common price-unit. This system of computation involves the assumption that the level of real income compared (or rather, the aggregate volume and pattern of goods on which it is spent) does not differ too much in the countries examined. According to this author, the conversion of national incomes in different countries to International Units is a satisfactory procedure when economically developed countries are being compared.

For purposes of comparison between economically less developed countries, *Clark* established a so-called "Oriental Unit". This O. U. represented "the quantity of goods and services which were directly or indirectly exchangeable in India for 1 Rupee in 1948—1949". With the aid of this O. U. the author converted the components of national income in various underdeveloped countries — similarly to the use of I. U. — and established their national incomes per earner.

2. The other major direction of international comparisons is represented by the so-called "simplified" methods. With their aid we may obtain an answer to some concrete problems of comparison in relatively short time and by employing a much smaller working staff than was necessary with the "repricing" method.

Such a relatively simple method, employed for some time already, consists in converting the national income or the gross national product of individual countries as expressed in the domestic currency into dollars at the official rate of exchange and establishing the economic development level of the individual countries by the value expressed in terms of this common currency.* The United Nations Organization performed some computations with the aid of this method for the years 1952—1954 [3].

M. K. *Bennett* [4] carried out some international comparisons of the standard of living with the aid of nineteen physical economic indicators. He expressed each of these indicators in percentages, taking as 100 the level of that country where the indicator in question reached the highest figure. (E.g. the per capita tobacco consumption was highest in the United States, being 3.3 kg in the average of 1934—1938. Taking the highest U. S. tobacco consumption as 100, the Canadian consumption was expressed by 69.7.) After having obtained such values for each indicator, Bennett computed, by a special weighting system, the average of all 19 indicators for each of the 31 countries examined. The figures thus obtained served to rank the countries in respect of the standard of living.

* The computations performed with the aid of the actual rates of exchange have been criticized by several authors. The main shortcoming of this method lies in that no uniform and stable rate of exchange is available for every country and that the rate of exchange does not always reflect the correct domestic purchasing power of the national currency.

Similar computations were made by A. G. *Jipp* [5], who determined the per capita national income in certain countries with the aid of six indicators of transport and communication, after having established the correlation ratios between the values of these indicators and the per capita national income. This method, however, reflects the development of transport and communication in the individual countries concerned rather than the general level of their economic development [6].

For some time now, the methods of international comparison have been the subject of rather lively discussions which can as yet not be considered as concluded. In my opinion, the use of any known method of international comparison may be both sensible and justified, provided that it starts from economically well-founded assumptions and approaches the proportions of the major indicators characteristic of the economic development level, or their components, within relatively safe margins of error. The co-existence of various methods is important also because they may complement and intensify each other. The so-called "simplified" methods, in addition to meeting the more detailed computational methods in their final results, controlling thereby each other and imparting some information between two more detailed computational stages, may through their "by-products" call attention to such phenomena as would remain hidden in the course of more detailed computations.

New method for the international comparison of economic development levels in various countries

It is in the nature of things that many-sided international comparisons should be based on measurement in terms of money. There are, however, special situations and cases when this common yardstick can be resorted to by indirect ways and methods only. Essentially, such is the case when comparing capitalist and socialist countries with each other.*

The major methods mentioned served for the international comparison of economic development levels between countries which, though at different stages of development, had still more or less the same social system. With the emergence of the Soviet Union and later of the other socialist countries, and particularly in our days, the comparison of economic development levels between countries with different social systems has shifted into the focus of interest.

In seeking a solution to the problem, new difficulties will be met.

One of the difficulties in comparing the two groups of countries with different social systems arises from the fact that in the national income computations of socialist countries the value of non-material services (as activities

* With respect to capitalist and socialist countries, comparisons have up to the present been performed only between one country of each group.

beyond the sphere of material production) is disregarded. A further, probably even more important difficulty is that the centrally established and directed price system of socialist countries differs considerably from real value relations and, in addition, this difference itself varies also from country to country.

Because of what has been said above, we had to look for a method that would circumvent the known and assumed distortions of the price-systems, and would serve to compare both capitalist and socialist countries with one another on the basis of per capita national income, with the aid of physical indicators, in an indirect manner, and leaving the price-system out of consideration. This new method of comparison, which incorporates also certain elements of earlier research in the field of international comparison, was elaborated by Ferenc *Jánossy* [7].

Jánossy's method arrives at the value indicator of national income, as a common basis of comparison, by starting from the consumed quantities of use values, essentially neglecting the domestic price systems. By using the physical indicators it became possible to compare the economic development levels of 47 capitalist countries and Hungary under many angles, on the basis of national income per head as expressed in terms of dollars. (Jánossy's calculations are based on 1955 data*.)

With a view to the fact that the natural and other endowments of a country influence its pattern of production much more than that of consumption, the 24 physical economic indicators used (16 major and 8 complementary indicators) were composed mostly not of production but of consumption-type indicators.

In selecting the physical consumption indicators, *Jánossy* kept in view that they should characterize as far as possible the most important fields of the national economy. Thus, to characterize industrial production, he chose the indicators of steel, cement and electric energy consumption; the consumption of all sources of energy and of paper (excl. newsprint); the weight of goods carried by rail and freight-ton kilometres indicate the level of transportation; the level of agriculture, however, is characterized by fertilizer consumption, number of tractors and the number of population supported by an agricultural labourer. Consumption by the population, health and cultural standards are expressed by such indicators as the consumption of animal proteins, sugar and cereals, the stock of telephones, radio and TV sets, the number of physicians, hospital beds and infant mortality.

* It is probable that with the introduction in Hungary of a price-system which would reflect to a higher degree the value relations or of one approaching world-market price relations, i.e. with the implementation of the new system of economic control, the importance of indirect measurement with the aid of physical consumption indicators will diminish. Still, the comparison of the results obtained by means of the two systems, i.e. those in value terms and those representing use values, will be indispensable and analyses of this kind will enable a better knowledge of international relations and trends.

The magnitude of the physical consumption indicators thus selected for analysis is in close connection with the level of economic development, represented according to this method by per capita national income. To be able to conclude from the magnitude of the physical indicators chosen on the development level of the countries selected, first the connections between the values of individual indicators and the development level must be known.

After having computed the data of the selected physical indicators, the national income per head converted to dollars at the official rate of exchange was taken as an initial, approximative measure of the level of development.

The actual values for each of the indicators computed for 47 capitalist countries were first plotted in diagrams as a function of national income per head. On the basis of the sets of points in the diagrams the closeness of connection between the magnitudes of the physical indicators selected and per capita national income was determined with the aid of correlation computations.

For each of the sets of points in a diagram, a function curve can be determined which characterizes the connection between the physical indicator in question and the per capita national income in terms of dollars. On the basis of the curves representing the functions for each actual physical indicator of any country, a national income value can be read off which will to some extent deviate from the actual per capita national income. The geometrical mean of these per capita national incomes computed on the basis of the 16 major indicators will yield the level of development as established by our method. This new measure of economic development obtained with the aid of physical indicators was called by *Jánossy* — to distinguish it from the dollar value of the officially computed national income per head — "corrected national income in dollars per head".

It must be remarked that this method cannot be applied to compare the levels of the most developed and of the underdeveloped countries.

Since in the highest income category (above $ 1100 per head) there are only five countries (the United States, Canada, Sweden, New Zealand and Australia) the computation and establishment of the slope of this higher range of the regression lines is inaccurate. As a consequence, the mutual ratios of the development levels can be computed for these countries with this method rather doubtfully; bilateral comparisons would probably yield better results. In the case of underdeveloped countries (with a per capita national income of $ 200 or less), partly the lack of statistical data limits the number of physical indicators to be used and partly the few physical indicators available characterize mainly the development level of some bigger towns only and not that of the whole country. Thus the method in question cannot be applied here with the accuracy needed to compute the ratios of development levels.

The margins of error of the computation method reviewed were analysed in several ways.

It was established e.g., that the difference in national income levels as computed by Milton Gilbert for eight European countries and as worked out with the method used by Jánossy reached 10 per cent only in the case of a single country, and in all other cases the difference was between 2 and 4

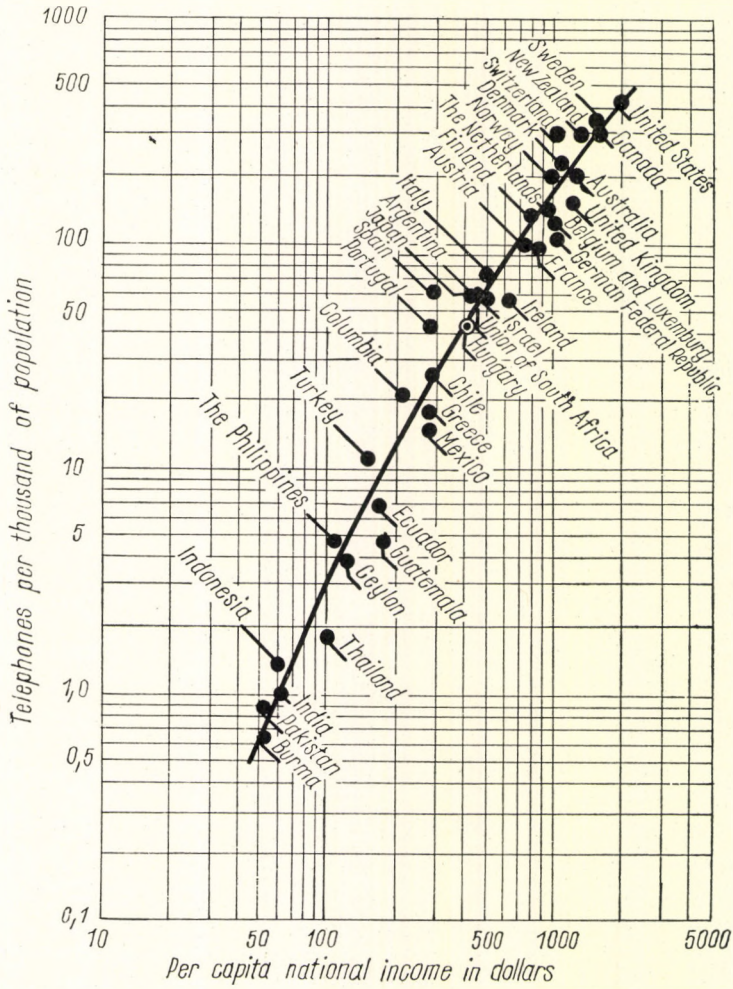

Fig. 1. Interrelation between telephone sets per thousand of population and the per capita income, in terms of dollars, in various capitalist countries and in Hungary, 1960

per cent. On the basis of various control computations we may state that the error limits of this method are below $\pm$ 10 per cent.

It is probable that by improving the method — e.g. by increasing the number of physical indicators involved — a reduction of the margin of error by one or two per cent might still be possible; it would, however, unduly in-

crease the computational tasks without changing the results to any considerable extent. This was also borne out by the fact that the per capita incomes of the countries were analysed first on the basis of 13 physical indicators and when their number was increased to 24 in the computations relating to 1955 and to 27 in those for 1960, the new results thus obtained did not cause any important changes in the order and relative position of the countries concerned in respect of the per capita national income level.

Thus, with the above qualifications, the method enables us, first to correct the inaccuracies due to the use of the official rates of exchange and second, to establish with the same method the per capita national income for countries whose national income per head in terms of dollars is for several reasons unknown but the statistical data of the physical indicators are available. In this manner it became possible to establish for Hungary the national income per head in terms of dollars with the aid of the statistical data on these physical indicators and on the basis of the regression lines determined by the actual data of capitalist countries.

Using the method elaborated by Jánossy, I worked out the economic development levels determined by per capita national incomes in 1960, as expressed in terms of dollars, for 35 capitalist countries and Hungary. The results of these computations are presented in dollars and percentages in Fig. 2.*

The average per capita national income in 1960 of the European capitalist countries examined was $ 796, in those of the Common Market (the Six) $ 845.

This means that the national income of Hungary ($ 400) was at that time almost 51 per cent of the European average for capitalist countries or 47 per cent of that in the Common Market countries and nearly 21 per cent of the national income level in the United States.

The average economic development level in 1960 of seven socialist countries taken together (Bulgaria, Czechoslovakia, the German Democratic Republic, Hungary, Poland, Roumania and Yugoslavia) amounted to about half the level of the Common Market countries.

It is, however, obvious that the national income in dollars per head — as a comprehensive indicator expressing the general level of economic development in individual economies — cannot reflect either the considerable differences between the various areas or those between various branches within a country which may be important in comparison to the average level as characterized by national income.

* In 1960, the officially established per capita national income in the United States was $ 2290. Even according to the computations of several western economists, the disparity between the dollar's domestic purchasing power and its value as a world currency reduces the per capita national income by about 15 per cent; thus, the real value of per capita national income in the USA in 1960 was about $ 1950.

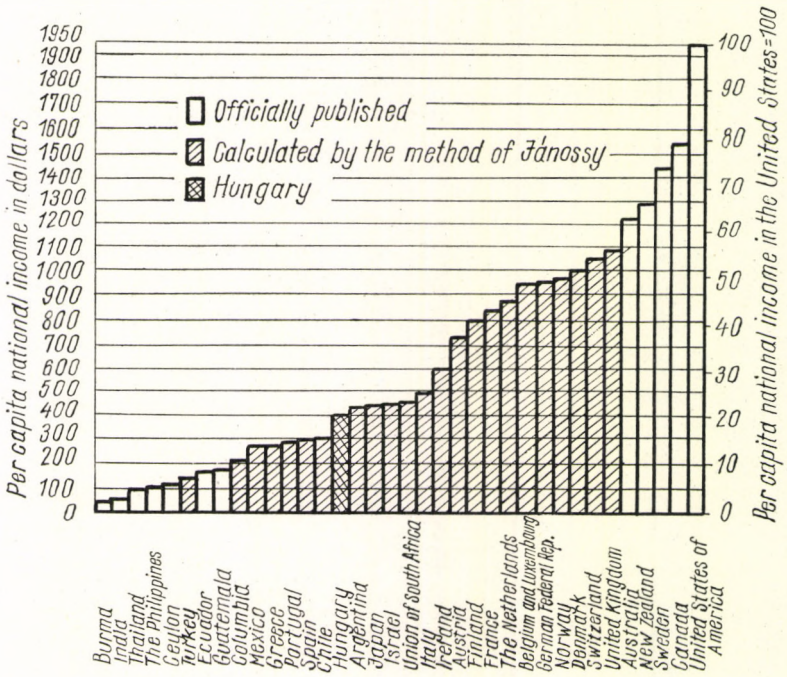

Fig. 2. Per capita national income of 35 capitalist countries and Hungary, in terms of dollars, 1960

Evaluation of the physical consumption indicators

Knowing the order of the different countries of the world according to economic development level, let us examine the place occupied by the socialist countries as determined by the physical consumption indicators constituting the basis of our system. As will be seen later, the values of the indicators in socialist countries as reflected by the consumption pattern of capitalist countries will enable us to draw some interesting conclusions.

In view of the fact that the 1960 data of the 27 physical indicators were not always available for investigation, we were compelled to select from the 35 capitalist countries 15 for which at least 21 indicator values could be found in international statistical sources.

The data available to compute the 21 natural indicators relate to 15 capitalist countries, the positions of which in the order of economic development follow upon each other at more or less regular intervals (see Fig. 2). These countries are the following:

United States	German Federal Republic	Japan
Canada	France	Chile
Sweden	Austria	Spain
Australia	Ireland	Portugal
United Kingdom	Italy	Greece

The data of the 21 physical indicators for 15 capitalist countries were complemented with those relating to 5 socialist countries where the values for all indicators could be obtained (Bulgaria, Czechoslovakia, Hungary, Roumania and the U. S. S. R). The data of these 20 countries are presented in Table 1.

The physical indicators for the 20 countries were ranked according to the magnitude of consumption. Thus, each first place is occupied by the country consuming most as regards the indicator in question, while the last place falls to the one consuming the smallest quantity of the same.

From the 20 countries Diagram 3 shows the ranking of the five socialist countries according to each indicator. The indicators were arranged in a way that from left to right the position of Hungary should appear gradually higher.

The positions of the five socialist countries placed among the 15 capitalist ones show interesting similarities and characteristics in respect of the 21 physical indicators in Fig. 3.

Though the socialist countries examined differ from each other by their history, natural and geographical endowments as well as size to no small extent, as far as the indicators characterizing the development level of industry are concerned, nearly all socialist countries occupy a much more favourable position among the 15 capitalist countries than in respect of the indicators relating to the level of agriculture or to the consumption of consumers' durables and of some valuable foodstuffs.

What were the major causes which or whose interaction brought about and is bringing about such a development of the pattern of per capita consumption? To approach the problem, let us examine some of the physical indicators separately.

Physical economic indicators of industry

It is a matter of common knowledge that in part of the socialist countries the first task of socialist industrialization has by now been carried out and completed although at different periods, while in others this task is still the order of the day. It is also known that, apart from a few exceptions, almost all socialist countries were in this period characterized by a rapid growth rate of industrial production as expressed in quantitative terms. The period saw the erection of numerous new plants, while extensions and reconstructions were less frequent. Manpower was supplied to some extent by those earlier unemployed, by the small-scale plants and, mainly, by those leaving agriculture. Such

a rapid creation of industry in some of the countries and its equally rapid development in others required, of course, large sums to be invested. This is why the socialist countries examined are occupying rather favourable positions in respect of industrial indicators among the 15 capitalist countries.

In this period of rapid industrial development on a relatively broad front, however, less attention was paid to turning out technologically up-to-date industrial products of high quality on a large scale. It may be due to this fact

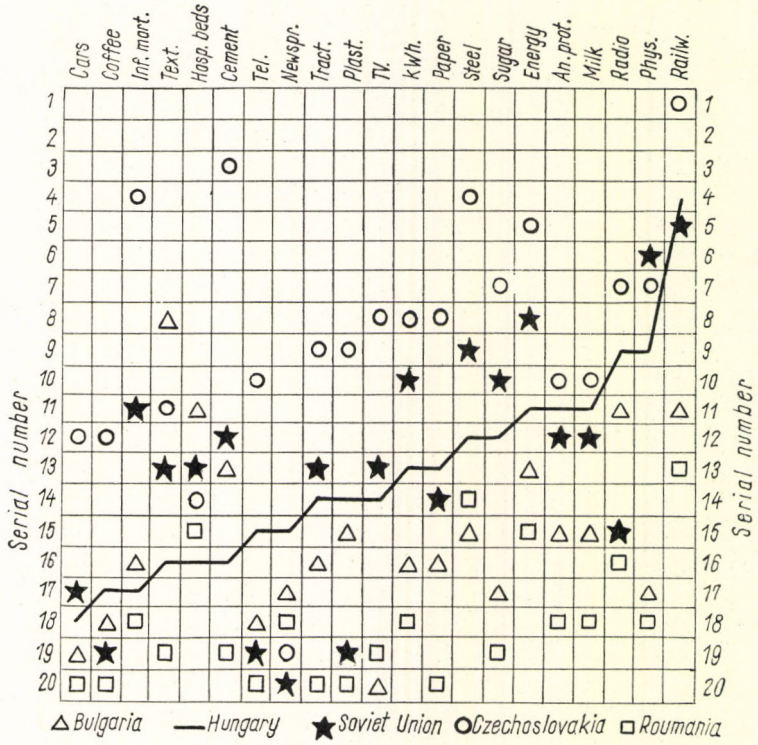

Fig. 3. The place occupied by Bulgaria, Czechoslovakia, Hungary, Roumania, and the Soviet Union, according to 21 physical indicators*

that in Hungary — and in some other socialist countries as well — the steel content per unit of output is higher than would be necessary with the present level of world technology.

Some of the socialist countries have a remarkably favourable ranking — similarly to steel consumption — also in respect of per capita electric energy consumption and, particularly, by all sources of energy consumed (per head).

The many-sided and extensive investigations into energy consumption have all proved that the efficiency of energy utilization was not satisfactory

* Numerical values and explanations of the indicators are contained in Table 1 and its footnotes.

in socialist countries. The share of liquid fuels in all sources of energy consumed is still too low. In recent decades the structure of energy consumption has shifted all over the world in favour of hydrocarbons. Before World War II, in 1937, the share of solid fuels in the total energy consumption of the capitalist world amounted to 74.5 per cent, by 1960 this share fell to 39.2 per cent, while the participation of liquid fuels rose in the same period from 18 per cent to 39.3 per cent.

The pattern of total energy consumption in the 8 socialist countries combined, corresponds roughly to the 1937 level of the whole capitalist world.

Though we certainly dispose of considerable reserves as regards energy utilization by means of the existing equipment and the thrifty use of energy sources, the transformation of the pattern of energy consumption is not simply a matter of decision. Suffice it to mention that e.g. in Hungary the means to use liquid fuels are mostly still lacking. To replace obsolete equipment is, of course, a complex task which requires massive material and technical input and takes a long time to accomplish.

The physical economic indicators of transportation

As shown in Fig. 3, Czechoslovakia occupies among the 20 countries the first place as regards the per capita volume of railway transportation, Hungary the fourth, the Soviet Union the fifth, Bulgaria the eleventh and Roumania the thirteenth. The ranking of socialist countries is similar in respect of the indicator expressing total freight ton-kilometres per head.* The analysis shows that both in Hungary and in the other socialist countries not only the volume of goods carried and freight ton-kilometres performed are higher but also the rate of growth of transportation performances is essentially higher than in the majority of capitalist countries.

Such a rapid rate of growth of freight transportation performance in Hungary cannot be explained simply with the inner deficiencies of the transport system — disorganization, unjustified cross-transports, etc. — but above all with the present structure of the economy insofar as this structure requires high transport performances which can be hardly eliminated under present conditions.

Since the development of the volume of transport is being influenced by the combined effects of the size of the country, the pattern and organization of material production, the location of industry, the morphology of the area in question and some other factors, a slackening of the growth rate of freight transport can be achieved only over a longer period, by gradually doing away

* For lack of data, this indicator is not available for all 20 countries.

with the causes bringing about rapid growth and by hindering the creation of new ones.

Further, it may be assumed that in the people's democracies the raising of the technical level of transportation and the transformation of freight transport and its pattern along up-to-date technological lines did not advance side by side with large-scale industrialization. This assumption is supported, among

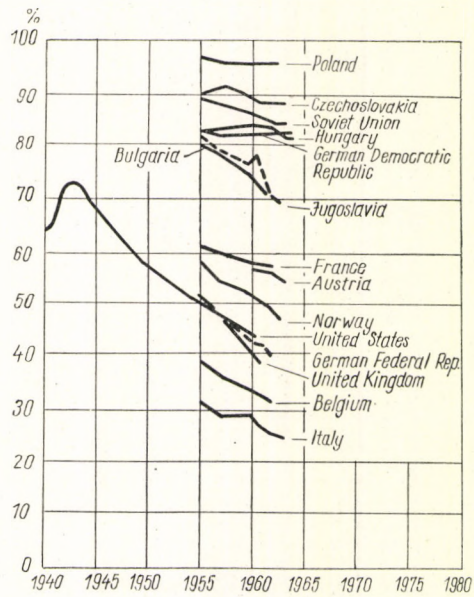

Fig. 4. Diminishing ratio of railway transport in terms of freight ton-kilometres, between 1955 and 1963

Source: Annual Bulletin of Transport Statistics for Europe, UN. 1962—1964. New York. — Statistical Abstract of the United States. 1962. Washington.

others, by the fact that the share of transportation in total employment is relatively high in comparison to capitalist countries and is still on the increase.

The situation is all the more serious because this relatively high level of employment in transportation has come about at a low level of road transportation in Hungary.

The pattern of the division of labour in transportation is changing all over the world rapidly in favour of motor vehicles and to the detriment of the railways. The rate of decrease in the share of rail transportation is shown by Fig. 4.

From among the capitalist countries examined, the share of railway transportation decreased in the United Kingdom and Norway by 10 points, in the German Federal Republic by 10, in Belgium, the USA (1955—1960) and Italy by 6, in France by 4 and in Austria (1960—1963) by 2 points. In the majority of

capitalist countries this decrease was accompanied by a corresponding increase in the share of road transport.

From among seven socialist countries, the greatest speed in decrease was experienced by Yugoslavia (12 points), followed by Bulgaria (10), the Soviet Union (5), Czechoslovakia and Hungary (2), Poland (1,5) and the German Democratic Republic (1 point). Similarly to capitalist countries, the diminishing share of rail transport is accompanied by a growing participation of road transport, except for the Soviet Union, where a corresponding increase took place in pipeline-transport.

Thus in Hungary — similarly to other socialist countries — the share of railways in transports is high indeed, last but not least as an inheritance of the capitalist past.

Physical indicators characterizing the development of agriculture

In comparison to the industrial physical indicators, the position of socialist countries is much more unfavourable as regards the tractor and fertilizer indicators which reflect the technological equipment of agriculture. In Fig. 3, Bulgaria occupies with these indicators the 16th and 15th, Czechoslovakia with both the 9th, Hungary the 14th, Roumania the 20th and the Soviet Union the 13th and the 19th place.

Thus, while the majority of socialist countries overtakes or approaches the developed capitalist countries as regards the consumption level of industrial physical indicators, their lag in respect of indicators characterizing the development level of agriculture is worth attention.

In connection with this problem it may not be without interest to call the readers' attention to the fact that while in the majority of capitalist countries here examined the ratio of the growth rates of industrial and agricultural production was in the past 20 to 30 years 2 : 1 or 2.5 : 1, in the majority of socialist countries this ratio was much higher; in Hungary, e.g. it was in the past decade more than 6 : 1.

When analysing the relatively slow growth rate of agricultural production in socialist countries as compared with the rapid industrial development it must be taken into account that output per agriculturally employed worker increased, though not sufficiently, yet to a considerable extent, because migration from agriculture to other branches, mainly to industry, was considerably quicker in the majority of socialist countries than in the capitalist ones. In Hungary e.g., after a slow decrease during the decades before the Liberation, the annual rate of decrease in agricultural manpower was in the years 1949 to 1964 one point as against 0.5 to be observed in the majority of capitalist countries, and the case was similar in other people's democracies.

From among the factors bringing about this rapid fall in agricultural employment in Hungary, the following two are worth particular attention.

One factor consists in the fact that before the Liberation, agriculture disposed, as is well known, of considerable latent manpower reserves, which were rather rapidly absorbed by the quickly developing industry, practically in a couple of years.

The other major factor must be sought in the socialist reorganization of agriculture, insofar as this social change of far-reaching importance has accelerated the process of migration to a certain extent.

It also contributed to the rapid decline in the numbers of agricultural earners that, owing to the transition from small-scale to large-scale farming, old people "dropped out" from the ranks of those gainfully employed in agriculture, once they retired. Under the conditions of small-scale farming they had been accounted for in statistics as earners.

The rapid migration of agricultural earners which was experienced in Hungary in recent years will probably slacken in the next years already and even more in the more distant future.

Physical indicators reflecting consumption by the population

From the countries here examined, Czechoslovakia takes the 10th place in respect of animal protein consumption, Hungary the 11th, the Soviet Union the 12th, Bulgaria the 15th, and Roumania the 18th. With some smaller deviations, the ranking of socialist countries is similar when sugar and milk consumption is considered.

While with these indicators characteristic of mass consumption the majority of socialist countries occupy about medium position, in respect of the consumption of more expensive goods, such as coffee, cocoa and tea, they occupy — except for Czechoslovakia — the last places.

The position of the specific food-consumption indicators in the socialist countries reflects the favourable effect on the living standards of the broad masses of the income distribution characteristic of socialist countries, a distribution which differs from that in capitalist countries.

*

In comparison to the capitalist countries examined, the position of socialist countries is mostly unfavourable in respect of per capita newsprint consumption, telephones and passenger cars.

The number of telephone sets per head is relatively low in socialist countries. It should not, however, be left out of account that the satisfaction of this

Table 1

Physical indicators of the capitalist and socialist countries examined, 1960

Number	Country	Steel (1)	Cement (2)	kWh (3)	Energy (4)	Paper (5)	Railway (6)	Fertilizer (7)	Tractors (8)	An. protein (9)	Sugar (10)	Milk (11)	Coffee (12)	Textiles (13)	Telephone (14)	Radio (15)	TV (16)	Cars (17)	Newsprint (18)	Physicians (19)	Hosp. beds (20)	Infant mortality (21)	Number
1.	United Kingdom	425	237	2620	4970	78.6	4 830	1380	260	52	50	366	7.16	19.5	156	289	210	106	24.9	5.0	10.9	22.5	1.
2.	Australia	396	258	2360	4300	60.7	5 050	1150	506	61	50	350	5.03	17.0	208	221	108	180	31	1.46	11.5	20.2	2.
3.	Austria	268	398	1992	2840	37.2	6 500	200	127	47	36	354	3.29	12.7	99	279	27.2	57	11	1.89	10.5	37.5	3.
4.	Bulgaria	110	196	595	1515	11	4 870	102	9.95	27	15.7	160*	0.6*	13.1	21.8	182	0.635	1.3	2.4	1.3	7.8	45.1	4.
5.	Czechoslovakia	476	388	1770	4850	42.8	14 300	302	47.7	45	36	268	1.62	11.9	59.2	260	58.5	14	2.1	1.6	7.5	23.5	5.
6.	Chile	70	109	592	1035	9.9	1.700	60*	9.33	28	20*	150	2.1	6.0	25.2	91.9	10.0	7.55	3	0.85*	5.5*	127.3	6.
7.	USA	501	310	4700	8420	162	11 500	1330	872	65	41	418	8.93	21.8	413.0	941	297	340	36	1.9	9.2	25.6	7.
8.	France	306	308	1580	2920	46.6	5 000	418	153	52	32	276	5.63	14.2	95.9	242	41.9	122	12	1.4	12.8	27.5	8.
9.	Greece	49	184	270	517	13.8	268	84.5	10.9	27	12	196	1.23	8.4	26.7	85.3	8.5	5.17	2.7	1.45	5.3	40.1	9.
10.	Ireland	56	182	813	1325	29.4	910	344	106	57	43	503	5.66	11.1	56.5	174.5	26.5	61.5	13	1.42	9.6	29.3	10.
11.	Japan	208	242*	1190	1475	39.8	1 870	137	36.6	18	15	41	0.936	12.5	59.1	156	64.1	4.39	7.9	1.4	7.6	30.7	11.
12.	Canada	308	370*	6380	8360	113	9 100	348	520	65	45	449	5.32	16.2	305	452	220	231	24	1.34	11.6	27.3	12.
13.	*Hungary*	*195*	*161*	*815*	*2343*	*18.4*	*9 060*	*118*	*22*	*37.3*	*26*	*216*	*0.79*	*8.09*	*42.3*	*222*	*10.4*	*3.13*	*2.6*	*1.5*	*7.0*	*47.6*	13.
14.	German Federal Rep.	525	438	2180	3530	70.7	5 470	591	235	48	29	300	5.71	17.5	108	295	83.7	78	9.6	2.0	11.0	33.8	14.
15.	Italy	187	316	1140	1575	26.8	1 150	144	39.4	28	21	186	2.59	10.1	73.8	162	43	40.3	5.6	1.31*	8.2	43.8	15.
16.	Portugal	43	114	351	527	9.1	405*	60*	9.1	27	18	63	1.35	7.54	43.3	93	4.99	18.1	2.7	0.737*	5.3*	77.5	16.
17.	Roumania	154	114	414	1404	7.51	4 210	47*	6.24	23*	13	115*	0.0924	6.3	10.9	109	2.99	0.576	2.3	1.2	7.1	75.7	17.
18.	Spain	62	130*	614	1075	10.4	931	126	9.33	20	17	118	1.14	6.88	59.1	81.7	8.3	9.33	2.6	1.85	5.3*	43.5	18.
19.	Sweden	545	352	4530	5380	117	5 790	675	352	53	41	470	10.9	16.8	352	366	137	145	26.0	1.5	14.8	16.6	19.
20.	Soviet Union	296	219	1380	3080	14.9	8 870	59.7	29.5	34*	29.5	215*	0.557	10.7	12.8	148	23.4	3.46	1.8	1.8	7.6	35.0	20.

* Estimated

Note: Explanation of the abbreviations in the headings and in Diagram 3.

(1) Steel — annual per capita steel consumption, kilograms
(2) Cement — annual per capita cement consumption, kilograms
(3) kWh — annual per capita electric energy consumption, kilowatt-hours
(4) Energy — annual per capita consumption of all sources of energy, in terms of coal equivalent, kilograms
(5) Paper — annual per capita consumption of paper, excl. newsprint, kilograms
(6) Railway — annual per capita weight of goods carried by rail, kilograms
(7) Fertilizer — annual fertilizer consumption per agricultural labourer, in effective substance, kilograms. The weights used in summing up the three kinds of fertilizers: $N = 1.6$, $P_2O_5 = 0.86$, $K_2 = 0.54$ are approximately proportional to the relative world market prices in 1960
(8) Tractors — stock of tractors per agricultural labourer, units
(9) An. protein — daily per capita animal protein consumption, grams
(10) Sugar — annual per capita sugar consumption, kilograms
(11) Milk — daily per capita consumption of milk and dairy products, excl. butter, calories
(12) Coffee — annual per capita coffee, cocoa and tea consumption, kilograms
(13) Textiles — annual per capita consumption of all textile fibres. Weighted average. The weights used are: cotton = 1, rayon and viscose = 1, wool = 3, synthetic fibres = 4. The weights are approximately proportional to 1960 world market prices
(14) Telephone — telephones per thousand of population, units
(15) Radio — radio receiver sets per thousand of population, units
(16) TV — television sets per thousand of population, units
(17) Cars — registered passenger cars per thousand of population, units
(18) Newsprint — annual per capita newsprint consumption, kilograms
(19) Physicians — number of physicians per thousand of population
(20) Hosp. beds — number of hospital beds per thousand of population
(21) Infant mortality — number of infant deaths under one year of age per thousand live births.

pressing need is deliberately deferred by the state in view of the investment problems involved — the creation of modern, high-capacity exchanges, modernization of the cable system, i.e. mainly because of shortage of capital.

The case is similar with the big demand, particularly in recent years, for motor cars which cannot be wholly satisfied either. For the time being, satisfaction of the need for motor cars is meeting with even bigger difficulties than in case of telephones. As a matter of fact, a rapid increase in the number of cars would require considerable modernization of the existing road network, the construction of wide modern roads and, in addition, a large-scale extension of the service and pumping stations which are already inadequate even for the present stock of cars.

When analysing the relatively low values in socialist countries for per capita newsprint consumption it must not be forgotten that in capitalist countries a considerable quantity of newsprint consumption goes to advertisement purposes part of which must be considered as improductive from the social point of view. In socialist countries the part of newsprint used for advertisements is only a fraction of total consumption.

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Without aiming at completeness, we have attempted to present the ranking of individual socialist countries among the capitalist countries examined, in respect of the physical indicators more or less conforming to branches of economy, and to point out some causes, circumstances and factors which (according to our present knowledge) exerted an important influence on the development of these indicators and continue to play a not negligible role.

We should like to emphasize, however, that the per capita value of some production or consumption indicator, if taken out of context, is by no means appropriate for evaluating or judging the position occupied in the world by some socialist country solely on this basis. The above comments on the per capita quantities of the physical consumption indicators are, of course, rather simplified and leave out of account many of the objective circumstances and subjective factors whose combined effects shape and form the consumption level of individual products in various countries.

One, and perhaps the most important, of these factors is the fundamental difference between the two groups of countries as regards their social system. The effect of this factor — as was pointed out in connection with some of the indicators — cannot be neglected when judging the consumption level of various products.

In addition to the difference in the social system, the consumption levels of the individual countries examined are influenced also by countless other natural geographical and other endowments, customs, traditions, etc. which

could be taken into consideration only by means of extremely difficult, extensive and circumspect investigations since the combined effect of a multitude of important factors cannot, in many cases, be quantified at all.

While emphasizing all these difficulties, the utilization of a growing number of physical indicators in extensive international comparisons, the analysis of their static and dynamic positions, and particularly of their long-term changes, as well as of the various factors influencing the consumption level of the physical indicators is of the utmost importance. Without them it would be difficult, on the one hand, to know the tendencies and rules of economic development processes going on in the world, their general and specific features, the road covered by individual countries in the course of their development and, on the other, to gather information about the difficulty of the task in connection with our future objectives by comparing the economic level aimed at with that already attained in other countries. All this knowledge and experience will enable us to avoid the obstacles and hurdles which lie nowadays across the road to economic progress.

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МЕЖДУНАРОДНОЕ СОПОСТАВЛЕНИЕ ПРИ ПОМОЩИ НАТУРАЛЬНЫХ ПОКАЗАТЕЛЕЙ

Е. ЭРЛИХ

Автор в введении статьи кратко останавливается на вопросе появления международных сопоставлений, возникновении их предпосылок, затем излагает основные методы международного сопоставления национальных доходов.

В статье детально излагается разработанный Ференцем Яноши метод многостороннего международного сопоставления при помощи натуральных экономических показателей и полученные при применении этого метода конечные результаты расчетов, произведенных на основе данных 1960 года. Автор установила, что в рассматривавшихся ею европейских капиталистических странах национальный доход в расчете на душу населения составлял 796 $, а в странах европейского «Общего рынка», т. н. «Шестерки» — 845 $. Средний уровень экономического развития семи социалистических стран (Болгарии, Чехословакии, Польши, Югославии, Венгрии, Германской Демократической Республики и Румынии) в 1960 году составлял приблизительно половину от уровня экономического развития стран «Общего рынка». Далее в статье оцениваются данные о потреблении 5 социалистических стран по 21 натуральному показателю (стали, энергоносителям и т. д.) в зеркале аналогичных показателей капиталистических стран. На основании их графического изображения автор анализирует, какие основные причины или их совокупное влияние вызвали установление данной структуры удельного потребления в социалистических странах, или повлияли на него.

В отношении *натуральных экономических показателей по промышленности* автор отмечает, что в период быстрого и относительно широкого развития промышленности в социалистических странах меньше внимания уделялось массовому производству наиболее передовых, технически отличных по качеству промышленных изделий. Вероятно, в этом кроется причина того, что в части социалистических стран изделия содержат большее удельное количество стали, чем это требуется современным мировым техническим уровнем. В связи с общим потреблением энергоносителей автор отмечает, что структура совокупного потребления энергоносителей в 1960 году в восьми социалистических странах приблизительно соответствовала уровню всего капиталистического мира в 1937 году. По ее мнению, относительно высокое по сравнению с уровнем развития потребление энергоносителей в социалистических странах является следствием неудовлетворительной эффективности использования энергии.

Анализируя *натуральные показатели транспорта*, автор указывает, что как в Венгрии, так и в остальных социалистических странах не только удельный и общий объемы грузооборота в тоннокилометрах являются большими, но и темпы их роста существенно превышают темпы большинства капиталистических стран. Причины такого быстрого темпа роста объема товарных перевозок объясняются, прежде всего, настоящей структурой народных хозяйств.

В отношении *натуральных показателей, характеризующих уровень развития сельского хозяйства*, автор отмечает, что в то время как по натуральным показателям потребления промышленной продукции большинство социалистических стран достигает уровень развитых капиталистических стран или приближается к нему, по показателям, характеризующим развитие сельского хозяйства, наблюдается значительное отставание. В связи с этим автор занимается вопросами соотношения темпов роста промышленного и сельскохозяйственного производства, а также основными причинами, вызывавшими или вызывающими в социалистических странах более быстрый, по сравнению с капиталистическими странами, перелив из сельского хозяйства в другие отрасли народного хозяйства, в первую очередь, в промышленность.

В заключительной части статьи автор подчеркивает, что, хотя уровень потребления по различным натуральным показателям формируется и складывается под совместным влиянием бессчетного числа общественных, природных, географических и специфических факторов, все же без их детального анализа, с одной стороны, трудно оценить тенденции и закономерности протекающих в мире процессов экономического развития, их общие и специфические черты, пути, пройденные отдельными странами по ходу их экономического развития; а, с другой стороны, информироваться о том, что необходимо сделать для достижения намеченного нами уровня экономического развития, уже раньше достигнутого другими странами.

REVIEWS

A. GELEI

PROBLEMS OF LONG-TERM PLANNING*

While keeping track of different issues of Hungarian economic literature it becomes apparent that in recent past greatest attention has been devoted to problems related to the reform of economic control and management to be introduced in the next future. Discussions concerning the fundamental economic and political principles of the future system of economic control and organization have not yet been concluded as far as details are concerned. Nevertheless, it may be certainly considered a major by-product of these discussions that the problem of long-term planning came to prominence both from the theoretical and practical points of view.

Though during the last two years there have been several articles published dealing with different aspects of the same subject, their common feature could be defined as being only partial.

The very fact itself, that the first article [1] by L. *Csapó* striving to treat the problems related to the theoretical establishment of long-term planning in a systematic and comprehensive way was followed by one of the most animated discussions of recent years, reflects that it was both necessary and timely to raise the question. Moreover, as it will be clear from what follows, the subjects treated in the discussion itself indicated that the economy has arrived at a stage in its development when there is an urgent need to find a solution of the problem, both from a theoretical and an empirical point of view.

In the following we will give a summary of the main points of the author, following his line of reasoning. Considering his main points one after the other we give a survey of arguments representing the opposite course, on the one hand, and we present also the standpoints of those who accept the original views, on the other.

Since the author of the article starting the discussion made an attempt to give a comprehensive system of reasoning on the subject, he had to touch upon a series of closely interrelated problems. Those who were opposed to him generally reacted in the course of the discussion to only some points of the author and did not develop themselves any other comprehensive system of ideas opposed to his. Nevertheless, even the partial oppositions throw light on the line dividing the two fronts. In general, one can say that those attacking some of the main standpoints of *Csapó*, necessarily found themselves in opposition with respect to the other points, too.

* Review of a discussion in the "Közgazdasági Szemle" in 1965—1966.

The open character of Hungarian economy

The first controversy developed in connection with his starting point, according to which the major characteristic of the Hungarian economy lies in its open character. This feature of the economy, claims *Csapó*, has to be taken into account above all when determining the approach to the strategy of development. His argument is based on the fact that in Hungary about one third of national income is being realized through foreign trade and with a further progress in growth, one has to reckon with a possible increase in this ratio. That is the reason why, when trying to elaborate the long-term strategy of Hungarian economic development, we have to take into account that the long-term growth rate is essentially a function of an increasing ability to export. Considering that the leading sector of the economy is industry, a growing export of industrial goods is the factor determining in the first place the overall growth itself. It is, therefore, a characteristic feature of the Hungarian economy, that it is extremely sensitive to foreign trade, to the equilibrium of the balance of payments.

As a consequence of the above-mentioned situation — though the country is a small one and it might seem paradoxical — for developing the conceptual framework of development policy one has to rely upon a profound analysis both of expected trends in world economy and of the special conditions and situation of the Hungarian economy.

This peculiarity of the Hungarian economy renders the elaboration of a long-term development plan very difficult but, at the same time, defines the starting points and methods which have to constitute the basis of long-term planning.

Csapó emphasizes the importance of taking into account that the Hungarian economy forms part of the socialist international market and, therefore, constitutes an active factor in world economy, too. Thus, the only possible starting-point in our planning can be to acknowledge the existence of a uniform world economy and market. These are of a transitory character and the new conditions resulting from their development play a decisive role in the determination of our possible goals.

The first task indeed, consists in weighing up the actual and potential possibilities within the socialist world-market. While doing this, both the common interests of the socialist countries and the specialities and possibilities of the Hungarian economy have to be taken into consideration.

Csapó stresses the necessity of the active role the Hungarian economy has to play in creating its own market for its products. It would be erroneous to base the plans of long-term development on the idea that demand for our products on the socialist international market would expand automatically. On the other hand, it would be equally erroneous if we supposed that the supply of raw materials from the same market was unlimited.

As to the role played by foreign trade in development policy, *Csapó* shares the conviction of numerous experts and here we have to refer firstly to the writings of Prof. *Vajda*. In one of his recent articles [2] dealing with phenomena occurring in world trade he, too, emphasizes the importance of it for Hungarian economic growth. I. *Hetényi* expresses his agreement [3] with the way in which *Csapó* lays stress on the open character of our country. He says: "Though planned cooperation will prevail on this (i.e. on the socialist) market, in the long

run, together with the exchange of goods and competition, each country strives for attaining mutual advantages. This does not involve a narrowing of the socialist market, but *Csapó* did not mean that".

According to the opposite opinion this character of the Hungarian economy is not a special one. For instance in [5] the author says: "The statement according to which the role played by foreign trade in the economic development of Hungary would be a special central characteristic, cannot be taken but for a commonplace, or, at least no one refuses this statement. Except for certain countries, rather big in size and highly developed, all the others in the world are under the same conditions . . . From the point of view of the importance of foreign trade, the position of Hungary with respect to other countries cannot be taken as special . . ."

It would be of certain interest to touch upon the discussion that developed in connection with the definition of open economy given by *Csapó*. Under open economy such one is to be understood where — because of the actual and potential scarcity of natural resources — neither the utilization of already existing or newly built capacities nor the full employment of the labour force can be carried through on the sole basis of domestic recources and an expanding domestic market.

An important aspect of the problem was presented by *Hetényi* who underlines: "In the case of Hungary under open character one has to understand that without a considerable foreign trade it is impossible to meet effectively those requirements which are typical for advanced economies".

The most important factors

In his reasoning *Csapó*'s next step was to survey one by one the most important factors of the economic situation of the socialist countries. The first one to face and cope with is the fact that there is and possibly will prevail for a while a relative scarcity of capital all around the socialist market. The resulting tendencies to be taken into account in formulating the concepts of long-term development policy are the following.

First, a rapid increase of agricultural production will require great efforts in each of the socialist countries since this sector is a very capital intensive one. And it is well known that there exists a discrepancy between the levels and rates of growth of industry and agriculture. That is why it is reasonable to consider agricultural and food-products to be valuable in the foreign trade among socialist countries in the future as well.

Secondly, we cannot expect considerable capital imports from socialist countries. Thirdly, as a consequence of the relative scarcity of capital, a rapid technical progress cannot take place in each industry simultaneously.

Finally, a sustained disproportion between the extractive and processing sectors of industry cannot prevail for long.

The impact of factors resulting from the open character of the economy and from the scarcity of capital have to be both controlled and counteracted

Leading branches

The participants agreed on the point that economic development mainly depends on that of industry, and industrial growth is dependent on technolog-

ical progress. Nevertheless, when determining under the existing conditions the strategy of how to arrive at a rapid overall growth, at least two possible routes are open to planners. Namely, either to concentrate on the development of certain fields of the economy or to ensure a modest, but equal growth of the different branches.

The discussion turned into its sharpest tones in connection with the principles to be followed in development policy.

According to *Csapó*, if the scarcity of resources is to be taken into account, on the one hand, and one has to adjust in policy-making to the open character of the economy and, therefore, to rely upon foreign trade, on the other, then the only possible way to answer both needs is to concentrate development on well-selected leading branches. (Moreover, given a not optimally developed economic structure, he admits even the possibility of cutting some down.) There is, thus, a necessity to adjust industrial development to the demand likely to arise on the world market and not to the already existing capacities. Otherwise backwardness would be maintained.

Two major arguments were expressed against this concept. *G. Cukor* [5] was against the idea of a possible cutting down of production in certain branches. He says: "In a small country the optimal size of production, if based exclusively on the demand of home market, cannot be attained in every industrial sector. Here the international division of labour gets into prominence. But even in such cases a development policy neglecting (or even cutting down) certain industrial sectors is not appropriate; because of the close interconnection of industrial branches this would excessively restrict the basis of economic and technological progress." He admits the possibility of decreasing the production of some *products* resp. *product-groups*, but, in general, not of complete branches of industry. The basis of his argument is the statement according to which in the majority of cases it is not only inappropriate but, apart from some exceptions, even impossible (or possible only over a very long period) to concentrate development on leading branches and *at the same time deliberately* cut down others, because of the problems connected with the tying up of investment and other resources and the retraining and/or transfer of manpower. Concentration on some branches by cutting down others is also inappropriate, "because in manufacturing (mining is different) and except for the use of raw materials the transportation of which is difficult or very costly, individual countries do not have such natural circumstances as would make certain industrial branches specially advantageous or specially disadvantageous . . ."

A. Balassa [6] also admits, on the one hand, the necessity of differentiating among growth rates of different branches. But as he says, a differentiation in the rates of growth cannot mean in a developed country the absence of certain branches of the processing industry in general. Concentration of development on certain branches involves that exports are concentrated considerably on the products of these industries. Therefore, both the range and quantity of the products within the group of products in question would increase. On the other hand, a narrowing of the choice, restraining the number of types within groups of products would call forth the frittering away of resources, investments and a deconcentration of research work. A development policy ensuring a supply in complete assortments of products would lead to the production of a diminished range of products and finally result in a differentiation in the growth rates of branches, states *Balassa*. His main objection against the selection of

but a few number of products and the concentration of resources mainly on their development is based on the argument that such a production structure would require a scale of production that would necessarily surpass the demands of domestic and foreign markets combined. Hence this would expose the economy to difficulties on the market.

M. Mandel [7] wants to prove in his article the impossibility of a development policy which, under the condition of scarcity of capital, would not concentrate resources on certain fields. *Mandel* explains that in such a case the overall technical progress would be handicapped. Further, he expresses his point according to which *Balassa*'s argument was expressed in favour of maintaining the actual industrial structure. Further, he refers to the characteristics of past investment policy and to its consequences. This development policy was based on arbitrarily defined demands for enlarged capacities producing final products, while, on the other hand, the supply of materials etc., needed for the production of these final products was unsatisfactory. This disequilibrium necessarily resulted in new requirements for investment and led to investments exceeding the original estimates both in number and costs. These altogether brought about a further increase in demand for investment goods, and thus increased the scarcity of capital.

Structural changes

So, while defending *Csapó's* viewpoint, *Mandel* gets a bit further when he lays stress on the need for structural changes. He opposes the standpoints which express a preference for trying to improve the given conditions (eliminate difficulties arising with respect to integration and specialization on the socialist market), instead of changing them. Using his words, this standpoint takes the consequences of past economic policies for granted instead of analyzing the real causes of the phenomena. As to the need for changing the structure of industry let us refer to the arguments of *Prof. Vajda.* In his article [2] dealing with phenomena taking place in the world trade activity, he denotes the process of a vertical integration as being the most important one. The conclusion he draws is that, as a precondition to the formation of an adequate economic structure, the same structural change has to be brought about also in Hungary.

The requirement of the most advanced technology

This problem has two aspects. The first one is the technical level of the production process, while the second relates to that of the products. Both are closely related to the possibilities of carrying out the structural changes.

According to *Csapó*, concentration on the leading productive branches makes it possible to develop on the basis of the most advanced technology. Moreover, since our growth depends to a great extent on the extension of industrial export-capacities, its introduction even becomes a necessity. *Balassa* says, that there is neither a reason nor a need, nor a possibility for introducing always the most advanced technology. That would, namely, always require much capital, on the one hand, and would not always result in the highest profitability, on the other. As to the technical quality of products he finally sticks to the same, when saying that it is not possible to rely exclusively upon the production of the technically most advanced products. Considering that even in the

most developed industrial countries there has been a demand for traditional equipment and other goods, too, one can still count on a favourable market for them. The advantages of producing "traditional products" stem from the fact that their production and marketing does not involve as much risk as that of new, complicated products. In his arguments for applying old techniques too, he first relies upon the difference between the Hungarian prices of labour and capital and that of developed countries, and secondly on the small volume of domestic demand.

Both *Mandel* and *Hetényi* rejected this way of reasoning and stressed that not even *Csapó* insisted on applying exclusively the most advanced technology. In the development of export-oriented industries — says *Hetényi* — it is more reasonable to invest with a broader horizon and seek for an enlargement of the markets, than to use obsolete machinery adjusted to the actual market-requirements.

And here we arrive at a justification of the idea of concentrating development. *Hetényi* says, that he does not agree with *Balassa* in that long-term decision-making could be based on short-term criteria and points of view or with a reliance on the same value-judgement as is applied for individual decision-making. It is a question of profitability calculations. If the individual projects were selected on an ad hoc basis, without an appropriate conceptual basis and horizon, it could happen that though they were apparently the best variants on the basis of short-run decision criteria, the same projects would turn out to be inefficient, because of constraints coming to the surface in the long-run only. Short-term decisions concerning development problems of a conceptual character cannot affect but the acceleration or slighter modification of certain programs. Beyond investments serving for so-called strategic, i.e. long-term purposes, certain funds have to be reserved for ensuring the possibility to adjust to or meet immediate needs for investments within a five-year period.

The role of agriculture

Up to this point we followed the reasonings related to and resulting from the open character of the economy. Now we have to turn to other aspects of determining long-term development policy. Searching for right proportions is, namely, closely related to the problem of the domestic market, and the latter to the relations of the industrial and agricultural sectors of the economy to each other.

According to *Csapó*, the particularly important role agriculture plays is due first of all to the fact that it is the largest natural basis of resources available in the long run and, secondly, that it forms the largest market for industrial products in Hungary. From this double character follows its decisive role when selecting the leading branches. Further, says *Csapó*, the precondition of proportionate growth lies in a consistent development of industry *and* agriculture. *Csapó*'s main point is that industry has to be developed in a way to meet all the demands of agriculture and meanwhile it should also rely upon these demands. Some of his arguments, underlining the very important role agriculture plays were denied by *Cukor* and *Balassa*. *Cukor* denied that agriculture was the most important market for industrial products and showed on the basis of the results arrived at with the input-output table for the year 1961, that out

III. *Agricultural Development:* basic and applied researches into the relationships between agriculture and the rest of national economy; economic and organizational analysis of investment and location problems of agricultural production.

IV. *Economic Efficiency:* intensification, efficiency, input—output ratios of agricultural production (basic and applied researches).

V. *Organization of Farming Cooperatives:* basic researches regarding organization methods; researches providing scientific foundation for the organization and management of cooperatives.

VI. *Organization of State-owned Farms:* researches serving to solve organizational, management and farming problems of the state-owned estates.

VII. *Labour Economics:* researches regarding manpower utilization, performance normatives, wage systems and rational organization of work.

VIII. *Farm Mechanization:* economic and organizational problems of mechanization in cooperative and state-owned farms.

IX. *Production Organization:* analysis of technological, economic and organizational problems of each major branch of agricultural production.

X. *Cost Calculating Centre:* it organizes and evaluates representative surveys in the farming cooperatives for the purpose of calculating prime costs and rentability of each productive branch in socialist large-scale farming.

The Institute's Library systematically collects literature for the purposes of research, edits bibliographies and reviews on current literature, maintains public library service and organizes the exchange of publications with about two hundred institutes in thirty countries.

The scientific periodical of the Institute, entitled "Gazdálkodás" (Farming) is ten years old, and covers both farm economics and organization. It is published in Hungarian, with summaries in English, Russian and German.

In addition, the Institute publishes a series of small monographies, consisting each year of five to six volumes, under the title "A nagyüzemi gazdálkodás kérdései" (Problems of Large-Scale Farming), further various *mimeographed publications* presenting the preliminary findings of current research. The results of major researches appear in *books* edited by various publishing houses.

In recent years, *scientific research in the Institute was extended to the following major fields* (figures in parentheses refer to the list of publications below):

— specialization and regional development of production in agriculture [1];

— systematization, complementation and reviewing the body of knowledge relating to the organization of farming cooperatives, according to the requirements raised by the socialist reorganization of agriculture and, more recently, by the economic and organizational stabilization of the farming cooperatives [2, 3];

— analysis of the theoretical and practical problems of intensifying agricultural production [4];

— a comprehensive elaboration of the problems relating to producers' cost and prime cost calculations; first proposals and practical introduction of a method to calculate prime costs in farming cooperatives [5, 6, 7];

— theoretical and methodological studies relating to the development, geographic location and planning of agricultural production; practical at-

tempts at application on various (national, regional, county, district, community, farm) levels [8, 9, 10];

— a diversified analysis of the problems and development trends of farm organization and farm management in socialist agriculture [11];

— economics of vegetable growing, with an analysis of the economic and management problems of its development [12];

— organization of researches into the rational utilization of manpower, including detailed analyses of some branches, as well as the elaboration of a method for surveying and organizing the operation of machines in groups [13];

— development of methods regarding income distribution in the farming cooperatives [14];

— researches into the economic and organizational problems of household-plot farming; on plots of cooperative members, workers of state farms, other manual and white-collar workers;

— adaptation, development and application of mathematical methods in solving the country's agro-economic problems [15].

As it may be seen from this short review, the work of the Research Institute for Agricultural Economics represents a substantial part of Hungarian researches going on in the sphere of agricultural economics, and has some influence on the rest of work done in this field. The eighty-odd scientific workers of the Institute, in addition to their participating in the solution of the nation's agro-economic problems, follow up the international progress of their science, contribute to the work in the various international organizations covering agricultural economics and also to some internationally coordinated researches concerning several institutes abroad. The Institute is being frequently visited by workers of agricultural economics coming both from the neighbouring countries and the most distant parts of the world. Being a centre of research concerning the economic and management problems of socialist agriculture, it is mainly connected with the related institutions of other socialist countries; at the same time, however, it is eagerly interested and actively participating in a creative cooperation of scientific workers all over the world.

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Gy. Hevesi

RESEARCH GROUP FOR INDUSTRIAL ECONOMICS OF THE HUNGARIAN ACADEMY OF SCIENCES

The group was founded late in 1960 with the aim of "investigating" — as worded in the letter of foundation — "both theoretically and from the practical aspects of actual conditions and needs of Hungarian industry, such problems of industrial economics as have overall bearing on the construction of socialism". In addition, the group was expected to take part in the coordination of research between the related other institutions working within various industrial ministries, and to maintain connection with other scientific organizations active in this field.

About the same time, scientific institutes for industrial economics and organization started to work in the framework of several industrial ministries covering single industries while others, such as those organized by the Ministry of Finances, the National Planning Office or other comprehensive economic organs, have begun to deal with more general aspects of industrial economics. In view of all this, the Research Group of the Academy of Sciences started within rather modest frames and even now it has not more than about ten scientific and as many assistant workers. Nevertheless, by cooperating with the institutes mentioned and with individual experts it has succeeded in performing or starting several research programs meaningful from both scientific and national-economic aspects. Some of the more important ones are enumerated here.

One of the major aims of research was to investigate *the economic, organizational and social problems connected with the development of fixed assets*. It is known that the utilization of productive equipment is in Hungary well below

the level which is technically possible and economically desirable. A somewhat similar situation seems to prevail in other socialist countries. Thus, production has substantial reserves in this respect. Their utilization depends, however, on many interrelated factors of economic, technological, organizational and social nature. Still, even a moderate actual progress in this field would offer big advantages for the national economy as a whole. The investigations undertaken by the group were basically aimed at analyzing the utilization of productive equipment over time, i.e. the ratio of actual operation hours to the 8760 hours of the year. In this context also the possible effects of a reduction of legal hours of work were given attention. Research has started from the assumption that the negative effect of shorter hours on the utilization of equipment can be balanced or even overcompensated by various measures (e.g., multi-shift regimes, elimination of time losses within shifts, introduction of continuous production methods, etc.). It could be shown indeed that, when using these devices, less increase of labour productivity is enough to compensate the negative effect of shorter hours than without them and, thus, reduction of hours can be scheduled earlier. The research was complemented by testing various production regimes which would allow for two days of rest every week or every second week, even independently of the shortening of the working day.

One of the findings of this research consisted in proving the economic advisability of continuous production regimes even where technological or supply requirements would not make them absolutely inavoidable and where their introduction was opposed up to now on grounds of social considerations. Broad sociological analyses and practical experiments made by the group were able to show that the social disadvantages derived from continuous regimes could be compensated by offering more leisure time to workers, and that the latter's measure would be made possible exactly by the economic gain from an improved utilization of productive equipment.

In this context the Research Group has dealt also with the question how the length of legal working time, work regimes and ratios of machine-hours to total calendar time affect the investment costs of a new project. The findings, in part already published, seem to confirm that these effects are highly important for the national economy, and especially for long-term planning.

The group has elaborated and tested, relying partly on experience gained in the Soviet Union, such work regimes as would allow substantially to reduce the number of night shifts to be performed. It was found that, despite the introduction of continuous operation and even a slight shortening of shift time, the number of night shifts could be reduced by as much as 50 to 70 per cent. This is particularly important because it is essentially the female workers whose night shifts should be made less frequent.

Another aim of the investigation was to assess the economic and organizational problems connected with the *maintenance service* of productive equipment. Modernization in this field is highly urgent because the technological level and labour productivity in maintenance shops is lagging far behind the justified requirements of the productive shops.

The work of the group has gained considerable momentum from an *international symposium* it had organized in 1963, in Budapest. This dealt with the "*economic efficiency in the utilization of fixed assets*". Attention was focussed on problems of improving utilization of industrial equipment in both senses: raising the ratio of machine-hours to calendar time and increasing the output

per machine hour. About 30 papers were presented and discussed, 14 of these were contributed by experts of other socialist countries. The symposium highly praised the suggestions and experiments of the Research Group regarding the introduction of continuous production regimes. In view of the importance of the problems discussed, the participants decided to convene again in two or three years. Accordingly, the Research Group will organize a second symposium to take place in Budapest next April.*

The group has attempted *to elaborate methods for a continuous and many-sided analysis of the reserves for increasing production and productivity.* If such an analysis became an integral part of work of economic and technological leadership in the enterprises, it would reveal vast resources for organizational and technological development and growing rentability in every plant. It was attempted to improve and in part to simplify the methods hitherto elaborated and only sporadically applied. The suggested method was practically tested in two textile plants and in one manufacturing telecommunication equipment. The results were positive and could be confirmed even by increased rentability in the three enterprises.

Another field where, for the first time in our country, systematical investigations were started comprises the *complex analysis of the economic consequences of technological progress,* with particular attention to automation. A method was elaborated for assessing the data and measuring the economic efficiency of recently attained technological development, and another for the purposes of planning, i.e. for the analysis of economic efficiency in alternative variants of technological developments. The application of these methods is served by special training courses organized for experts in technological development in enterprises.

The relationships between technological development and the general laws of economics were analyzed partly by investigations comprising whole industries (e.g., one dealt with the peculiarities of development in precision engineering, another with the application and improvement of production functions in engineering, etc.), and partly by introducing methods of mathematical statistics for the investigation of economic and technical interrelations of technological development.

The general reform of economic control and management, to be introduced in Hungary by 1968, necessitates the extension and intensification of work also in industrial economics, particularly in the scientific and theoretical fields. This necessity was also accounted for in the thematic plan of the Research Group. Still, it is intended to continue work also in the more practical fields enumerated above, and even in a more intensive and more differentiated form. Moreover, the group will redouble efforts in order to attain practical application of such research findings as were undoubtedly proved to be useful.

The Research Group systematically publishes scientific studies in its "Proceedings" appearing at intervals of two to three months. Major papers appear in the periodicals: Közgazdasági Szemle (Economic Review) and Ipargazdaságtan (Industrial Economics), both in Budapest. In 1966 also a book by *Gy. Hevesi,* entitled: "A folyamatos munkarendek alkalmazásának gazdasági, szervezési és szociális kérdései" (Economic, Organizational and Social Questions of Applying Continuous Production Regimes), Budapest, Akadémiai Kiadó, was published.

* In the meantime it has taken place already. —*Ed.*)

BOOK REVIEWS

ERDŐS, P. *Adalékok a mai tőkés pénz, a konjunktúraingadozások és a gazdasági válságok elméletéhez.* (Some Contributions to the Theory of Contemporary Capitalist Money, Economic Fluctuations and Cyclical Crises.) Budapest, 1966. Közgazdasági és Jogi Könyvkiadó, pp. 438.

This book by Peter Erdős, with its rather long but all the more accurate title, summarized the results of intensive research and investigations of almost ten years. In his Introduction, surveying the road covered by bourgeois and Marxian economics (and, at the same time, the development of his own ideas), the author clearly and unequivocally sets the task to be solved: "... a *contemporary* criticism of *contemporary* bourgeois economics must, indeed, not be content with its denial but has to elaborate in the form of positive theses ... a detailed economics of the short-term, transient features of capitalism ..." (p. 7).

Though the volume seemingly stops short before an analysis of the newest phenomena, particularly of those caused by state monopoly capitalism, still, the research as a whole serves the theoretical foundation for an analysis of exactly these most recent phenomena. At the back of each thesis expounded in the book, there looms more or less openly the next question: What and in what manner can do state monopoly capitalism, within its own rules of the game, to influence the economy?

The two fundamental tools of the scientific method applied by P. Erdős are the Marxian *theory of money* and the Marxian *theory of reproduction*. Accordingly, the book falls into two parts. The first treats the money and monetary system of modern capitalism. The second illuminates the major questions of reproduction, business fluctuations and the theory of economic crises.

By applying these theories to the new, changed circumstances of contemporary capitalism, both the theory of money and that of reproduction are being enriched by many new and important theses, which often seemingly contradict the old ones. The author adheres to the spirit of Marxism rather than to its letter. This is highly needed since the theories of money and reproduction as elaborated by Marx in the age of classical capitalism and with the aim of analyzing that system, are not suited *directly* without modifications, for disclosing the *new* features and the *new* forms of movement present in contemporary capitalism.

In its original form, the Marxian theory of money discusses only the laws of the gold currency. It is, therefore, unavoidable further to elaborate it to cover also the modern paper money and banknote "without intrinsic value" which, in domestic circulation, have no connection whatever with gold. In this context, it is also highly important that even these types of money "without intrinsic value" are more and

more pushed out of circulation by the mere symbol of these symbols of money: the "*bank account money*" which, in its turn, is partly subject to particular rules of its own. Thus, the problem of the role of money as a measure of value is raised in an entirely new context and only if this problem is solved both theoretically and practically, can we hope to solve also the problem of how to characterize, assess and measure quantitatively the process of social reproduction in a practically feasible and theoretically satisfactory way, so that the results should allow an intelligent interpretation.

The decisive factor in the author's treatment is that he closely links the value of this contemporary money with the price of labour. Due to this close connection there arises an interrelation between the purchasing power of money and the actual state and tendencies of the social reproduction process which can be comprised in a formula stating that the price coefficient (price level) of consumers' goods is nothing else but the ratio of wages paid to the volume of consumers' goods to be bought by the workers (pp. 133 and 175):

$$P_f = \frac{B}{F - f}$$

where

P_f = price coefficient
B = sum of wages
F = volume of consumers' goods produced
f = consumption by capitalists.

It is perhaps no exaggeration to state that the first part of the book dealing with the theory of money serves mainly to enable the drafting of this central formula, while the second part, expounding the theory of reproduction, presents the movements of the magnitudes figuring in it, by disclosing the vivid dialectics of this seemingly almost tautological definition.

For that, however, a re-thinking of the Marxian theory of reproduction was necessary, so as to conform to the new conditions. And of the two tasks, this is the more difficult one since, while Marx elaborated all essential theses of the theory of money with respect to at least the currency system of his age, his theory of reproduction remained in several respects rough and incomplete. Only a few scattered references indicate the perspectives of the — unfortunately missing — final elaboration even as far as concerns Marx's own age, e.g., also in respect of the economic crises. The second volume of the Capital, edited by Engels, while determining the conditions of a balanced economic growth for the long run, does not discuss the situations deviating from the long-term equilibrium.

Up to now these schemes have not been investigated for their applicability and bearing on the cases of economic disequilibrium, i.e. on situations where the equilibrium conditions of balanced growth are being violated. We have essentially restricted ourselves to such statements, devoid of content and not all too correct, that when the requirements of equilibrium are not met, that is, the supply of means of production by Division I becomes bigger (or smaller) than the production of consumers' goods by Division II and, therefore, the two sides of the so-called "exchange equation" are not equal, the production process will be subject to disturbances and interruptions. The second, more voluminous part of the book is devoted precisely to the description and investigation of such disequilibrium situations by applying the Marxian schemes to them.

One of the central theses of the investigation is that the exchange may in principle remain proportionate to value no matter what proportions prevail between the two Divisions of reproduction. If, therefore, various circumstances bring about a disequilibrium, and thus the scheme in terms of value (hours of work) would indicate, according to the traditional interpretation, the impossibility of realization, even in this case there is a possibility, in an abstract sense, for such an exchange of equal values between the two divisions as may ensure accumulation with unchanged or

regularly changing organic composition of capital. The author follows up in his book the analysis of all these circumstances, beginning with the changes in the nominal wages and in the consumption by capitalists up to those in the proportions of the social product and, in later chapters, in the productive capacity of labour. Thus, in his interpretation, a disequilibrium of the exchange equation does not indicate the impossibility of realization; an excess on the left side, i.e. in the supply of means of production, is even an indication of improved business, while in case the right side becomes bigger, it is a sign of worsening business.

Of course, when the scheme drafted in terms of value indicates "disequilibrium", equilibrium can be re-established only in such way that the *theoretical* and *real* surplus values (and their respective rates) deviate from each other. This conceptual distinction, distinguishing from each other the theoretical and real surplus values, becomes an important tool of analysis in the hands of the author. In his view, from the actual "proportionality" (or "disproportionality") of the reproduction process one cannot and must not draw immediate conclusions on the possibility or impossibility of realization but first and above all on the actual development of the rate of surplus value.

This distinction and the related theses and reasoning are most important because, instead of the stereotype declarations, they indeed prove that the development of business cycles is not determined by the expectations of the capitalists, nor by their anticipation of future trends, but by the major proportions of social reproduction which, once evident, necessarily modify and correct the subjective expectations and attitudes of both the individual capitalists and the class of capitalists as a whole. Even if the capitalist class as a whole expected a diminishing of profits (i.e. of the surplus value), this expectation alone would not suffice to bring about this occurrence.

Up to this point, the author's analysis strictly followed the original two-sector scheme of Marx, expanding reproduction with an unchanged organic composition of capital. It has still produced many surprisingly new statements even here (e.g. an entirely new economic foundation for the strategy of the fight for wages). Now the author extends his analysis to problems not investigated by Marx. First he takes under review the changes in labour productivity. He analyzes in detail the effect of productivity growth on the process of reproduction, emphasizing its tendency to upset equilibrium. Then he expounds on a broader basis the economic possibilities and consequences of the fight of the working class for higher wages. It is particularly important here to realize that a normally functioning capitalist reproduction cannot dispense with rising real wages and thus, in a paradoxical way, the fight for better wages becomes a pre-condition of the normal functioning of capitalist economy.

Finally, the author extends his analysis to the effects of changes in fixed assets, — i.e. their reproduction, replacement, massive renewal and extension. This is, perhaps, his most important contribution to the theory of reproduction. This kind of investigation necessitated the original two-sector scheme to be enlarged to comprise at least three sectors (the third being armaments). However, only in this way does it become possible to reveal the development of the *capitalist business cycle* as distinct from irregular fluctuations, and to analyze it intensively from both quantitative and qualitative aspects.

The book concludes with a chapter analyzing the years of the Great Depression in the USA (1929—1933) on hand of rich statistical material. F. Molnár helped in compiling the data on this chapter. The aim of the chapter is twofold: it partly illustrates the theoretical theses but it can be considered also as the first econometric verification of the author's theory. Evidently, this part of the book raised a host of theoretical, conceptual and statistical problems

which had to be coped with: bridges had to be built from the highly abstract three-sector model to the everyday economic and statistical practice of monopoly capitalism. The adventure proved to be, however, most successful and convincing from both the theoretical and the practical points of view.

Several appendices are attached to the book. These partly relate to the statistical methodology of the last chapter and partly give a general proof for the mathematically formulated theses in the volume. To the latter, B. Martos and Gy. Kondor lent help.

A. BRÓDY

A nemzeti jövedelem-számítás néhány kérdése. (Some Problems of National Income Accounting.) Budapest, 1966. Kossuth Könyvkiadó. pp. 108. (MSZMP Közgazdasági Elméleti Munkaközössége vitái.) (Discussions in the Working Committee on Political Economy of the Hungarian Socialist Workers' Party)

The theoretical foundations of national income accounting constitute an ever recurring subject in the theoretical debates of economists. An important document in this field is the book published by Kossuth Publishing House, Budapest. It is based on the discussions held in June 1964 in the Working Committee on Political Economy of the Hungarian Socialist Workers' Party. The study entitled "Some major theoretical and methodological problems of national income accounting" prepared by the Central Statistical Office, served as a starting point for the discussions. From among a great number of subjects covering a wide field which came up for discussion, the authors focussed their interest on those which bear decisively on the direction of future development. The theoretical discussions were mainly connected with the ideas expounded in the first chapter, entitled "The scope of national income accounting". The second and third chapters (National income and the price system — Information on the international comparison of national income and the tasks connected with the further development of national income accounting) were prepared by the authors themselves for the sake of information only; however, they are naturally also closely connected with the first chapter which they even complement in a sense.

In the view of the authors of the paper, the present methodology of national income accounting was practically established on grounds of the following considerations:

1. national income is equal to the new value created within a definite period;

2. new value is created only in productive processes;

3. only the turning out of material goods can be considered as production.

It follows that national income as accounted in actual practice in this country does not reflect the major part of activity in the service industries since these branches do not turn out tangible products in material form. Thus, the computations do not give true account of the country's economic situation. The consumption fund shown in national income accountings and consumption by the population as considered from the point of view of living standards do not cover an identical field. There are several contradictions between the data showing the distribution of national income and the financial accounts, as well as in the data intended to express the growth rate and pattern of national income. To solve this problem,the authors proposed to take into account *all socially necessary service activities* as contributions to national income (p. 19—21).

The majority of those contributing to the debate dealt with the contradictions manifesting themselves between practical needs and the recording requirements for purposes of long-term planning and other economic analyses on the one hand and the actual practice of national income accounting on the other. The increase in living standards of the population can, obviously, be worked out on the basis of the growth rate of national income. But in order to

determine the standard of living, the wide range of services must also be taken into account which are at present neglected in the accountings — indeed, as shown by international experiences, the proportion of services to material consumption is on the increase. Therefore, in their present form the national income accounts are an insufficient starting point for the determination of the growth rate in living standards. The growth rates of national income and of living standards may appear highly divergent, depending on the trend of the services not accounted for at present in national income. Several contributors pointed to the harm done by the old narrow concept to the development of services and thereby to production.

Some of the contributors thought — as did the authors of the background paper — to solve the problem by extending the concept of national income, while others wanted to introduce new terms, indicators and balances to this end. Several proposals were advanced concerning both the theoretical principles to be employed in defining the concept of national income and the solution of the theoretical and methodological problems. The view put forward in the course of the debate, according to which "... the structure of each of the synthetical balances should be determined according to the tasks it has to perform" (p. 49) is also worth attention.

From the debate the consensus of opinion emerged that the actual practice of national income accountings answered no longer the theoretical and practical requirements of the age, nor those of present-day Hungarian conditions. However, up to now we have not succeeded in working out a new concept of national income which would answer both practical considerations and theoretical requirements. As a matter of fact, this will involve the solution of a whole series of problems of Marxian political economy which have not yet been sufficiently cleared up. Accordingly, for some time we will probably have to content ourselves with two different concepts. The first will be the old national income concept, needed in any case to measure economic progress and to make comparisons with other socialist countries. The second will be an extended concept of national income, embracing the services which influence the standard of living, and a corresponding system of record-keeping, both required for the purposes of long-term welfare planning.

L. Bors

(Mrs.) Burger, K., *A fogyasztói szolgáltatások egyes közgazdasági kérdései.* (Some Economic Problems of Consumers' Services). Budapest, 1965. Közgazdasági és Jogi Könyvkiadó. pp. 300.

The book begins with the following sentence: "The development of services in our age has aroused the growing interest of economists." But the fact that the book is a timely publication is not explained simply by this single sentence, however correctly worded. However timely, exacting and thought-provoking the reasonings of the treatise about the economic role, the tasks and the development of services, these subjects have not yet been fully "naturalized" in Marxian literature and this more or less applies also to other than Hungarian economic literature as well.

The author is concerned, first of all, with the exact definition of the concept of services and their economic interpretation, proceeding then to classify and group these diversified activities in a rational manner. The connection between services and commodity production and the role of services in social production and in the economic organization of society are extensively dealt with. This is followed by a comprehensive survey and evaluation of the economic discussions going on about the character of service activities and of the problem whether they are creating value or not.

The author analyzes the development of prices of services in Hungary, and compares them with international data. Within

the framework of a survey of the economic role of services the reader is acquainted in detail with the situation in Hungary and some other socialist countries. In the course of the reasoning, the author touches upon some problems of economic policy related to consumers' services, such as e.g. the prospective trends of services and the planning, organizational, management and incentive systems deemed appropriate in this connection. The appendices to the book help the reader to orientate and obtain a clearer survey. They include, among others, the nomenclature of consumers' services, and a calculation relating to the profitability of these services. A brief summary of the book in English and a detailed bibliography complete the volume.

On reading the book, the reader may come to recognize — as is now often the case with the creative revival of economics in recent years — that some of our fixed and generally used terms and categories could be considered Marxistic only on the basis of a narrow dogmatic interpretation of Marxism. The contrasting of frequently narrow practices with the ideas of Marx, with the major works of the Marxist classics, will certainly lead to surprising results. This type of contrasting has been carried out by the author in respect of services. She proves with a whole series of logical arguments that Marx has warned us not to narrow down the concept of material production to turning out something actually tangible. Quotations from Marx go to show that he considered a substantial share of services as part of material production, and there is nothing to justify the present-day practice whereby — deviating from the original concept — the frontiers of material production and the scope of productive activity are set according to a limited concept. The author intends to fight this unwarrantedly limited concept, stressing the necessity for political economy and economic practice to revise their earlier standpoints in connection with a significant part of services.

In the chapter on the price of services, the author is right in pointing out that the backward tendencies in political economy over the past two decades, and the rigidity of economic policy — not independent of the former tendencies — as well as the limited concept of services all acted towards pushing into the background the essential problems of the servicing activities. It is partly due to these facts that the prices of services did not develop in conformity with the actual conditions of production and consumption, with inputs, demand and supply. This trend in the formation of prices, in turn, hinders the development of the servicing industries necessary for the adequate satisfaction of actual needs.

The author deals in detail with the connections between services, commodity production and national income. In her reasoning, she starts from the fundamentally correct view that the concept of national income should be extended beyond the scope of material production. She discards the definition of national income in terms of material production and instead of the criterion of producing material goods she advocates that of commodity production — though this solution is debatable from several points of view.

Summing up, it may be stated that by giving a comprehensive survey of the problem of services the author endeavoured to make up for a long existing deficiency and, according to the testimony of the volume, she did so with competence and with no little success.

I. Huszár

Garamvölgyi, K.: *Mezőgazdaságunk szocialista átalakitása* (Социалистическое преобразование сельского хозяйства в Венгрии) Budapest, 1965. Kossuth Könyvkiadó. 390 стр.

Один из наиболее значительных переломов венгерской истории был совершен несколько лет назад, когда в 1959—1961 годах была завершена социалистическая реорганизация сельского хозяйства в Венгрии. Об этом историческом переломе говорится в книге Кароя Гарамвельди. В ней обобщен главный опыт социалистиче-

ского аграрного преобразования, проанализированы экономические и общественные аспекты реорганизации.

Книга, кроме введения, содержит три главы. В первой главе дается обзор общего развития венгерского кооперативного движения в 1948—1961 годах. Вторая и третья главы рассматривают общественные, экономические проблемы осуществления т. н. «двойной задачи» (а именно: увеличение — одновременно с реорганизацией — производства сельскохозяйственной продукции).

Крупным результатом и наиболее заслуживающей внимания чертой социалистического преобразования венгерского сельского хозяйства — подчеркивается в книге, — является то обстоятельство, что в 1959—1961 гг. одновременно с организацией производственных кооперативов росла валовая и товарная продукция сельского хозяйства. Посевная структура изменилась в сторону интенсификации, возросла доля культур, дающих с единицы площади более ценную продукцию (овощи, виноград, фрукты). Увеличилась также и продукция животноводства.

Автор не только подчеркивает, но и детально показывает, что с созданием кооперативных рамок, с объединением крестьянских хозяйств в производственные кооперативы не заканчивается, а лишь начинается организация крупного социалистического производства в сельском хозяйстве. Следует постепенно создавать современные крупные хозяйства, ведущие современное хозяйствование; необходимо создать материальные, технические, научные основы массового, более дешевого производства. Это займет целый исторический период и потребует больших усилий.

В книге рассматриваются также и территориальные проблемы венгерского сельского хозяйства, в том числе и кооперативного производства. При помощи детализированных по районам карт автор иллюстрирует, с какими основными условиями взаимосвязано формирование производственного уровня, хозяйственных результатов отдельных областей. В связи с этим он развивает мысль о том, что так как между производственными кооперативами имеются большие различия в условиях производства и хозяйственной деятельности, то должны быть расхождения и в их методах хозяйствования. Шаблонность в хозяйственной деятельности может только повредить. Правильнее, если кооперативные хозяйства, анализируя свои условия, исходя из них, стараются выбирать наиболее подходящую производственную структуру, способы, методы хозяйственной деятельности. Этому должны способствовать также и органы хозяйственного управления и мероприятия экономической политики. Следует применять более простые организационные решешия там, где сегодня это еще возможно. Изменяя условия, следует создать обстоятельства, способствующие продвижению вперед в направлении методов и способов, характерных для более развитых, социалистических отношений и современного крупного производства.

Книга Кароя Гарамвельди является первым трудом в венгерской экономической литературе, дающим широкий обзор и анализ революционного преобразования, совершенного в венгерском сельском хозяйстве. Книга опирается на обширную базу статистических данных, а также на отечественную и зарубежную специальную литературу, дает многостороннюю информацию о всех важных вопросах данной темы.

М. Чизмадиа

Hungarian Statistical Publications in Foreign Languages

The Hungarian Central Statistical Office not only affords the possibility to study statistical literature to the interested public in Hungary but endeavours also to meet the requirements of readers abroad by its publications in foreign languages.

The most comprehensive of all statistical publications is the annually published data collection "Statisztikai Évkönyv" (Statistical Yearbook). Full translations in English and Russian were first published

in 1957, in separate volumes. The second publication prepared in the same form contained the data relating to 1963. Since 1965, the form of publication changed and a bilingual translation is published in one volume. This publication of the Central Statistical Office contains 21 chapters in nearly 400 pages. It covers all fields where regular data collection exists. It presents Hungary's population data and demographic trends. National income, investment and employment are surveyed. The volume reviews the country's industry, construction, agriculture, transportation, foreign trade and tourism. It gives a picture of the living standards of the population, of the housing situation, cultural achievements and the health situation. The Yearbook enables comparisons for several years back and presents the data relating to the last year in various combinations.

Another regular publication is called "Magyar Statisztikai Zsebkönyv" (Statistical Pocket Book of Hungary), published separately in English and Russian. Aim of the publication is to provide numerical information for those wishing to become acquainted with the social and economic life of Hungary without getting involved in minor details. Therefore, the Pocket Book publishes only the characteristic data which would most frequently be looked up. In its structure, the Pocket Book follows the Yearbook.

The various popular publications of informative character take an important place in statistical literature. By publishing such booklets, the Statistical Office set itself the aim of providing both domestic and foreign readers with publications which, though without scientific aspirations, present the life of Hungary by using statistical data in a readable way and employing many charts and pictures. One of these publications, "Mai Magyarország" (Hungary Today) appears every fourth year in Hungarian, English, French, German and Russian.

Monthly information on the current social and economic situation is provided by the data published in "Statisztikai Havi Közlemények" (Monthly Bulletin of Statistics). The Bulletin falls into three parts. The first contains the monthly figures. To this part, a "key" in English and in Russian is available. The second part contains some important and less frequently available data in annual, half-yearly or quarterly breakdown, as the case may be. The aim of the third part is to facilitate the work of those in search for data relating to some particular field. This part also contains a list of the publications of the Central Statistical Office, grouped according to subject.

The proceedings of international conferences organized by the Statistical Office or its institutions are also regularly published in foreign languages. In 1962, the papers delivered at the Statistical Scientific Conference were published in two separate volumes: *Input-Output Tables* (Budapest, 1962, Akadémiai Kiadó) and *The Standard of Living* (Budapest, 1962, Akadémiai Kiadó). The same volumes were published in the U.S.S.R. in 1966 in Russian language. The minutes of the Demographical Symposion, 1962, were also published under the title: *Studies on Fertility and Social Mobility* (Budapest, 1964, Akadémiai Kiadó).

J. Juhász

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Printed in Hungary

A kiadásért felel az Akadémiai Kiadó igazgatója — Műszaki szerkesztő: Farkas Sándor

A kézirat nyomdába érkezett: 1967. IV. 1. — Terjedelem: 13,25 (A/5) ív, 4 ábra, 1 melléklet

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27. VI. 1967

Index: 26.011

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FASC. 3
1967

ACTA OECONOMICA

A MAGYAR TUDOMÁNYOS AKADÉMIA
IDEGEN NYELVŰ KÖZGAZDASÁGTUDOMÁNYI FOLYÓIRATA

Felelős szerkesztő:

FÖLDI TAMÁS

Szerkesztőség: Budapest V., Nádor utca 7.

Megjelenik negyedévenként, évi 1 kötetben. Előfizetési díja belföldre 120,— Ft, külföldre 165,— Ft kötetenként. Megrendelhető az Akadémiai Kiadónál (Bp. V., Alkotmány u. 21), a külföld részére pedig a Kultúra Könyv és Hírlap Külkereskedelmi Vállalatnál (Budapest I., Fő u. 32).

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Т. НАДЬ

ЦЕНЫ ПРИ СОЦИАЛИЗМЕ*

Фундаментальные требования по отношению к системе цен. — Стоимость и ее превращенная форма при социализме. — Стоимость и международное разделение труда. — Связь внутренних цен с внешнеторговыми ценами. — Цена и рыночные отношения. — Цена и государственные преференции. — Непосредственное государственное регулирование цен.

В той системе социалистической плановой экономики (в том хозяйственном механизме), в которой осуществляется органическое единство народнохозяйственного планирования и рынка, и где планомерное центральное управление реализуется, главным образом, с помощью экономических средств, цены как элемент товарных отношений играют очень значительную роль. Цены оказывают большое влияние на все моменты процесса общественного воспроизводства: на производство, распределение доходов, обращение и потребление. *Основное требование* к системе цен в социалистической плановой экономике заключается в том, чтобы она через величину цен различных продуктов и через зависимость рентабельности от цены правильно — т. е. в соответствии с интересами общества — ориентировала и стимулировала производителей и потребителей в их хозяйственных решениях (действиях). Тем самым, система цен должна способствовать рациональному использованию хозяйственных ресурсов, благоприятному взаимодействию производства и платежеспособных потребностей (приспособлению производства к потребностям и распространению новых, современных изделий), формированию экономичной структуры потребления, равновесию спроса и предложения и посредством всего этого — уравновешенному развитию народного хозяйства с оптимальными темпами.

Система цен удовлетворяет этим требованиям в том случае, если цены образуются под общим действием следующих главных факторов:

— общественно необходимые затраты; — рыночные отношения; — государственные преференции.

* Данная статья является сокращенным вариантом главы «Цены при социализме» учебника политической экономии, подготавливаемого на кафедре политической экономии Экономического Института им. Карла Маркса. Статья не содержит следующих разделов главы учебника: «Стоимость, фабрично-заводская себестоимость и прибыль в промышленности», «Стоимость и доход производственных кооперативов в сельском хозяйстве», «Теневые цены». Вопросом действия закона стоимости при социализме занимается другая глава проекта учебника.

Стоимость и ее превращенная форма при социализме

В связи с изменением величины цен и — при существовании социалистической плановой экономики — в связи с рациональной величиной цен экономическая теория имеет двойственную задачу. С одной стороны, она должна объяснить долгосрочную тенденцию изменения цен (соотношений цен), иными словами, центр движения цен. С другой стороны, она должна объяснить постоянное отклонение цен от этого центра на короткий период, рациональные, конкретные величины цен (соотношения цен). Теория стоимости выполняет первую задачу. Значит, теория стоимости служит базой для теории цен, но последняя является более конкретной, богаче первой.

Основная характерная черта *теории стоимости Маркса* (разработанной для условий товарного производства, основанного на частной собственности на средства производства) заключается в том, что она объясняет центр движения цен в указанном выше смысле изменением условий *производства*, фактических *затрат*, учитывая среди затрат особую роль человеческого труда. Объяснение этому дается двумя этапами.

Сначала устанавливается на весьма высокой ступени абстракции, что общественная *стоимость* единицы какого-либо товара определяется общественно необходимыми затратами труда для ее производства (т. е. взвешенной общественной средней различных фактических затрат отдельных товаропроизводителей)*. На этой ступени теория еще абстрагирует от того факта, что при капитализме товары производятся капиталистическими предприятиями, и не учитывает, отвлекаются ли и в какой мере ресурсы, созданные трудом (накопленные орудия и предметы труда), или ограниченные природные ресурсы.

На втором этапе Маркс более конкретно изучает центр движения цен уже в условиях капиталистического товарного производства и приходит к заключению, что здесь не стоимость, а ее *превращенная форма* составляет центр движения цен. Величина последней отличается от величины стоимости (средних затрат труда) из-за причин, объясняемых в теории нормы средней прибыли, цены производства и земельной ренты. Если *стоимость* различных товаров содержит общественную m пропорционально общественно необходимым затратам, то *превращенная форма* их стоимости содержит обычно больше или меньше m в результате отклонения от величины стоимости. По существу, в этом отклонении уже в капиталистических условиях выражается более общая взаимосвязь, заключающаяся в том, что для производства различных продуктов требуется различное количество ограниченных накопленных продуктов труда и более благоприятных ресурсов,

* Здесь и в дальнейшем под затратами труда подразумеваются т. н. *текущие* затраты труда, т. е. количество затраченного живого труда плюс часть овеществленного труда, перенесенного использованными средствами производства на новый продукт.

т. е. не только затрат труда, но также и прочих затрат (условий труда, экономящих труд), которыми общество должно рационально распоряжаться, чтобы эффект этих затрат — экономия труда — как можно лучше использовался. Это требует отражения величины использованных условий производства, экономящих труд, в соотношении цен произведенных продуктов. Маркс не занимался этой более общей взаимосвязью, поскольку он изучал капиталистическую систему хозяйства, естественно, не с точки зрения осуществления общих требований рационального ведения хозяйства, а, прежде всего, как систему, — исторически переходную, — обреченную на гибель в результате обострения внутренних противоречий.

Превращенная форма стоимости у Маркса находится в тесной связи со стоимостью как категория, производная от нее. Во-первых, рост производительности труда на длительный период, разными темпами в производстве различных продуктов, уменьшает разными темпами не только величину стоимости продуктов, но, в свою очередь, и величину превращенной формы их стоимости. Значит, изменение затрат труда на длительный период является основным фактором изменения соотношений цен различных продуктов (товаров). Во-вторых, хотя в превращенной форме стоимости отдельных продуктов реализуется больше или меньше m, чем в их стоимости, эти плюсы и минусы m взаимно погашаются в масштабе всего общества.

Следовательно, согласно теории стоимости Маркса на более конкретной ступени теории, в условиях капиталистического товарного производства, можно рассматривать превращенную форму стоимости как *общественно необходимые затраты*, т. е. общественные затраты, признаваемые в рыночных ценах на длительный период. Эти затраты играют основную роль в формировании цен, поскольку они определяют долгосрочную тенденцию движения цен (соотношений цен). Конкретные рыночные цены постоянно отклоняются от этой точки тяготения, но как раз отклонения приводят в движение силы, устраняющие их.

Превращенная форма стоимости выступает как центр цен, выражающий долгосрочную тенденцию движения цен (соотношений цен), как общественно необходимые затраты и *в условиях социалистического товарного производства*. Это обстоятельство вызывается при социализме прежде всего требованиями рационального ведения хозяйства по следующим причинам:

1. В условиях расширенного воспроизводства, основанного на современной машинной технике, значение отвлеченных средств (основных и оборотных) в хозяйстве велико. С одной стороны, потому, что одинаковые затраты труда в производстве различных товаров, в различных отраслях промышленности и т. д. связаны с весьма различным количеством отвлеченных средств (содержащих различное количество труда), т. е. фондоемкость разных товаров отличается друг от друга. Поэтому, для расширения их производства в одном и том же размере необходима различная величина отвле-

чения новых средств (дальнейших вложений труда, овеществленного в средствах производства). С другой стороны, потому, что величина труда, необходимого для производства единицы данного товара, сильно зависит от величины отвлеченных средств (овеществленного в них труда). Дело в том, что с ростом количества отвлеченных средств в расчете на одного работника можно применять технику (более фондоемкий производственный метод), снижающую текущие затраты труда, прежде всего затраты живого труда на единицу продукции. А если общество вкладывает средства (условия труда, экономящие труд) в определенной области, то оно не может ожидать от них экономии труда в другой области. Поскольку общество не располагает в избытке не только трудом, но и отвлекаемыми средствами (которые должны быть накоплены из части национального дохода в процессе расширенного производства), поэтому необходимо и их *рационально* использовать, экономить. Поэтому основное требование к ценам (цены должны правильно ориентировать и стимулировать в хозяйственных решениях) делает необходимым, чтобы различие фондоемкости разных продуктов отражалось соответствующим образом в соотношениях центров цен; чтобы продукт, производство которого отвлекает больше средств при одинаковых затратах труда, был дороже. Правда, среди затрат труда на продукт фигурирует и амортизация, а ее удельный вес зависит от величины отвлеченных средств в расчете на одного рабочего. Но, во-первых, размер амортизации выражает величину потребленных, а не вложенных основных средств. (Сумма амортизации, приходящаяся на одного рабочего, может быть относительно невелика даже при наличии большого количества основных средств, если срок службы данных основных средств весьма длинен.) Ее основная функция заключается в возмещении износа основных средств. Следовательно, расширение производства требует дополнительного вложения основных средств (не покрываемого амортизацией), к тому же в большем размере для более фондоемких отраслей, групп изделий. Во-вторых, величина отвлеченных оборотных фондов совсем не отражается среди затрат труда на производство продуктов, ведь в затраты входят только использованные материалы (но не отвлеченные запасы). А регулярное расширение производства требует еще и дополнительного отвлечения оборотных средств, причем различной в различных отраслях промышленности, по группам изделий величины. Указанные отличия в размере отвлеченных средств могут соответственно отражаться в центре цен только в случае, если в центре цен отдельных товаров, помимо издержек зарплаты в общественно необходимых затратах труда, реализуется m в количестве, зависящем от размера вложенных средств и позволяющем осуществить систематическое расширенное воспроизводство данного товара (приращение основных и оборотных средств). Таким образом, значительная часть m всего общества (т. е. часть национального дохода сверх издержек на зарплату) *реализуется в ценах пропорционально вложенным*

средствам. Центры цен такого типа обычно называют, согласно Марксу, ценами типа цены производства. Реализация части m всего общества пропорционально средствам в центре цен выражает то, *что с точки зрения общества в качестве затрат, необходимых для производства различных продуктов, надо учитывать не просто (текущие) затраты труда, но и количество труда, необходимое для расширения производства в форме отвлеченных средств.* Последними затратами нельзя пренебрегать в рациональном хозяйстве — как раз в целях максимальной общественной экономии труда с помощью вложения средств.

Однако здесь мы не должны забывать о некоторых специфических и важных различиях между производственными отношениями социализма и капитализма. При социализме основная часть общественных затрат по расширенному воспроизводству рабочей силы, в частности, подавляющая часть разовых и текущих затрат, связанных с обучением и повышением квалификации, покрывается государством, а при капитализме эти последние затраты, в основном, — хотя и в уменьшающейся доле, — покрываются за счет зарплаты. Далее, при такой системе социалистической плановой экономики, в которой члены коллектива предприятий, помимо своей зарплаты, участвуют в различных формах в прибыли предприятия, эти дополнения к зарплате причисляются к общественным затратам воспроизводства рабочей силы.

Из всего сказанного следует, с одной стороны, что отношение m всего общества (части национального дохода сверх зарплаты) к v (зарплате) при социализме соответственно больше. С другой стороны, часть m всего общества должна распределяться в центрах цен пропорционально не отвлеченным в производстве средствам, а различным затратам труда, т. е. по существу, *пропорционально издержкам зарплаты.*

2. Среди ограниченных *природных* ресурсов (более благоприятных условий труда) *земля* имеет наибольшее значение в образовании центра цен, отклоняющегося от стоимости (от средних затрат труда), т. е. превращенной формы стоимости. С экономической точки зрения ограниченной надо считать не землю вообще (ведь имеются и плохие земли, на которые не стоит тратить труд и средства), а землю лучшего качества (т. е. землю, лучше наихудшей из еще обрабатываемых при рациональном ведении хозяйства земель). Дело в том, что для обеспечения общественно необходимых размеров сельскохозяйственного производства надо обрабатывать и менее плодородные земли (т. е. прилагать труд в менее благоприятных условиях). Используя лучшие земли, можно сэкономить затраты труда (и отвлечение средств, т. е. косвенно опять-таки труд). Значит, и на этих землях надо вести рациональное хозяйство, т. е. так, чтобы возможная экономия труда была наибольшей для общества. Размер эффекта от экономии труда на лучших землях равняется разнице между необходимыми затратами на худших и лучших землях.

Если общество занимает лучшие земли для производства определенных сельскохозяйственных продуктов (или их части), то в результате этого другие продукты (или часть их количества) вытесняются на худшие земли. Поэтому, *с общественной точки зрения, необходимые затраты на продукты, произведенные на лучших землях, не ограничиваются лишь фактическими затратами труда на эти продукты, а содержат также и дополнительное количество труда (дифференциальные затраты труда), требуемое из-за использования худших земель.* Таким образом, использование всех лучших земель — в соответствии с величиной эффекта по экономии труда — выражается в общественно необходимых затратах на отдельные сельскохозяйственные продукты, и в соответствии с этим в центре цен сельскохозяйственных продуктов, кроме общественных затрат труда (т. е. издержек зарплаты), необходимо реализовать часть m не только в зависимости от величины издержек зарплаты и вложенных средств (как в промышленности), но также и в зависимости от величины использования лучших земель.

Следовательно, в ценах на сельскохозяйственные продукты при их рациональном *уровне* из m всего общества реализуется больше, чем соответствует затратам сельскохозяйственного труда и вложению средств. Далее, в *соотношениях* цен на различные сельскохозяйственные продукты реализуется больше или меньше m в зависимости от необходимости занимать под их производство больше или меньше земли, по сравнению с затратами труда (отвлечению средств). Так проявляется признание социалистическим обществом в превращенной форме стоимости использования земель в качестве необходимой затраты.

Следовательно, и в социалистическом товарном производстве действие закона стоимости выдвигает в качестве длительной тенденции движения цен, иными словами, центра цен не саму стоимость, а ее превращенную форму, т. е. такой центр цен продуктов, в котором часть m всего общества реализуется пропорционально затратам, часть — пропорционально отвлеченным средствам, и часть — пропорционально использованной земли. В дальнейшем, для краткости, превращенную форму стоимости мы будем называть стоимостью.

Стоимость и международное разделение труда

Стоимость, а значит, долгосрочный центр движения цен (соотношений цен) определяется общественно необходимыми затратами. Возникает, однако, вопрос, к какому кругу, к какой области относится выражение «общественно».

Стоимость выражает отношение между производителями, связанными общественным разделением труда и, на этой основе, товарным обменом,

рынком. Если в теории мы предполагаем полностью замкнутые национальные хозяйства, то на национальных рынках, изолированных друг от друга, существовали бы только отдельные *национальные* стоимости, определяемые необходимыми затратами в масштабах национального хозяйства. Если теоретически мы предполагаем полную ликвидацию обособления национальных хозяйств, существования отдельных национальных рынков, — т. е. совсем свободный перелив товаров, капитала и рабочей силы в мире и прекращение особой экономической политики государств, значит, существование только единого мирового рынка, — то существовала бы только *международная* стоимость, определяемая необходимыми затратами в мировом масштабе.

В действительности, однако, имеется такое положение, что национальные хозяйства, с одной стороны, обособляются, существуют отдельные национальные рынки, а с другой стороны, они связываются международным разделением труда, внешней торговлей, следовательно, существует и мировой рынок. В таких условиях *товары имеют и национальную и международную стоимость, которые, функционируя рядом, обе играют роль в определении долгосрочного движения центра цен (соотношений цен) на внутренних (национальных) рынках.*

Международная стоимость — это средневзвешенная национальных стоимостей продуктов, поступающих во внешнеторговый оборот (на мировой рынок). Мировой рынок признает более интенсивный и более производительный национальный труд трудом, создающим большую стоимость за одно и то же время. Конечно, и международная стоимость определяет только долгосрочную тенденцию соотношений цен на мировом рынке, осуществлению же этой тенденции мешают противодействующие силы (монополия, финансовая власть, государственное вмешательство). Кроме того, тенденция к объединению национальных рынков проявляется в разной степени у различных продуктов. Существуют типично внешнеторговые товары, и есть такие, обмен которых не выходит за рамки национального рынка (по своей природе нетранспортабельные товары, или же их транспортные расходы слишком велики и т. д.). Эти последние и не имеют международной стоимости.

Национальная стоимость определяется необходимыми затратами в соответствии с национальными условиями производства. Абсолютная величина и соотношения этих затрат, т. е. величина и соотношения национальных стоимостей, более или менее отличаются от величины и соотношений международных стоимостей.

Отклонение *соотношений* национальных стоимостей от *соотношений* международных стоимостей имеет большое значение для каждой страны с точки зрения выгод, получаемых из международного разделения труда, из внешней торговли. Дело в том, что для данной страны выгодно развивать производство для экспорта тех продуктов, у которых соотношение отечест-

венных затрат (национальной стоимости) к международной стоимости благоприятнее для страны или может стать более благоприятным, чем по другим продуктам, и сокращать экспорт (даже заменять отечественное производство импортом, если это не противоречит специальным соображениям) тех продуктов, по которым нет надежды на должное снижение относительно высоких отечественных затрат (национальной стоимости) по отношению к международной стоимости. Если страна поступает таким образом, то она использует посредством внешней торговли т. н. *сравнительные преимущества**

Через международную специализацию, использующую сравнительные преимущества, международная стоимость, формирующаяся на базе национальных стоимостей, оказывает обратное влияние на последние. *Дело в том что соотношения национальных стоимостей приближаются к соотношениям международной стоимости*, потому что изменяются национальные условия производства, поскольку снижаются поизводственные затраты на продукты (группы продуктов), производимые внутри страны относительно неблагоприятно, или сокращают, прекращают их производство. Однако отклонения соотношений стоимостей нельзя полностью ликвидировать. В стране всегда будут производиться продукты (группы продуктов), у которых отношение национальной стоимости к международной выгоднее, и такие, у которых это соотношение менее выгодно, чем в среднем. Первые можно экспортировать по цене, относительно высокой по сравнению с их национальной стоимостью, и поэтому, как правило, обоснованно, чтобы и отечественные потребители платили за них более высокую цену. Последние можно импортировать по цене, относительно низкой, по сравнению с их национальной стоимостью, и поэтому, как правило, обоснованно, чтобы их цена была ниже и на внутреннем рынке. Свободное действие рыночного механизма приводит к формированию таких внутренних соотношений цен.

Из вышесказанного следует, что чем больше включается какая-нибудь страна в международное разделение труда, и чем свободнее действует рыночный механизм в международной торговле, тем больше определяются соотношения центров цен на внутреннем рынке страны на длительный период *соотношениями международных стоимостей.*

Однако свободное действие рыночного механизма в международной торговле всегда ограничивалось, в большей или меньшей степени, государственным вмешательством, что нельзя рассматривать даже в отношении капиталистических стран просто как защиту интересов отечественного капитала

* С точки зрения использования сравнительных преимуществ, конечно, важно только соотношение отечественных затрат к фактическим внешнеторговым ценам, действующим для данной страны (ведь поступления от экспорта и издержки импорта зависят от этих фактических цен), а не возможное отклонение внешнеторговых цен от международной стоимости. Однако здесь — в сильно абстрактной теории — мы можем не учитывать этих отклонений, также как и транспортных и прочих издержек торговли, имеющихся при экспорте и импорте.

— конечно, прежде всего, монополистического капитала — а в определенной мере и как выражение общественных (национальных) интересов. Несоциалистические страны, отстающие от международного передового уровня развития производительных сил, не могут обойтись без сознательного применения общественных (государственных) средств защиты отечественного производства и внутреннего рынка, определенного органичения импорта и поощрения экспорта, если они хотят за сравнительно короткий период подняться на значительно более высокую ступень экономического развития. *В отношении социалистических стран к этому еще прибавляется требование обеспечения планомерного развития, что уже заведомо исключает оставление народного хозяйства на волю сил, действующих на капиталистическом мировом рынке.* Наконец, проблема еще более усложняется фактом параллельного существования капиталистического и социалистического мирового рынка, экономические формы разделения труда и обмена продуктов, а также соотношения цен на которых существенно отличаются друг от друга. Следовательно, если социалистическая страна осуществляет систему (тип) планового хозяйства, основанную на органическом единстве планирования и рынка, то она должна применять различные средства государственного регулирования внешней торговли. Такими могут быть, например, система таможенных пошлин, субсидирование и возможное налогообложение экспорта, контингентирование импорта и экспорта и т. д. Поскольку система пошлин предоставляет определенную защиту отечественному производству против конкуренции несоциалистического импорта, поскольку государство субсидирует часть экспорта и, возможно, облагает чрезмерно высокие прибыли от экспорта, поскольку оно с помощью контингентов тормозит возможное влияние конкуренции импорта в сторону снижения цен и экспорта в сторону роста цен, постольку оно, по существу, способствует формированию *национальных* соотношений стоимостей, отличных от международных соотношений стоимости, как тенденции в соотношениях цен на внутреннем рынке. Роль национальных соотношений стоимостей в ценообразовании расширяется также указанным уже фактом, что значительная часть товаров не имеет международной стоимости.

Значит, мы можем сделать окончательный вывод, заключающийся в том, что на внутреннем рынке в определении центров цен на длительный период играют роль не только соотношения международных стоимостей, но также и соотношения внутренних стоимостей, отличные от них. Это такое противоречие действительности, которое также нельзя устранить, а надо стремиться к созданию наиболее благоприятной формы его движения. Для этого необходимо установить правильную связь между внутренними и внешнеторговыми ценами.

Связь внутренних цен с внешнеторговыми ценами

В том типе системы социалистического планового хозяйства, в котором роль рынка сильно ограничена, внутренние цены (соотношения цен) оторваны от внешнеторговых цен (соотношений цен). Получаемая производственными предприятиями цена за экспортную продукцию в форинтах, по существу, независима от внешней цены реализации данного продукта, а цена импортных продуктов в форинтах только очень слабо или совсем не связана с ценами приобретения за границей. Это обстоятельство технически осуществляется через сложную систему внешнеторговых субсидий и обложений (т. н. выравнивания цен). Отрыв внутренних соотношений цен от внешнеторговых цен мешает благоприятному с точки зрения народного хозяйства развитию структуры отечественного производства, экспорта и импорта, использованию сравнительных преимуществ. Он преграждает путь влиянию внешних рыночных импульсов на деятельность производственных предприятий, дезориентирует внутреннее производство, обеспечивает ему тепличные условия и, тем самым, порождает тенденцию к самоуспокоенности.

А рациональная система цен должна обеспечить правильную связь внутренних цен с внешнеторговыми ценами. Такая связь возможна и вместе с тем необходима в том типе системы социалистического планового хозяйства, в котором осуществляется органическая связь планирования и рынка.

Для установления правильной связи между этими двумя видами цен прежде всего необходимо, чтобы государство установило реальные и *единые коэффициенты пересчета валюты, с помощью* которых пересчитываются на форинт цены, действующие во внешней торговле, получаемые или выплачиваемые суммы в иностранной валюте. Реальные коэффициенты пересчета валюты способствуют созданию равновесия между спросом предприятий на иностранные платежные средства и предложением, определяемым возможностями страны по приобретению валюты, и правильно ориентируют предприятия в решениях относительно товарного состава, а также территориального размещения (по странам) экспорта и импорта. Правильной основой определения таких коэффициентов пересчета валюты служат народнохозяйственные издержки (затраты) по приобретению валюты, т. е. ее «*выработки*» с помощью экспорта. В новой хозяйственной системе вступят в силу коэффициенты пересчета валюты, установленные на основе *средних* народнохозяйственных затрат по «выработке» рубля и доллара. Величина этих коэффициентов пересчета валюты в настоящих условиях превышает как нынешний валютный курс, соответствующий официальному золотому содержанию форинта, так и валютные курсы, действующие в неторговом (например, туристическом) обороте.

Для установления правильной связи между внутренними и внешнеторговыми ценами реальные коэффициенты пересчета валюты недостаточны,

а — как уже указывалось — необходимо применять различные средства защиты отечественного производства (отечественного рынка), поощрения экспорта и государственного регулирования внешней торговли.

В новой хозяйственной системе предприятия-потребители платят, как правило, за *импортируемые* средства производства их цену в форинтах, пересчитанную на основе коэффициентов пересчета валюты. Если данный импорт будет облагаться пошлинами (которые при этом не списываются и не возмещаются), то они, конечно будут повышать цену в форинтах. Если речь идет о сырье и материалах, отечественная потребность в которых удовлетворяется частично за счет значительного отечественного производства, частично за счет значительного импорта из разных (например, социалистических и капиталистических) стран (причем обоснована единая внутренняя цена), то целесообразно, чтобы она формировалась или определялась государством с учетом различных цен разных источников, а также возможностей расширения. В случае импорта потребительских товаров — с целью ограничения капиталистического импорта и предотвращения нежелательных изменений внутренних соотношений потребительских цен — целесообразно устанавливать пошлины и другие финансовые обложения.

За *экспортируемые* продукты производственные предприятия, как правило, получают цену в форинтах, пересчитанную на основе коэффициентов пересчета валюты. Надо с особой тщательностью разработать (влиять на) цены в отраслях производства, где параллельно ведется производство на внутренний рынок и на экспорт. Целесообразно, как общее правило, — с определенными исключениями, — чтобы экспорт, выгода (рентабельность) которого выше среднего, повлиял и на рост уровня отечественных цен по данной группе продуктов. Дело в том, что такая практика ограничивает внутреннее использование этих продуктов, значит, позволяет увеличивать их экспорт и, в то же время, стимулирует расширение внутреннего предложения. С другой стороны, обоснованно, чтобы в отношении производства на экспорт, рентабельность которого ниже среднего, но сохранение которого мотивируется народнохозяйственными интересами, отечественный уровень цен обеспечивал лишь минимальную прибыль сверх производственных затрат.

Сказанное выше о правильных связях между внутренними и внешнеторговыми ценами не полностью относится к сельскому хозяйству, поскольку здесь в интересах снабжения населения продовольствием, из-за важных соображений в отношении политики производства и доходов в большей степени обосновано функционирование внутренних цен, отличных от внешнеторговых.

Цена и рыночные отношения

Для того, чтобы цены правильно — т. е. в соответствии с интересами общества — ориентировали и стимулировали производителей и потребителей в их хозяйственных решениях, недостаточно их тенденции к приближению к соотношениям общественно необходимых затрат в течение длительного периода. Конкретные цены должны систематически отклоняться от этих затрат, от превращенной формы стоимости. При действии рыночного механизма, т. е. при существовании действительного рынка *равновесие спроса и предложения* осуществляется по этим отклоняющимся ценам (круг, размер и направление отклонений меняется), и в то же время отклонения цен вызывают тенденцию к их устранению при постоянном возникновении новых отклонений. Отвлекаясь от возможного влияния на цены *моментальных* колебаний спроса и предложения, мы можем рассматривать цены равновесия как общественную оценку различных товаров на рынке. Почему отклоняются длительно и систематически эти цены равновесия, то есть рыночные оценки отдельных товаров, от общественно необходимых затрат*, то есть от превращенной формы стоимости?

Общая причина отклонений заключается в том, что в процессе постоянного изменения, расширения и развития производства и потребностей структура производства (предложения) не может за короткий период приспосабливаться к структуре спроса, к тому же к такой структуре спроса, которая существовала бы в случае совпадения соотношений цен с общественно необходимыми затратами. Производимое (предполагаемое) количество отдельных товаров в большинстве случаев обязательно больше или меньше того количества, которое можно продать на рынке по ценам, пропорциональным затратам. Если меньше, то цена равновесия продукта превышает общественно необходимые затраты, если больше, то не достигает их и, возможно, вытесняется другим продуктом, выпадая, наконец, из производства, рынка.

Однако внутри общей причины особого внимания заслуживают цены равновесия продуктов, вариантов продуктов, *родственных с точки зрения использования (удовлетворения потребностей), способных в какой-то степени заменять друг друга.* Дело в том, что развитое производство, основанное на современной науке и технике, выпускает такие продукты в огромном разнообразии. Потребители (покупатели) оценивают эти продукты по их сравнительной *полезности* (по отличию действительных и воображаемых полезных свойств). Как правило, полезные свойства сравниваемых родственных продуктов очень разнообразны, эти продукты располагают отдель-

* Некоторые экономисты-марксисты считают, что неправильно говорить о таком отклонении, поскольку цены равновесия длительного периода всегда выражают величину общественно необходимых затрат.

ными свойствами в разной степени, значение того или другого свойства больше или меньше с точки зрения различных потребителей или целей использования, в отношении предметов потребления оценка качества часто чисто субъективная. Поэтому *вообще* нельзя дать достоверного ответа на вопрос: во сколько раз полезнее один продукт другого, т. е. каковы соотношения их полезности. Это обстоятельство, однако, не меняет действительных различий полезности и того факта, что потребители (покупатели) намерены платить больше за продукт, оцениваемый выше с точки зрения использования, чем за продукт, который считается менее полезным. Во многих случаях этим они платят только за более высокие общественные затраты, необходимые для производства продукта, и в этом случае между ценой и стоимостью, точнее, ее превращенной формой, нет разницы. Но если производство (предложение) более полезного продукта меньше емкости рынка при цене, пропорциональной затратам, тогда цена равновесия отклоняется вверх от стоимости (в дальнейшем, если даже отдельно не указывается, речь идет соответственно о превращенной форме стоимости). *В этом случае причина отклонения заключается в такого рода «ограниченности», сочетающейся с большей полезностью.* Из-за такого рода «ограниченности» приобретает значение потребительная стоимость (точнее: степень полезных свойств продукта) в формировании цены родственных продуктов, способных заменять друг друга. Так создается положение, когда в производстве и на рынке *рядом* существуют продукты, соотношения затрат и «соотношения» полезности которых отличаются друг от друга. Следовательно, отношение полезности и стоимости выгоднее для общества у одного продукта, чем у другого, и там, где выгоднее, цена превышает стоимость.

Одним из важных типов такого положения является тот, когда предложение более благоприятного продукта относительно «ограничено», потому что изменение структуры производства и предложения ограничивается разведенными природными ресурсами, импортными возможностями, трудностями перегруппировки отвлеченных средств (возможно, рабочей силы), огромными размерами необходимых новых вложений средств. Например, такая ситуация существует в отношении *угля* и *нефти*. Как энергоносители — это взаимозаменимые продукты. Однако общественно необходимые затраты на добычу нефти, заменяющей тонну угля — т. е. равного количества калорий, — гораздо меньше. Значит, отношение полезности к стоимости у нефти благоприятнее, чем у угля. Поэтому в указанных условиях рациональная цена — цена равновесия — нефти должна постоянно превышать стоимость и, тем самым, в цене нефти реализуется доход типа ренты как часть m всего общества. У нас этот доход изымается через т. н. продуктовый налог, налагаемый на нефть. Однако рациональные соотношения цен на уголь и нефть не могут быть такими, — и при свободном формировании цен образуются не такие цены равновесия, — чтобы различие в полезности полностью вы-

равнивалось, а несколько заниженная цена на нефть, по сравнению с ее полезностью, должна стимулировать распространение нефтяного топлива и, тем самым, — постепенное изменение структуры производства и потребления энергоносителей в сторону, благоприятную с точки зрения общества. Наконец, особо возникает вопрос о рациональном *общем уровне цен* на уголь, нефть (а также на другие энергоносители, например, натуральный газ). В Венгрии уголь, точнее его значительная часть, добывается в крайне неблагоприятных условиях. Если цена на уголь возмещала бы относительно высокую национальную стоимость угля, и в зависимости от нее складывалась бы и цена других энергоносителей, исходя из их полезности, то высокий уровень цен на энергоносители в общем удорожал бы издержки производства венгерской промышленности. Поэтому при подготовке пересмотра цен 1968 года (учитывая также и другие соображения, например, будущее снижение доли угля в топливном балансе) было решено, что *общий* уровень цен на энергоносители должен возмещать все общественные затраты, необходимые для их производства, а внутри этого уровня надо установить соотношения цен в соответствии с полезностью (заменяемостью). При таких ценах рентабельность добычи угля можно обеспечивать лишь субсидией или освобождением от платы за основные фонды и от налога на зарплату. На практике было принято последнее.

Другой важный тип систематического образования «ограниченности» в сочетании с большей полезностью среди взаимозаменяемых продуктов связан с быстрым техническим прогрессом в производстве и быстрым изменением потребностей потребителей. В этом случае цена, превышающая стоимость, временно обеспечивает сверхприбыль на такие новые продукты, у которых отношение полезности и затрат более благоприятно, освоение производства и рынка которых, однако, требует времени. Сверхприбыль в относительно высокой цене более полезного (эффективного, мощного, дешевого и простого в эксплуатации, надежного, прочного, красивого и т. д.) продукта стимулирует совершенствование изделий, лучшее удовлетворение потребностей потребителей, а менее полезный, устарелый продукт из-за прибыли ниже средней или даже убыточности вытесняется из производства. В то же время более высокая начальная цена тормозит спрос на более полезный продукт, предотвращает внезапное перемещение спроса, следовать за которым производство не способно, и тем самым способствует ликвидации нарушения равновесия спроса и предложения, дефицита товаров и образования нереализуемых излишков. Значит, рациональная цена и в этом случае отклоняется от общественных затрат. Такого рода сверхприбыль — временная только для отдельных продуктов и предприятий — имеет большое и устойчивое значение для тех отраслей промышленности, в которых наука и техника развиваются особенно быстро, ибо в этих отраслях плюсы и минусы цен, по сравнению с затратами, как правило, не компенсируют друг

друга. Поэтому часть m всего общества реализуется в форме таких сверхприбылей.

Цена и государственные преференции

Социалистическое государство представляет интересы всего общества, определяющие его экономическую политику. Определенные цели экономической политики, другими словами, государственные преференции (предпочтения), относящиеся к структуре, развитию производства, потребления, внешней торговли и доходов населения, могут потребовать от государства отклонения соотношений цен от соотношений, которые соответствовали бы превращенной форме стоимости и рыночной оценке. Важнейшие случаи отклонений цен, обоснованных государственными преференциями, даются в следующем.

Отклонение потребительских цен некоторых предметов потребления и услуг обосновывается соображениями здравоохранения и культуры. Например, так поступает социалистическое государство, облагая ликеро-водочные изделия большим налогом с оборота, ограничивая их потребление высокой потребительской ценой. В то же время оно субсидирует цену культтоваров, чтобы относительно низкая цена способствовала их распространению. В таких случаях целью государства является непосредственное влияние на структуру потребления.

Возможен, однако, и такой случай, когда из-за большого рассеивания денежных доходов населения (что может отвечать требованиям усиленного материального стимулирования) целесообразно облагать высокими налогами определенные товары (предметы «роскоши»), потребляемые людьми с высокими доходами. В таком случае цель отклонения цен заключается в сокращении различий в реальных доходах и, тем самым, обеспечение и для слоев населения с самыми низкими доходами основных предметов первой необходимости при данной величине национального дохода и при данной структуре личных денежных доходов.

Осуществление таких действительных преференций в системе потребительских цен с помощью налога с оборота (и субсидий), необходимо четко отличать от широких и больших, экономически обычно необоснованных отклонений соотношений оптовых и потребительских цен, которые формировались за долгие годы в системе государственных цен старой хозяйственной системы, и которые привели к чрезмерно сложной, необоснованно дифференцированной системе налога с оборота. Пересмотр цен 1968 года сделает некоторые шаги в сторону упрощения системы налога с оборота, приближения соотношений оптовых и потребительских цен. Однако, по возможности, следует избегать больших изменений в соотношениях потребительских цен, потому что они по-разному повлияли бы на реальные доходы различных

слоев, что может вызвать большое недовольство. Во многих случаях и структура производства не могла бы быстро приспосабливаться к спросу, изменяющемуся вслед за ценами. Следовательно, рациональное изменение нашей системы потребительских цен требует длительного времени.

Защита отечественного производства, ограничение потребления определенных импортных товаров и соображения внешней торговли обосновывают применение таможенных пошлин, повышающих внутреннюю цену данного продукта. Если такого рода повышение цен нежелательно, но защита отечественного производства все же необходима, то покрытие более высоких издержек отечественного производства и необходимую прибыль можно обеспечивать путем государственных надбавок (или дотаций).

Увеличение экспорта, обеспечение необходимого для народного хозяйства объема экспорта делают целесообразным государственное поощрение (субсидию) части экспорта, чтобы тем самым и менее выгодная часть экспорта — которая, однако, необходима для народного хозяйства — стала рентабельной для предприятий. Однако субсидия экспорта ни в коем случае не должна превращаться в простую доплату, а должна толкать в сторону ослабления нужды в ней.

Непосредственное государственное регулирование цен

Типу социалистической системы планового хозяйства, для которого характерна большая степень централизации хозяйственных решений, управление с помощью обязательных плановых директив и сильное ограничение роли товарных отношений, соответствует система твердых (фиксируемых на длительное время) цен, устанавливаемых государством. Дело в том, что здесь оптовая цена и себестоимость в государственном секторе, по существу, являются измерителями, с помощью которых можно издавать плановые директивы, контролировать их выполнение и учитывать динамику затрат и результатов производства как изменение физических объемов. В системе твердых государственных цен соотношения цен не отражают должным образом изменения общественно необходимых затрат (в том числе издержек производства), особенно же — меняющуюся оценку рынка, и поэтому нельзя обеспечить рациональных соотношений цен, правильно ориентирующих и стимулирующих производителей и потребителей в их хозяйственных решениях.

В системе же социалистического планового хозяйства, осуществляющей органическое единство планирования и рынка, цены обязательно должны отвечать этим требованиям, иначе данный тип социалистического хозяйственного механизма может функционировать только плохо. Государственное установление цен, распространяющееся на огромное количество цен (в нашей стране почти миллион цен устанавливался государством), не

могло бы обеспечить формирования действительно рациональной величины цен и их необходимых изменений, даже в том случае, если оно ставило бы перед собой такую цель. Дело в том, что для этого оно не располагает ни подходящими экономическими методами, ни соответствующей техникой. В случае же органического единства планирования и рынка функционирование рыночного механизма может в широком кругу создавать такие цены. Значит, при новом хозяйственном механизме, с одной стороны, надо дать возможность *свободного образования цен на основе соглашений продавцов и покупателей в соответствии с действием регулируемого рынка, по возможности, в широком кругу, а с другой стороны, необходимо создать гибкую систему государственного регулирования цен.*

Конечно, в социалистическом плановом хозяйстве свободное формирование цен означает лишь то, что в этой области государство *прямо* не регулирует цены. *Косвенно* оно и в этом случае влияет на цены, поскольку регулирует капитальные вложения, импорт и экспорт, доходы предприятий и населения, определяет доходы и расходы бюджета, предоставление кредитов, налоги, увеличивающие, и дотации, уменьшающие цены и т. д. Тем самым, оно влияет на соотношения общественно необходимых затрат, на спрос и предложение и через них — на цены. Кроме того, социалистическое государство должно и при новом хозяйственном механизме в определенных рамках *непосредственно регулировать цены.* Это мотивируется различными причинами. Рассмотрим важнейшие из них.

Концентрация производства, связанная с развитием производительных сил, и различные преимущества, вытекающие из нее, создают и в социалистической экономике *монопольное положение отдельных крупных предприятий и обьединений* в определенных отраслях производства и услуг. Государственная собственность на средства производства даже облегчает такой ход развития. Было бы вульгарным упрощением предполагать, что социалистическое предприятие (объединение), будучи в монопольном положении и стремясь увеличить массу своей прибыли, при свободном формировании цен обязательно будет продавать свои товары по цене, значительно выше рациональной, с точки зрения общества, цены. В социалистическом хозяйственном механизме, осуществляющем органическое единство планирования и рынка, этому противодействуют большая эластичность спроса от цены (т. е. сильная зависимость величины спроса от цен) по довольно широкому кругу изделий, прилив капитальных вложений в более рентабельные отрасли производства (то есть происходящее там соответствующее расширение мощностей), действительная или, по крайней мере, потенциальная конкуренция импорта. Помимо этого, конечно, для социалистического государства существует возможность непосредственного вмешательства, если какое-нибудь из его предприятий — злоупотребляя своим монопольным положением — осуществляет политику производства и реализации, явно противо-

речающую интересам общества (например, старается обеспечить высокие цены путем недоиспользования мощностей). Несомненно, однако, что в тех случаях или обстоятельствах, когда мощностей едва хватает для удовлетворения потребностей, когда эластичность спроса от цены небольшая, а конкуренция импорта неосуществима, предприятие, находясь в монопольном положении, может сильно манипулировать свободными ценами, а цена и реализованная прибыль уже не будут служить объективным общественным мерилом хозяйственной деятельности предприятия. Предприятие не приспосабливается к цене, а само формирует ее в своих интересах, и получается необоснованное, с точки зрения общества, повышение цен, распространяющееся по итерации на другие сферы народного хозяйства. В таких случаях, то есть для устранения вредного влияния монопольного положения на цены, целесообразно непосредственное государственное регулирование цен.

В случае свободного образования цен на *сельскохозяйственные продукты* рыночный механизм может регулировать производство только через чрезвычайно большие колебания производства, цен и доходов. Этот факт связан с большой ролью в сельском хозяйстве переменной погоды, с относительно длительным циклом производства (следовательно, с опаздывающим реагированием производства на изменения цен), а также с большим числом экономически обособленных товаропроизводителей. Изменение цен на сельскохозяйственные продукты через продовольственные цены ощутимо сказывается на удовлетворении основных потребностей населения и сильно влияет на уровень розничных цен. Свободные цены могут стать особенно опасными в этой области, когда имеется постоянный — нелегко устранимый — дефицит по некоторым важным сельскохозяйственным продуктам по отношению к спросу, соответствующему цене, пропорциональной общественным затратам. Поэтому, стабильность сельскохозяйственного производства, обеспечение структуры производства и доходов крестьян, желательных с точки зрения общества, защита уровня розничных цен и снабжения городского населения обосновывают непосредственное государственное регулирование цен *основных* сельскохозяйственных продуктов.

Одним из преимуществ системы планового хозяйства, осуществляющей органическое единство планирования и рынка, по сравнению со старым типом социалистического хозяйственного механизма является то, что она может лучше обеспечивать уравновешенное развитие народного хозяйства, избежание или быстрое устранение узких мест и напряженностей рынка. Значит, дефицит различных товаров (и излишек других товаров) не может быть характерным для нового хозяйственного механизма. Можно предполагать, однако, что и в быстро развивающейся социалистической экономике, хорошо использующей производственные мощности, нельзя будет и в дальнейшем *полностью* избежать рыночных напряженностей, вызывающих тенденцию повышения цен на некоторые товары. Еще большее значение имеет

то обстоятельство, что новый хозяйственный механизм во многих областях «унаследует» от старого механизма нарушения равновесия, рыночные напряженности, не устранимые за короткое время. Чтобы *влияние этих рыночных напряженностей на рост цен не подорвало относительной стабильности общего уровня цен*, в угрожаемых областях целесообразно применять непосредственное государственное регулирование цен.

Требуется не абсолютная стабильность (или прямое снижение) общего уровня цен. Она не осуществлялась и при старом хозяйственном механизме, и при новом она была бы достижима лишь путем такого ограничения спроса на предметы потребления и средства капитальных вложений — явно дефляционной экономической политики —, которое сильно замедлило бы темпы роста национального дохода и весьма неблагоприятно повлияло бы на жизненный уровень. Абсолютная стабильность цен не является какой-то самоцелью, в интересах которой целесообразно пожертвовать действительно важными целями. Вместе с тем надо избежать быстрого роста уровня цен, развертывания действительной инфляции, которая приводит к вредным последствиям. В условиях новой хозяйственной системы наше социалистическое государство должно проводить такую экономическую политику, так использовать средства экономического управления, чтобы при быстром росте экономики уровень цен повышался лишь медленно, а личные доходы росли быстрее этого, то есть чтобы рост жизненного уровня был удовлетворительным. Для такого роста будет иметься реальная возможность.

Там, где непосредственное государственное регулирование цен окажется необходимым, можно применять различные его *формы и методы* в зависимости от особенностей данной области экономики и поставленной цели. Такими формами могут быть:

— Централно устанавливаемые твердые или максимальные цены по изделиям. Сюда относится определение применяемой цены или максимальной цены по номенклатуре; определение основных цен и надбавок к ним; определение цены на составляющие элементы продукта; предписание схем параметрического и нормативного ценообразования.

— Контрактные цены при централно устанавливаемых лимитах. Сюда относятся установление уровня цены по группе изделий — возможно, в пределах от и до —, разрешая взаимно уравновешивающееся движение цен на отдельные изделия; постатейное лимитирование цен на представительные (выделенные) изделия внутри группы изделий; ограничение отклонения от ориентировочной цены или путем определения размера отклонения вверх, или установлением диапазона цен; предписание обязательных принципов калькуляции издержек и (или) прибыли.

— Государство может временно запретить повышение цен, существующих на определенную дату, или же обусловить повышение цен предварительным ходатайством и разрешением.

Прежде всего может оказаться необходимым фиксирование или лимитирование цен на важнейшие виды сырья и материалов производственной сферы, иначе рост этих цен повлиял бы на все области производства. Непосредственное государственное регулирование довольно широкого круга потребительских цен может быть обоснованным во избежание спирали цена-зарплата. Для некоторых, особо важных предметов потребления даже обосновано сохранение на длительный период совершенно неизменной (твердой) потребительской цены, которая не изменялась бы автоматически даже в узких рамках под действием экономических факторов.

Круг непосредственного регулирования цен, его более строгие и либеральные методы надо определить с учетом рыночного положения. Всегда нужно иметь в виду, что непосредственное государственное регулирование цен должно ограничиваться необходимым минимумом. Однако его пределы меняются, они зависят от положения народного хозяйства, от степени внутренних напряженностей и от того, насколько гладко функционирует хозяйственный механизм.

PRICES UNDER SOCIALISM

T. Nagy

The article is a chapter of a new university textbook on political economy of socialism. A basic requirement of socialist planned economy is that the price system should correctly orientate and stimulate producers and consumers in their economic decisions. Any price system meets these requirements if the prices are formed under the common influence of three main factors, i. e. socially necessary inputs, market relations and state preferences. Rational economy demands that under socialism, too, the modified form of value should appear as price centrum, as socially necessary inputs which expresses the long-range tendency of price movements whose magnitude differs from the magnitude of average current labour costs, according to fixed and circulating assets and more favourable natural resources (primarily of land). In the long-range determination of price centres, owing to the influence of the international division of labour, the proportions of international values basically assert themselves on the home market, though the proportions of national values which deviate from the international ones also play a role. In an economic mechanism which realizes the organic unity of planning and market, a correct relationship of domestic and foreign trade prices must be established. It is necessary that in the production costs of state owned industrial enterprises, in addition to traditional cost factors, the charge on assets to be paid after fixed and circulating assets, wage taxes related to the social expenditures of expanded reproduction as well as rents to be paid for utilizing more favourable natural resources, should be included, further, that the price centrum should not only cover the costs of enterprises working on an average level but that it should contain a certain average profit, too, which is chiefly proportional to assets engaged and, to a smaller part, to wages.

Prices should correctly orientate and stimulate both producers and consumers in their economic decisions; therefore, it does not suffice that prices should conform to socially necessary expenditures which assert themselves as long-range tendencies but the concrete prices — the equilibrium prices — should regularly deviate from the former ones in accordance with demand-supply. Equilibrium prices can be considered as a manifestation on the market of society's value judgment on different commodities. In the case of substitutable products the magnitude of equilibrium prices depends on the relative utility and the scarcity of the product.

Different social preferences may account for the decision of the state to deflect permanently the price ratios of some products (or product groups) from those price

ratios which would be in due proportion to socially necessary inputs and to the value judgement of the market. However, the actual far-reaching and very extensive diversion of producer and consumer price ratios cannot be considered as the realization of such kind of preferences.

The development of the rational magnitude of prices in the decentralized model of the socialist economy (i. e. in the new Hungarian economic mechanism) requires that prices should be possibly based on agreements between sellers and buyers, without constraint, in accordance with the functioning of a regulated market on the one hand, while on the other, a more flexible system of state price regulation should be realized. Direct state price regulations have to be maintained due to important causes as e. g. the monopolistic position of some large enterprises (or associations of firms) on the home market, certain specific features of the market of agricultural produces, bottlenecks and market tensions either left over from the earlier model or newly developed due to the quick growth of production. However, the direct price regulation by the state should be limited to an unavoidable minimum.

A. Bródy

ON LINEAR MODELS OF THE ECONOMY

Appearingly quite contradictory views and problems may lead to a common mathematical model. After a brief presentation of the fundamental models (the Marxian production-prices model, the theory of games, the model of general equilibrium of Neumann, the dynamic Leontief-model and the linear programing) their mathematical equivalence is stated and elaborated. Thus the various possible approaches (deterministic or teleological and variants of both) are interchangeable in this respect.

In Hungary there is a rich literature on linear econometric models. Though the theoretical problems of their interpretation, scope, merits and shortcomings are often discussed by the pioneers, appliers and advocates of the basic types of models, they always join forces in the interest of the fundamental objective: to improve planning and economic analysis. Thanks to this *joining of forces*, these methods are being applied in Hungary on a broad front, reaching from the analysis of the major proportions of the economy, investigations into the price system and several price-type systems through the various models of material flows and money circulation to improving the national economic plans and those of industries by means of various programing procedures.

Relying precisely on the theoretical debates having taken place up to now and having obtained an impetus from them, an attempt will be made in the following to show that this *joint* work of researchers into and appliers of linear models is theoretically sound; it is justified not only by the common objective and the practical results. Cohesion and some kind of uniformity of this "school" is secured not even by the common mathematical "language" only. Though the individual models derive from widely differing economic schools which have been waging hard and inexorable wars on each other for decades, still, when and in so far as they reflect *reality*, they cannot dodge from its unifying force.

Thus, in the following I should like to show that, although many ways lead to building such models and in spite of the fact that they can be interpreted in several ways, mathematically *they can be still brought to a common form.*

The phenomenon that appearingly quite contradictory views may lead to a common mathematical model is not without precedent in the history of science. Let us quote *J. Neumann* [1] to whose models we shall return later: "Indeed, in classical mechanics there are two absolutely equivalent ways to state the same theory, and one of them is causal and the other one is teleological. Both describe the same thing . . . Newton's description is causal and d'Alembert's description is teleological . . . All the difference between the two is a purely mathematical transformation . . . This is very important, since it proves, that if one has really technically penetrated a subject, things that previously seemed in complete contrast, might be purely mathematical transformations of each other. Things which appear to represent deep differences of principle and of interpretation, in this way may turn out not to affect any significant statements and any predictions. They mean nothing to the content of the theory."

In this paper first the individual types of models will be briefly presented in their historical order. I shall restrict myself only to the most important ones and the subjective character of the selection will be hardly mitigated by the endeavour to observe — beyond the priority of publication — the rather aesthetical point of view of easy survey and simplicity. To my knowledge, however, these models represent also the known and used more complicated models rather well.

Then the mathematical expression will be given which is, as it were, a common, fundamental form of the models and also the transformations will be reviewed by means of which the models can be reduced to this common form. To conclude, a few ideas will follow about the economic purport and usability of the individual models.

I. Description of the models

1. *Production prices*

The systematic theory of value and reproduction of *Marx* [2] is perhaps the oldest of linear models. Here a verbal form of it, the definition of production prices is presented:

". . . The price of a commodity, which is equal to its costprice plus the share of the annual average profit on the total capital invested (not merely consumed) in its production that falls to it in accordance with the conditions of turnover, is called its price of production . . ."

The strict formulation and even the terminology refer to an equation — but the corresponding equation does not occur in the published text of Capital. We know, however, that there existed "an almost complete, note

book . . ." " . . . which presents the relation of the rate of surplus-value to the rate of profit in the form of equations . . ." [3]

These were, however, not published by *Engels* who edited the volume; he relied only on an extract prepared by *S. Moore*. I believe that the strict mathematical formulation or various attempts at it could be found in *Marx's* mathematical papers. For the time being, these are inaccessible in the Netherlands.

In the more than 70 years passed since (Vol. III was published in 1894) quite a few economists gave some kind of a mathematical formula to define the production prices. Most of these attempts were unsuccessful, partly due to the insufficient mathematical knowledge of the scholars and partly because their endeavours were impelled not by the desire to understand the original idea but by the will to refute it at any price. Only the last ten years have brought more successful attempts. (See e. g. [4].) I, too, have addressed myself to the task and in two of my studies [5, 6] I obtained the following form which, I think, cannot be reduced to any simpler one:

$$\mathbf{p} = \mathbf{p}(\mathbf{A} + \pi \mathbf{B}) \tag{1}$$

where

$\mathbf{p}$ = vector of production prices

$\mathbf{A}$ = technological coefficient matrix.
The general element of this matrix, a_{ik}, shows the volume of product i to be used for turning out a unit of product k. $\mathbf{pA}$ is thus the prime cost (production cost)

π = the average rate of profit

$\mathbf{B}$ = matrix of capital coefficents. Its element b_{ik} shows the volume of product i to be tied up in the production of a unit of product k. Thus, $\mathbf{pB}$ shows the capital used.

The economic interpretation of the equation is: production price = prime (production) costs + average rate of profits multiplied by the capital used.

This equation precisely corresponds to the Marxian formulation of production prices. In my papers mentioned I also proved that the equation has a unique solution for π and $\mathbf{p}$. A convergent iteration process, easy to computerize, was also given for working them out.

It should be mentioned that a similar though simpler price model may be derived also from the works of *Ricardo*. Several attempts were made to formulate this one and, in my opinion, the most successful solution was that by *Sraffa* [7]. There is, however, no doubt that we cannot trace in the manuscripts of *Ricardo* — which were edited in full — any attempt at a mathematical formulation, nor a hint that he had ever raised this idea or possibility.

2. *The theory of games*

The fundamental model of the theory of games constructed by *J. Neumann* in 1926 [1]* lies seemingly far from our subject and can hardly be called a production model. Its presentation here is still necessary for two reasons. First, because its usability for the solution of production problems has been proved.** Second, as will be shown in the next chapter, this was the model the mathematical equivalence of which with two important production models has been recognized the earliest. This model originated not in one of the economic schools — its source was abstract mathematical speculation.

The mathematical problem can be stated briefly as follows. There are two "players" J_1 and J_2, who are free to choose among various "strategies"; J_1 may choose strategies $i = 1, 2, \ldots, n$ and J_2 the strategies $j = 1, 2, \ldots, m$. Now, if J_1 has chosen strategy i and J_2 strategy j, as a result of the game, J_1 has to "pay" the sum c_{ij} to J_2. (If c_{ij} is positive, it will be a loss to J_1, if it is negative it will be a gain.)

The question is whether, in the knowledge of matrix $\mathbf{C} = \{c_{ij}\}$, consisting of n rows and m columns, the "value" of the game can be unequivocally determined, i. e. whether such a "mix" of strategies can be given for J_1 and J_2 from which they have no logical reason to deviate and whether, by insisting on the strategy mix, the gains and losses paid on repeating the game would converge to a constant sum: the "value" of the game.

Let J_1 choose the strategies $1, 2, \ldots, n$ with frequency $u_1, u_2, \ldots, u_n$ $(u_1 \geq 0, \sum_{i=1}^{n} u_i = 1)$, and J_2 the strategies $1, 2, \ldots m$, with frequency $v_1, v_2, \ldots, v_m$ $(v_j \geq 0, \sum_{i=1}^{m} v_j = 1)$, then the sum of gains and losses to be paid in the course of the game can be given in the bilinear form:

$$\mathbf{uCv} = \gamma(\mathbf{u}, \mathbf{v}) \tag{2}$$

One of the players will endeavour to minimize the value of this γ by properly choosing $\mathbf{u}$, while the other one will try to maximize it by the proper choice of $\mathbf{v}$.

Now, Neumann has proven that

$$\min/\mathbf{u} \max/\mathbf{v}\, \gamma(\mathbf{u}, \mathbf{v}) = \min/\mathbf{v} \max/\mathbf{u}\, \gamma(\mathbf{u}, \mathbf{v})$$

and thus an "equilibrium" situation will come about. Since then, several proofs and convergent computation methods have become known for the solution of this basic model.

* The so-called two-person, zero sum game.

** Suffice it to mention here that the first method of solution for the model of two-level planning was arrived at by *T. Lipták* [8] on the basis of considerations belonging to the theory of games.

3. *The Neumann model*

This model undoubtedly originates from marginal theories, more closely from the theory of general economic equilibrium by *Walras*. In the 1930-ies an econometric seminar led by *K. Menger* raised that the proof of Walras was naive and insufficient.* The existence of a unique solution to a *system of inequalities*, based on the work of Walras, but considerably transformed and made dynamic, was finally rigorously proven by *Neumann* [1]. This model of Neumann, though for a long time it was half forgotten, meant a turning point in the history of econometrics for two reasons.

On the one hand, this was the first model to open the way for the economic application of more up-to-date mathematical methods. Neumann has found the adequate mathematical formulation for economic problems. This language, the formulation in terms of a system of linear inequalities proved to be decisive in promoting further development, particularly after the dawn of computers. On the other hand, the model has an important theoretical feature: contrary to Walras, with Neumann the production interrelations become the hub of the model and he deduces the market relations from the former. It is not clear whether this "concession" to Marxian political economy was conscious on the part of Neumann. Reviewing his assumptions, he laconically says: "It is obvious to what kind of theoretical models the above assumptions correspond." I am, however, of the opinion that in case the Marxian influence had been *conscious*, he would not have wondered at the remarkable "dual symmetry" [9] of his model as regards money variables and technical variables since *Marx* expounded in detail in the first volume of his most important work that value relations are only the reflections of the social division of labour. I think, therefore, that the influence of the labour theory of value was by no means conscious and it may be attributed to his particular ability of abstraction that Neumann's model has become the kissing point of two schools of economics allowing, indeed demanding, dual interpretation.

His model is the following: we have n products ($i = 1, 2, \ldots, n$) to be turned out with the aid of m production processes ($j = 1, 2, \ldots, m$). The processes which all take place during a unit of time (if they take longer in reality, they may be broken down to several parts in the model) may be characterized mathematically as follows. The performance of a unit of the jth process turns out t_{ij} ($i = 1, 2, \ldots, n$) quantities of the product i($i = 1, 2, \ldots, n$) and uses the quantities f_{ij} ($i = 1, 2, \ldots, n$) from the same product.

The question is, whether, in the knowledge of matrices $\mathbf{F} = \{f_{ij}\}$ and $\mathbf{T} = \{t_{ij}\}$ the following unknowns can be determined:

* Walras thought, namely, to have proven the existence of a unique solution by simply counting the equations: as many equations as unknowns.

$\mathbf{x} = (x_1, x_2, \ldots, x_m)$ production levels $x_i \geq 0$

$\mathbf{p} = (p_1, p_2, \ldots, p_n)$ prices $p_i \geq 0$

α expansion coefficient

β interest factor

with the following constraints:

(3a) $\alpha \mathbf{F}\mathbf{x} \leq \mathbf{T}\mathbf{x}$

and if for some i, the relation $<$ holds, then $p_i = 0$

(3b) $\beta \mathbf{p}\mathbf{F} \geq \mathbf{p}\mathbf{T}$

and if for some j, the relation $>$ holds, then $x_j = 0$

These two constraints can be interpreted as follows:

3a: In a given period we cannot consume or use more of a product than was produced in the previous period. Should, however, arise even with a maximum rate of growth a surplus from product i, its price will fall to zero, i. e. it becomes a "free good", $p_i = 0$.

3b: In an equilibrium situation there can be no profit above the average rate of interest β, else either prices or the rate of interest would grow. If, however, some process j causes losses, that process will abandoned and thus $x_j = 0$.

With some restrictions,* Neumann has proved the existence of a solution for the system of inequalities and particulariy that $\alpha = \beta$.

Eliminating, after the solution of the model, the abandoned processes and free goods from the system of inequalities, and making use of the equality $\alpha = \beta$, we obtain the following dual equality: (the elimination can take place without upsetting the interrelations since for the processes and goods to be eliminated $x_j = 0$ and $p_i = 0$, resp.)

(3) $(\mathbf{T} - \alpha \mathbf{F})\mathbf{x} = \mathbf{0}$ and $\mathbf{p}(\mathbf{T} - \alpha \mathbf{F}) = \mathbf{0}$.

It should be remarked that — apart from the above exception, which can be, however, mitigated — Neumann's proof makes use of the positiveness of the matrices **F** and **T** only in a single place where he excludes that the fraction on the right hand side of the expression $\alpha(\mathbf{p}, \mathbf{x}) \leq \dfrac{\mathbf{pTx}}{\mathbf{pFx}}$ should take (in case of non-negative **p** and **x**) the undefined form $\dfrac{0}{0}$. If, therefore, we exclude

* He assumed, namely, that $t_{ik} + f_{ik} > 0$, i. e. all processes use or produce a products. This restriction proved to be unnecessary, it is sufficient to assume that the matrices are irreducible. With the exception of some "degenerated" cases, this will secure the unique solution in α, β, **p** and **x**.

somehow that this should happen, his theses will hold also for more general matrices, i. e. for those with optional elements. Since it is hardly conceivable that in reality (with any kind of non-negative price system and non-negative production levels) the price sums of either production or consumption should become zero, this possibility can be *ab initio* excluded on economic grounds.

Similarly, already Neumann has called the attention to the fact at the end of his study that the model constructed with the abstraction of convergence to an equilibrium situation but interpretable also on the basis of the minimax strategy of the theory of games can be solved either from the aspect of production levels (primal solution) or from that of prices (dual solution) as a simple maximization or minimization task where we seek the biggest expansion factor or the smallest rate of interest. However, as far as I know, a practical algorithm for solving the problems is not yet known.

4. *The dynamic model of Leontief*

The roots of *Leontief's* model in the history of theory are the most varied. He falls back on the equilibrium model of *Walras*, but this model is fundamentally of a static nature. Therefore, to construct his dynamic model, Leontief borrows new elements from the factors used in the *Harrod—Domar* growth model. There, the sole source of changes in production are investments — and, as a matter of fact, the Leontief model may be conceived of as a multi-sector *Harrod—Domar* model. But he was also influenced by the first chessboard-type tables constructed in the Soviet Union and by the growth models of *Feldmann* which preceded considerably the western models and are achievements of the Marxian political economy. This double origin has brought about the model's deep relation both with the *Neumann*-model and with the original Marxian concept of the reproduction process. [10]

It is a fundamental assumption in the model that the total production of individual sectors should cover both productive consumption and the investments needed to change structure of production. The model can be written in the form of either a system of difference equations or in that of differential equations; we start from the former:

$$\mathbf{x} = \mathbf{A}\mathbf{x} + \mathbf{B}\Delta\mathbf{x}$$

where, using the symbols already known,

$\mathbf{x}$ = the vector of total production levels
$\mathbf{A}$ = matrix of technological coefficients
$\mathbf{B}$ = matrix of capital coefficients
$\Delta\mathbf{x}$ = incremental production in a period.

Seeking the "equilibrium" solution of the model, we assume in the usual manner that production develops proportionately in all sectors $\Delta\mathbf{x} = \lambda\mathbf{x}$, where λ is the growth factor and thus

$$\mathbf{x} = (\mathbf{A} + \lambda\mathbf{B})\mathbf{x} \tag{4}$$

Mathematically, it immediately strikes us that the model is nothing else than the dual form for the first equation of the Marxian production prices with the only difference that π denoted there the average rate of profits while λ denotes here the growth factor. But we may guess from *Neumann's* model that the two values must be necessarily the same. And while Neumann developed both the primal and dual aspects of his model, in economic literature the problem of Marxian production prices and that of the dynamic Leontief model were thought for long to be *two things apart,* although at this level of abstraction they are two aspects—primal and dual — *of one and the same model.*

Recently, several scholars attempted to elaborate the dual form of the *Leontief* model but only *Morishima* [11] and *Johanssen* [4] succeeded in realizing its relationship with the said model.

The solution of this model is well known and can be given in a closed form. Now, it is interesting that while *Neumann* hinted that the maximization or minimization problems, briefly the problem of extreme values, can be interpreted as a minimax strategy, too, — with this model it becomes apparent that the closed model built up as a deterministic causal relationship may be re-interpreted in terms of a maximizing task since the solution of the above equation may be also conceived of as a maximum problem yielding those proportions that will make the growth rate maximum in the long run. This feature originates in the extremal characteristics of the eigen-vectors (both $\mathbf{x}$ and $\mathbf{p}$ are derived as eigen-vectors of the corresponding matrices).

It has been known for long in mathematics that the same task may be formulated both in a "deterministic" and a "teleological" form. E.g. the solution of the deterministic equation

$$\mathbf{Ax} = \mathbf{b} \quad \text{is} \quad \mathbf{x} = \mathbf{A}^{-1}\mathbf{b}$$

But the same numerical result may be arrived at if instead of that we seek an $\mathbf{x}$ which will render the residual value of $(\mathbf{b} - \mathbf{Ax}) = \mathbf{r}$ minimum, i. e. zero.

The causal, deterministic concept of the labour theory of value and the optimization concept of marginalism lead here to the same conclusion (both in respect of prices and proportions). The fundamental question is whether real relationships are correctly represented in the model constructed. If the

model reflects the essence of reality, both aspects will yield identical results, and identical practical instructions. Should the two views conflict in some *practical* questions, the difference can lie only in the interrelations taken into account and, after having them cleared up and collated, the practical solutions (as Neumann puts it, the "foresight") must coincide.

This is, however, a rather general statement. Let us, for the time being, proceed to review the models in fuller detail and seek the regular correspondence of partial concepts.

5. *Linear programing*

Once again, the origins of this model are not economic but technical and mathematical. At its cradle stand two mathematicians, the Soviet *Kantorowitch* [13] and the American *Dantzig* [14]. Both of them developed the mathematical apparatus in order to solve technical supply problems. Since then, it has been attempted to interpret the model from the points of view of both marginal theory [15] and Marxism [16,17]. No wonder if essentially both approaches have been successful.

The aim of the model is to allocate restricted resources between various activities in an optimum way, i. e. to achieve maximum results by correct proportions of allocation.

The well known mathematical formulation of the model is

(5a) maximize $\mathbf{c}'\mathbf{x}$

with the constraints

$$\mathbf{A}\mathbf{x} \leq \mathbf{b}$$
$$\mathbf{x} \geq \mathbf{0}$$

where

$\mathbf{b}$ = vector of resources

$\mathbf{A}$ = matrix of technological coefficients; its element a_{ik} gives the resources claimed by a unit of activity k from the resource i;

$\mathbf{c}'$ = vector of coefficients of the objective function, its element c_k gives the result yielded by a unit of activity k.

It is usual to transform the inequalities into equations by introducing so-called slack variables (fictitious activities using resources without bringing about any result). Hereafter, we also use this form of the model and thus the task will be:

(5a) maximize $\delta = \mathbf{c}'\mathbf{x}$

with the constraints $\mathbf{A}\mathbf{x} = \mathbf{b}$, $\mathbf{x} \geq 0$

The dual form of the above task which serves to determine the so-called shadow prices is also known.

(5b) minimize $\varrho = \mathbf{p'b}$

with the constraints

$$\mathbf{p'A} = \mathbf{c'}, \quad \mathbf{p} \geq \mathbf{0}$$

where $\mathbf{p'}$ is the vector of shadow prices.

There are several solution algorithms for the model, the most known ones are variations of the simplex method by *Dantzig*. The simplex method yields simultaneously the solutions for both the primal and the dual tasks. Similarly, it is proven that — in case the task has any solution at all — then

$$max\ \delta = min\ \varrho$$

meaning that the values of the objective functions of the maximization and the minimization tasks are identical.

II. On the affinity of the models

a) A common feature of the models is their being *linear*. Seemingly, this is a common hindrance of their being able to reflect economic reality, which is "not linear", where interrelations generally take more complicated forms. It cannot serve as an argument that the assumption of linearity is "comfortable", that it requires fewer observations for a quantitative measurement of actual interrelations. (The argumentation still has some practical bearing since, if the interrelation is not linear, it should be more precisely defined what it looks like. That would necessitate a broad data collection and it is questionable whether the costs of collection are in proportion to the increase in exactness to be expected.)

There is, however, a much simpler argument in favour of using linear relationships: that in the close surroundings of the point to be examined (e.g. the equilibrium situation, or the point determined by real price and volume relations) most of the more complex interrelations can be approximated by means of linear methods with the accuracy wanted. Let us, e.g. assume that the elements of the technological matrix **A** are not constant but are some complicated functions of production levels and prices as well as of time. The real question is not, however, what functions they are in general but whether they are such functions which — in the surroundings of the point given by the solution, i.e. in the surroundings of the x-es and p-s yielded by

the solution, and at the time figuring in the solution — can be approximated by the constant elements of the matrix **A** with the accuracy required in economic decisions, which is not too great in most cases. It should, therefore, be investigated whether with changed prices and volumes and at another date the given, constant **A** matrix is still acceptable as being sufficiently exact. Since economic decisions and measures taken on the basis of such models do not and cannot change *much or too rapidly*, the established relations, the linear models can be safely applied with such additional checking; their linearity cannot become harmful or distorting. There may be, of course, also exceptions, since e.g. a general price reform changes many prices simultaneously, abruptly and to a great extent and thus might strongly upset the system. Against such disturbances we cannot defend ourselves but by making adjustments (decisions) at shorter intervals and by a continuous (not abrupt) control and improvement of the system.

b) But the interrelation of the models is much closer than that. In two cases this has been already rigorously proven by the model-builders themselves. *Neumann* made the remark already when constructing his equilibrium model that the model of the theory of games may be conceived of as a special case of the growth model [12], namely, when $f_{ij} \equiv 1$, and thus the "utilization" matrix takes the form:

$$\begin{bmatrix} 1, & 1, & \ldots, & 1 \\ 1, & 1, & \ldots, & 1 \\ \ldots & \ldots & \ldots & \ldots \\ 1, & 1, & \ldots, & 1 \end{bmatrix}$$

He does not, however, mention that the **C** matrix of the theory of games is having optional real elements while the corresponding **T** matrix of the growth model is strictly non-negative. It may be, however, taken for sure that the theory of games is a special case of the mentioned "general" *Neumann* model with unrestricted matrices.

In the following the other models will be reduced to this "general" form of the Neumann model.

The other kind of equivalence has been proved by *Dantzig* [14], by showing that all problems in the theory of games may be written as linear programing problems with matrices of the same order but not all programing problems can be written in the form of a model of the theory of games having the same dimensions.*

c) As we have seen, the model of linear programing is: $max\ \delta = \mathbf{c'x}$, with the constraints $\mathbf{Ax} = \mathbf{b}, \mathbf{x} \geq \mathbf{0}$.

* He has, however, proven here and in a later study [18] that it can be written in the form of a skew-symmetric game-matrix of double dimensions!

With the following simple means it can be made similar to the 3. *Neumann* model. Let us form the diadic-matrix $\mathbf{bc} = \{\mathbf{b}_i\mathbf{c}_j\}$, which will thus have as many rows as we have resources and as many columns as we have activities and write:

$$max\ \delta, \quad \mathbf{x} \geq \mathbf{0}$$

$$(\mathbf{bc'} - \delta\mathbf{A})\mathbf{x} = \mathbf{0}$$

This is equivalent to our equation 3, with the difference that instead of matrix **T**, which was not restricted there in any respects, here we have a diadic-matrix of rank 1. (We wish to remark here that also the matrix $\{f_{ij} \equiv 1\}$ of the theory of games is such a diadic-matrix and a very special kind at that.)

At the same time, this equation is equivalent also to the programing problem, as can be shown by multiplying it by **x**:

$$\mathbf{bc'x} - \delta\mathbf{Ax} = \delta(\mathbf{b} - \mathbf{Ax}) = \mathbf{0}$$

and, if δ is not zero, this necessarily leads to the equation

$$\mathbf{b} = \mathbf{Ax}.$$

In addition, it is also true that even the dual form may be reduced to the equivalent form of

$$\mathbf{p'(bc'} - \delta\mathbf{A}) = \mathbf{0}$$

Thus, we have proven that all programing models can be written in the form of a *Neumann* model but only special *Neumann* models can be written in the form of a programing model, namely those whose matrix **T** is of rank not greater than 1. Therefore, the Neumann model is more general than the programing model and that again is more general than the fundamental model of the theory of games.

Therefore, the *Neumann* model may be broken down into a series of programing models if matrix **T** is broken down into orthogonal base-factors according to the method given by *Egerváry* [19]. This could be a theoretically possible way of constructing the hitherto unknown solution algorithm for the *Neumann* model. But this procedure is less interesting from the theoretical point of view.

d) A theoretically more challenging way should rely on the interrelation with the production prices and thus with the Leontief model. Obviously, the *Neumann* model is more general than the Leontief model, meaning that all *Marx—Leontief* models may be written in the form of a *Neumann* model but not all Neumann models may be written in the more limited form. This may be easily seen if models 1. and 4. are re-written by introducing the unit-matrix **I**:

1'. $\mathbf{p}[(\mathbf{I} - \mathbf{A}) - \pi\mathbf{B}] = \mathbf{0}$ and 4'. $[(\mathbf{I} - \mathbf{A}) - \lambda\mathbf{B}]\mathbf{x} = \mathbf{0}$.

Here we have a *Neumann* model whose components are matrices $(\mathbf{I} - \mathbf{A})$ and $\mathbf{B}$.* On the other hand, this model is more restricted than the *Neumann* model since its matrices are *quadratic* while those in the *Neumann* model may have generally n rows and m columns.

It is, however, true that the *solution* of the *Neumann* model containing only a quadratic matrix (as many optimal processes as there are products with positive prices) is already equivalent to an equation written with quadratic matrices. Precisely this feature of the model will be used to serve as the fundamental idea of the solution algorithm.

Let us assume that in the original *Neumann* model $m > n$, i.e. we know more processes than products (if $n > m$, we can use the dual form of the procedure below). Let us select a submatrix of n columns neglecting, for the time being, $(m - n)$ processes. Now, the task which is equivalent to computing the production prices will be solved for the matrices $\mathbf{T}_0$ and $\mathbf{F}_0$:

$$\mathbf{p}_0(\mathbf{T}_0 - \pi_0\mathbf{F}_0) = \mathbf{0}$$

Thus, we have brought about a $\mathbf{p}_0$ price system on hand of which the efficiency of the hitherto unused, neglected processes can be examined.** The outputs and uses of the processes neglected are characterized by the vectors $\mathbf{t}_i$ and $\mathbf{f}_i$ $(i = n + 1,\ n + 2, \ldots, m)$. The scalar values for $p_0(\mathbf{t}_i - \pi_0\mathbf{f}_i)$ will be now examined one after the other. If we were to find among them a positive one, the corresponding process is efficient (since its sales receipt is greater than its cost multiplied by the "rate of interest"). If this process is drawn into the "base", by leaving out a process of lower efficiency then in the solution formed with the new base:

$$\mathbf{p}_1(\mathbf{T}_1 - \pi_1\mathbf{F}_1) = \mathbf{0}$$

the value for π_1 will be by all means higher than π_0. Since the number of bases is finite, sooner or later an optimum solution will be reached, which will be characterized by the fact that it will not neglect processes which are efficient if computed at the prices and with the rate of interest of the optimum solution.

From this reasoning it follows that the *Marx–Leontief* model may be thought of as "an iteration" of the *Neumann* model. If the processes which are not used — either in reality or in the model — are not efficient at the prices of the model, i.e. at the production prices in the Marxian sense, we have

* Since, although the inverse of the matrix $(\mathbf{I} - \mathbf{A})$ is strictly positive, the matrix itself may have also negative elements, being a so-called *Metzler* matrix, only the generalized *Neumann* model comprises this model, too.

** Here, of course, we assumed that there exists a solution with the "base" T_0, F_0 chosen. If, however, the task has any solution at all, at least *one* such "*base*" must exist.

found the optimum solution. If, however, some hitherto unused process seems to be efficient at the production prices, we should decide on using it. After the new process has been employed, the system of new production prices has to be worked out again since it also changes as a consequence of the changes in the matrices.

e) On grounds of a purely mathematical comparison it cannot be decided whether the *Marx—Leontief* model or the programing model is more "general". In the former one the two characteristic matrices are always quadratic and this is obviously a restriction against programing which can operate with any kind of matrices. At the same time the **bc'** matrix used in the programing procedure is a strictly defined matrix, a diadic one, whose rank is at most 1. This is less general than the corresponding matrix $(\mathbf{I} - \mathbf{A})$ whose rank is always n. Therefore, the relation between the two models should be analyzed in another way.

Here I only attempt to show the main points of view of this analysis. First, both models can be transformed into a *Neumann* model. In case of the *Marx—Leontief* model this can be realized by a simple addition of possible processes (not or not yet employed in reality). With the programing model this is somewhat more complicated: the model should be rendered homogeneous. This means that all processes (activities) with whose aid the resources may be expanded, must be fitted into the model, i.e. also the resources must be made into variables. Obviously, this makes sense only in long-term planning — in the short run, a series of unchangeable conditions must be reckoned with.

If, however, the programing model has been made homogeneous, it has been simultaneously made into a *closed* model and thus, by eliminating "exogenous" resources, the necessity of an "exogenous" objective function may be also dropped. By expanding, namely, the scope of reality represented by the model both over space and time, the role of exogenous "endowments" that is constraints, and "prices" that is objectives will diminish.

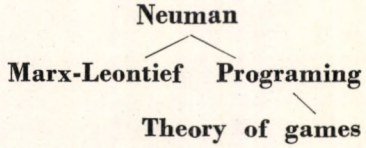
Kornai [20] expounds clearly that in a programing model there is a close interdependence between the "necessities" expressed by the constraints and the "wishes" contained in the objective function: "There is no self-evident and natural criterion for separating in each case the relationships which are to be enforced within the system of constraints . . . from those coming under the objective function". Thus, even in an open model, the "constraints" and "objectives" may — to a certain extent — substitute each other, they serve to express the same deeper requirement which may be often expressed in an alternative manner (either as a "constraint" or as an "objective").*

* This "substitutability" or qualitative equivalence is demonstrated by the diadic-matrix **bc'** obtained in the course of transformation and which simultaneously represents both the constraints **b** and the coefficients **c'** of the objective function ("prices").

And this is only obvious, since the "constraint" and the "objective" have come about precisely because and when we have "opened" a uniform, self-explanatory and closed system artificially, and cut across — at a single place in a forced manner — the infinite process repeating itself (may be on an ever higher level). This is how a "beginning" and an "end" is obtained in an infinite process; i.e. *resources* from which we start and a *final objective* the process aims at. This is the foundation of the teleological approach, which necessarily leads to the idea of optimization and explains how we arrive from a valuation of the final objective at the valuation of resources.

What, then, can be maintained from the idea of optimization in the closed model. As referred to, and as can be proven on hand of the model of production prices, the closed model may be constructed both in a strictly deterministic manner and as the computation of extreme values. Thus, e.g., we may "maximize" the rate of growth (viewing it from aspect of production levels) or the rate of profits or interest (considering the problem from the dual aspect of prices). In fact, in both cases we economize on the only remaining "scarce resource" — namely, *time* — since these *rates* give the velocity of processes taking place over time. It was in this sense that *Marx* made the remark [21]: "Alle Ökonomie ist Ökonomie der Zeit".

f) Summing up the conclusions from this chapter, it may be ventured that all models examined may be written with the aid of the general *Neumann* model. The ranking of "generality"* may be interpreted on hand of the following graph:



It may be mentioned as an interesting fact than even the *Marx—Leontief* model may be interpreted as a "parallel" to the theory of games on hand of a $\mathbf{B} = \{b_{ik} \equiv 1\}$ matrix. In this case:

$$\mathbf{p}(\mathbf{I} - \mathbf{A})\mathbf{x} = \gamma(\mathbf{p}, \mathbf{x})$$

will be the value of the "Leontief-game". The economic interpretation of the latter is the profit of the enterprise. Utilizing the idea of *J. Kornai* [22], the economic interpretation of the game could be conceived of as follows: there are two players to the game, the Price Office and the Planning Office. The Price Office regulates prices — chooses a $\mathbf{p}$ — so that the enterprises

* The yardstick of measurement is here the quantity of information, independent data, comprisable in a model of a given magnitude.

earn the possible minimum of profits. The Planning Office, on the other hand, regulates production in a manner to maximize profits. The two "strategies" will yield the corresponding production proportions and price system while a firm profit will emerge as the "value" of the game. Of course, in this form the model does not account for immobilized capital. If, however, the same "game" is played according to the matrix $((\mathbf{I} - \mathbf{A}) - \pi\mathbf{B})$, also the optimum value of the π "capital engagement factor" can be determined — and, once again, the solution becomes equal to that of the Marx—Leontief model. Therefore, also this latter model may be interpreted on the basis of the minimax strategy.

To sum up: it is apparent that the various possible ways of approach, namely, convergence to the equilibrium situation, minimax strategy, computation of extreme values (optimization), as well as the construction of a deterministic, causal model are interchangeable in case of all models treated and do not influence the essential contents of the models nor the numerical values of the solutions. It is only a matter of taste by what special interpretation the scholar expresses the rules and interrelations learned by theoretical and numerical investigation of his model.

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О ЛИНЕЙНЫХ МОДЕЛЯХ В ЭКОНОМИКЕ

А. БРОДИ

Уже Нейман в свое время указал на то, что совершенно противоположные основные принципы могут привести к эквивалентным математическим моделям. Известным примером для этого служит кажущееся противоречие каузальной механики Ньютона и телеологической — Д'Аламбера.

Уже он сам доказывал эквивалентность игр с двумя участниками и собственной общей модели равновесия [1]. Позже эта реляция была распространена Данцигом и на модель линейного программирования [14].

Нетрудно распространить эквивалентность и на дальнейшие модели. Здесь мы подразумеваем, в первую очередь, модель цен производства Маркса (см. [2] и [3]), а также динамическую модель роста Леонтьева. [10]

По существу, речь идет о постановке следующей математической задачи:

Даны две любые действительные матрицы C и D. На их основании следует определить неотрицательные векторы p и x (p — вектор цен, x — вектор интенсивности)

$$\lambda = \frac{pCx}{pDx}$$

значение которых будет максимальным.

Подбирая соответствующие матрицы, можно придти к различным моделям, а именно:

1. и 2.

C = (1 — A) технологическая матрица текущих затрат
D = B матрица фондоемкости
Примальное решение: *динамическая система Леонтьева*
Дуальное решение: *Цены производства Маркса*
λ: норма роста (норма средней прибыли)

3.

C = по усмотрению

$$D = \begin{bmatrix} 1, & 1, & \ldots, 1 \\ 1, & 1, & \ldots, 1 \\ . & . & \\ . & . & \\ . & . & \\ 1, & 1, & \ldots, 1 \end{bmatrix}$$

Модель *игры с двумя участниками*
λ: значение игры

4.

C = Технологическая матрица
D = $\{bc^T\}$ диадная матрица из вектора ресурсов b и коэффициентов целевой функции C.

Линейное программирование

x и p — примальное и дуальное решения
λ оптимальное значение целевой функции
В статье в дальнейшем рассматриваются последствия эквивалентности с точки зрения теории и вычислительной техники.

G. Szakolczai

THE PATTERN OF INVESTMENTS AND THE RATE OF GROWTH*

The paper attempts to examine whether the three basic assumptions of Lange's famous paper dealing with the output-investment ratio and input-output analysis — i. e. the assumptions that the output-investment ratios are constants, that the growth of output is uniquely determined by the investments, and that the difficulties of realization cannot retard the growth process — may be considered as valid under present Hungarian conditions.

The allocation of investments among industries, and the rate of economic growth are connected by a two-way relationship. Two fundamental aspects should be taken into account in the analysis of the problem, *which may lead to quite opposite conclusions*. On the one hand, a given amount invested in different industries may result in different increments of national income. This leads to the conclusion that, in order to obtain a maximal growth rate, investments should be concentrated in the industries where the increment of national income per unit of investment is the greatest. This relationship may be called the *efficiency or yield aspect*. On the other hand the different industries of the economy are interconnected by certain qualitative relationships which — particulary in the short run — can only be modified to a slight extent (by substitution, foreign trade, etc.). This involves that the structural equilibrium of the economy can only be ensured by concentrating the investments in the industries constituting a bottleneck. This may be, however, quite

* The paper presents the first results of a major research not yet concluded; these results, however, may be of some interest even in this form. Verbal account of these findings was given at the session held by the Hungarian Economic Association on the 16th December, 1965, *in memoriam* Oscar Lange, as well as at the joint meeting of the Sections of Mathematical Economics and Economic Planning of the Hungarian Economic Association on the 22nd April, 1966. It will be absolutely necessary to repeat the computations on the basis of longer and perhaps otherwise defined time series so that the conclusions relating to the economic policy could be better supported. I would express my sincere thanks to G. Benti, K. Marosszéki, I. Zsigmond, A. Kovács, J. Stáhl and L. Varga, all of the Laboratory for Information Processing, Budapest, for their manifold contributions to this research. After the presentation of this manuscript, the valuable study by Rácz [4] has been published in book form, in which he develops the analysis contained in his earlier paper [3]. The two investigations lead to highly similar results in spite of differences in the methods employed. The minor deviations are mainly due to the fact that the data refer to different periods. It is not possible to undertake a more detailed comparison of the results within the framework of the present paper.

contrary to the requirements of efficiency. This relationship may be called the *structural aspect.*

Of course, the two aspects can be strictly separated only in theory. In practice, however, one should aim at an optimal reconciliation of the two aspects, and at obtaining the methods by which an optimal solution can be ensured. There are several approaches, among others the well-known Lange model [2] which — by introducing several simplifying assumptions — reduces the solution to a linear programming problem.

The Lange model

Lange starts from an input-output table supplemented by an investment matrix. The structure of the matrix of current inputs — which he calls replacement matrix — and that of the investment matrix is completely identical. The technical (input) and the investment coefficients are derived in the usual way. The most important explicit assumption of the model is that these coefficients — as well as the sectoral output-investment ratios which express the increment of production per unit of investment — are constants, independent from the industrial structure and the volume of production.

The model is centered on these constant sectoral output-investment ratios. Lange proves that the national output-investment ratio is the average of the industrial output-investment ratios weighted by the percentage distribution of investment among industries. This leads directly to the second conclusion: the output-investment ratio and consequently the growth rate of the whole national economy is — according to the assumptions of the model — uniquely determined by the allocation of investments among industries. The more investments will be allocated to the industries where the output-investment ratio is the greatest, the higher will be the rate of growth. Finally, Lange shows that the maximization of the economy-wide output-investment ratio may be reduced to a linear programming problem. The constraints express the requirement that the industrial structure described by the input-output tables must be maintained, and that at least a given minimum of the output of each branch must be allocated to private consumption. To use the expressions introduced at the beginning of this paper: Lange centers his model on the efficiency aspect, and considers the structural aspect as a constraint.

It can hardly be denied that these results rely on a realistic appraisal of the economic relationships. It is, however, equally obvious that the results expressed in this simplified form are valid only within the framework of the numerous — explicit or implicit — assumptions. If, like Lange, we

disregard the problems of aggregation — as a matter of fact, in the model each industry turns out a single product with a single technology — the assumptions may be classified into three groups.

First, Lange assumes that the relations are strictly linear and that the coefficients expressing these linear relationships are constants. This means that the output and the investment coefficients, as well as the sectoral output-investment ratios are constants, independent of the level and structure of production. *Second*, the model starts from the assumption that the growth of production depends only on the investment, and thus foreign trade, labour or natural resources cannot inhibit the growth of production. The depreciation of fixed assets as well as the time lags between investments and the increments of production are also treated in a highly simplified manner. In addition, the model also assumes that capacities are always fully used, and that the degree of their utilization cannot be modified. *Finally*, special emphasis should be given to a similarly basic assumption, i.e. that the model fully disregards the problem of realization and assumes implicitly that production may be limited by the availability of productive resources, but not at all by the possibilites of realization. Briefly, the model assumes that all products can always be sold.

In the following it will be examined whether and to what extent these assumptions correspond to reality, in order to be able to answer the question whether this model may be used for planning purposes. The first section of this paper, starting from an analysis of the original data and their trends, deals with the assumption of linearity. The second section, using correlation and regression analysis, examines the question whether the growth of output may be expressed as a function of investment only. No special investigations will be made as to the problem of realization; both sections mentioned above, however, offer some clues towards the solution of the third problem.

The trend of the output-investment ratios

As mentioned above, the Lange model starts from the assumption that the production and investment coefficients as well as the sectoral output-investment ratios are constants, independent of the volume and structure of production. Here we confine ourselves to the constancy of the sectoral output-investment ratios which are of critical importance from the point of view of the rate of growth. The data on which the investigations are based were supplied by the Industrial Department of the Central Statistical Office.*

The average and the incremental output-capital ratios were directly computed from the initial data. The latter correspond more or less to Lange's

* In the meantime the data have been published [9].

output-investment ratios. The ratios thus computed decreased rather rapidly in most cases, instead of being constant. Owing to random fluctuations of the time series, however, the basic tendencies could not be unequivocally ascertained, and particularly the incremental ratios fluctuated heavily. In order to make the results more easy to survey, and to eliminate the effects of random fluctuations, it seemed advisable to smooth out the series. This can be accomplished in two ways: either by analytical trends or by moving averages. Both methods were used in computing the indices in question from the

Table 1

The constants appearing in the parabolic trend equations of net output and gross capital**'**** (1960—1964)

Industrial group[a]	Net output* (100 Ft)			Gross capital** (1000 Ft)		
	A	*a*	*b*	*A*	*a*	*b*
110	6 355 653	+ 327 037	— 6 253	18 311 599	+ 1 435 043	+ 83 236
120	2 702 243	+ 165 059	+ 11 109	23 060 029	+ 2 765 416	— 43 594
130	4 656 197	+ 520 572	— 49 065	15 604 811	+ 2 031 890	— 130 486
140	4 416 283	+ 534 473	— 55 529	6 025 457	+ 734 514	— 26 603
150	5 190 774	+ 884 945	— 85 635	8 655 356	— 472 220	+ 31 866
160	2 157 295	+ 99 369	+ 24 975	2 105 474	+ 294 219	+ 3 348
170	2 066 019	+ 407 278	+ 12 720	2 262 258	+ 344 795	+ 13 907
180	1 372 230	+ 324 616	— 18 567	1 203 399	+ 133 173	+ 12 618
190	2 667 651	+ 277 994	— 6 051	3 074 514	+ 200 367	+ 1 161
210	3 260 234	— 39 166	+ 49 362	6 635 549	— 46 032	+ 216 097
220	6 114 815	+1 308 371	— 28 707	11 792 714	+ 761 015	+ 264 336
240	1 663 335	+ 163 058	— 3 994	1 357 569	+ 129 149	+ 18 525
250	659 750	+ 76 162	— 4 505	1 785 413	+ 68 547	+ 65 662
260	576 857	+ 50 188	+ 2 577	905 873	+ 63 854	+ 6 445
270	11 304 506	+ 759 060	— 21 614	9 413 772	+ 393 222	+ 112 699
280	2 527 846	+ 168 943	— 11 328	1 511 804	+ 131 049	— 7 473
290	2 302 504	+ 157 690	— 3 225	525 920	+ 29 707	+ 1 598
310	10 947 152	+1 205 450	+ 32 173	17 561 810	+ 502 925	+ 68 333
State ind.	73 224 298	+7 336 756	—193 401	132 209 524	+10 375 104	+6 694 254

Source: Data supplied by the Industrial Department of the Central Statistical Office.

* Computed using the so-called "net indices" of industrial production (based on partial indices expressed in natural units of measurement, and on some other methods).

** Gross value of productive fixed assets (excluding residential buildings, workers' hostels and fixed funds of welfare institutions).

*** The trend equations are the following: net output or gross capital $= A + at + bt^2$, where A, a, and b are constants calculated by the method of least squares and t the time in years, 1960 = 1.

a) See Appendix on p. 210.

output and capital time series. Let us first examine the parabolic trend equations of net output and gross capital.* (See Table 1, p. 192.)

The trend equations show that the increments of net output slightly diminished while those of gross capital grew rather rapidly in the period under survey. This finding is also supported by the analysis of the original data. In the trend equations of the output, the coefficients of the quadratic term are negative for 12 industrial groups and for the state-owned industry as a whole, and are positive only for six industries, showing that the increments of net output were generally diminishing in the period under survey. At the same time, however, the same coefficients are nearly always positive in the trend equations of gross capital, i.e. the increments of fixed assets grew generally larger in this period.

The fact that the increments of net output were diminishing in the period under investigation is of no particular economic importance since, apart from a few exceptions, the decrease was negligible. This emerges also from the generally small absolute value of the coefficients of the quadratic terms. The values computed from linear trends approximate the actual figures nearly as well as those obtained from the parabolic trends. The decrease of the net output increments was thus not particularly characteristic or substantial in the period under survey.

Of course, the results of these calculations do not yield any information about the causes of this phenomenon, and even less about its prospective development. Some temporary causes (e.g. the industrial reorganization) or some cyclical phenomena (connected e.g. with the investment mechanism) may have played here a role. Certain calculations based on longer series [5] seem to support the latter hypothesis.

As to the computations regarding the gross value of fixed assets, the trends of the increments are more characteristic. With the exception of the engineering branches, the coefficients of the quadratic terms generally have a higher absolute value, and the actual values in the period under review can *be much less approximated by a linear than* by a parabolic *trend.* Thus, in this period, *slightly diminishing increments of net output were accompanied by definitely growing increments of fixed capital.*

To show that these results are not dependent on the methods applied, the increments were also computed from the same data by means of three element moving averages.

* I should like to emphasize once more that the smoothing of the time series was the only purpose of the corrections based on the computed trends. The results do not allow any conclusions concerning the laws of the development of production or fixed assets. Nor can they be interpreted as meaning that either series may be described by a parabolic trend. Even less can the trends obtained be extrapolated. At the same time, as it was expected, *the computed values sufficiently approximate the actual ones, so that they may substitute them in the analysis of the tendencies in the period under review.*

Table 2

Increment of net output and gross capital, computed from three-year moving averages (1000 Ft)

Industrial group	Increments of net output		Increments of gross capital	
	1960/61—1962/63	1961/62—1963/64	1960/61—1962/63	1961/62—1963/64
110	290 769	309 529	1 524 886	1 715 952
120	200 794	212 480	2 730 259	2 592 864
130	392 722	275 891	1 573 924	1 370 511
140	346 546	181 844	624 917	560 749
150	683 199	513 957	604 737	654 380
160	185 179	195 486	317 925	328 788
170	441 182	453 791	376 025	409 108
180	279 903	229 453	171 964	193 559
190	228 019	213 572	141 842	238 500
210	83 321	159 829	489 574	884 129
220	1 196 772	1 109 658	1 526 424	2 140 111
240	146 378	144 754	188 386	249 663
250	58 265	48 038	119 961	244 019
260	56 302	60 629	80 016	100 161
270	660 925	635 709	753 362	1 107 129
280	108 141	97 768	114 791	93 653
290	140 964	123 723	33 899	38 665
310	1 242 662	1 433 994	750 982	913 495
State ind.	6 567 624	6 176 028	12 193 397	13 912 153

Source: Data supplied by the Industrial Department of the Central Statistical Office.

These results fully agree with those arrived at by means of analytical trends. In the industrial groups where the increments of net output computed from the parabolic trends are increasing, the same increments computed by means of growing averages are also increasing and conversely. There is a single exception: mining, where the last increment was small and the last but one was very large. Consequently, the results of the two types of computation are of opposite character, though the numerical values are only slightly different. In the case of the fixed assets, the results of the two computations are even more similar; they are of the same character in all cases. (In the following we shall rely on the values of the analytical trends, considering that the moving averages make our very short time series even shorter.)

On the basis of the values obtained from the parabolic trend equations the net outputs per thousand Forint of gross capital were first determined. (Sec Table 3, p. 195.)

The values generally show a decreasing tendency. This cannot be otherwise, since the increments of production rather diminished while the increments

Table 3

Net output per thousand Forint of gross capital, computed from parabolic trends

Industrial group	1960	1961	1962	1963	1964
110	347.1	336.7	324.7	311.6	297.9
120	117.2	111.6	108.3	106.5	105.9
130	298.3	292.9	287.3	281.4	275.1
140	732.9	727.0	712.4	690.9	663.6
150	599.8	653.9	680.4	682.9	665.9
160	1024.6	949.5	907.2	888.0	885.6
170	913.3	948.6	974.7	994.3	1008.9
180	1140.3	1243.9	1280.9	1269.5	1224.8
190	867.7	897.3	919.4	935.2	945.6
210	491.3	480.5	456.2	424.9	392.9
220	518.5	576.8	599.0	594.5	571.1
240	1225.2	1210.7	1167.8	1107.1	1037.4
250	369.5	410.2	415.2	389.9	347.4
260	636.8	644.9	649.0	649.6	647.6
270	1200.8	1213.9	1195.8	1153.3	1094.2
280	1672.1	1642.1	1617.2	1595.9	1577.1
290	4378.1	4409.2	4402.2	4363.1	4298.2
310	623.3	671.9	715.8	754.5	787.2
State ind.	553.9	560.9	559.4	551.3	538.2

Source: Table 1

of fixed assets positively increased. There are only three industrial groups where the value of the index increased continuously, viz. *electrical engineering, metal mass products and food industry*, but the rate of growth was decreasing even here. In four groups the value of the index number first increased and later declined; in 1964, however, it was still higher than the initial figure. In three other industrial groups the initial increase was similarly followed by a decrease, but the closing value was in these cases below the original level. In eight industrial groups the value of the coefficient decreased continuously through the entire period under review. In the *state-owned industry as a whole*, the value of this parameter first rose and later decreased, the closing value being below the initial figure. Accordingly, the continuous decrease in the value of this parameter spread to more and more industries and became general by the end of the period.

From the trend values the incremental ratios, i.e. the increments of net output per 1000 Forint increment of gross capital were also computed for the individual industries and for the state-owned industry as a whole.

Table 4

Increment of net output per thousand Forint increment of capital gross computed from parabolic trends

Industrial group	1960/61	1961/62	1962/63	1963/64	%*
110	211.2	182.8	159.4	140.7	66.62
120	64.7	72.9	86.7	98.8	152.70
130	248.0	227.9	199.4	158.2	63.79
140	676.5	561.8	426.9	264.6	39.11
150	1585.3	1105.6	723.1	410.8	25.79
160	417.1	569.1	723.5	864.4	207.24
170	1173.1	1149.8	1134.9	1124.4	95.82
180	2095.8	1573.0	1183.6	878.4	42.91
190	1346.5	1303.9	1203.8	1129.1	83.69
210	158.8	182.7	200.2	208.2	131.11
220	1248.7	787.0	559.1	424.6	34.02
240	1082.3	820.7	641.3	525.1	48.53
250	—	484.4	204.6	112.5	23.22**
260	752.9	698.8	656.3	618.2	82.11
270	1155.6	949.4	680.3	514.4	55.35
280	1274.2	1238.5	1202.1	1141.0	89.42
290	4967,7	4228.6	3810.8	3292.6	66.73
310	2166.5	1839.1	1617.7	1457.9	67.29
State ind.	645.3	541.8	460.1	392.7	60.96

Source: Table 1.
* 1993/64 as percentage of 1960/1961.
** 1963/64 as percentage of 1961/1962.

The values reported in Table 4 correspond more or less to the output-investment ratios of Lange. (Owing to Lange's unusual definition of the replacement and investment matrices there are some differences between the definitions of these two parameters.) We have assumed, like Lange, that there is a one year time lag between the increments of capital, and the resulting increments of output. In view of the fact that the capital data refer to the assets actually put to use and appearing in the books of the enterprises (i.e. exclude the stock of investments in progress), the use of a one year time lag seems a realistic assumption.*

* It may be mentioned that, according to the computations of Simon and Kupcsik [6], a time lag of two years may yield a better approximation even in our case. Our results, however, have not confirmed this assumption. Further, since this procedure would have shortened even more our time series actually short enough, the possibility of a two-year time lag was left out of consideration in the computations presented in this paper.

The results point definitely to a general and substantial decrease of the incremental output-capital ratios in the period under investigation. This is illustrated by the data of the last column of Table 4, expressing the 1963/64 value of this parameter in percentages of the 1960/61 values. This figure is above 100 in only three industrial groups: building materials (131%), electrical engineering (207%), and electric energy (153%). All other values are below or much below 100.

The output increments were determined also on the basis of moving averages.

Table 5

Increments of net output per thousand Forint increment of gross capital computed from three-year moving averages

Industrial groups	1960/61–1962/63	1961/62–1963/64	Industrial groups	1960/61–1962/63	1961/62–1963/64
110	190.7	180.4	210	170.2	180.8
120	73.6	81.9	220	784.0	518.5
130	249.5	201.3	240	777.0	579.8
140	554.7	324.3	250	485.7	196.9
150	1129.5	785.4	260	703.6	605.3
160	519.6	594.6	270	877.3	574.2
170	1173.3	1109.2	280	942.1	1043.9
180	1624.7	1185.4	290	4158.3	3199.9
190	1607.6	895.5	310	165.5	116.7
			State ind.	538.6	443.9

Source: Data supplied by the Industrial Department of the Central Statistical Office.

The results are indentical with those obtained with the analytic trends and presented in Table 4. The direction of the change is the same everywhere — with the exception of the hides, furs and shoes industry where the analytic trends led to slightly increasing, and the moving averages to slightly decreasing parameters. Except for the metal mass products and the food industries, even the numerical results agree remarkably. (The values obtained by moving averages may be compared with the two central columns in Table 4.) The statistical foundations of the rapid decline in the incremental output-capital ratios seem therefore to be solid, at least for the period under review.

These results may lead to the following two conclusions concerning *the validity of Lange's assumptions*. On the one hand it appears that the sectoral *output-investment ratios are far from being constants*, meaning that it is inadmissible to start from the assumption of the constancy of these parameters.

Neither can the assumption be maintained, that an increase in production cannot be inhibited by difficulties of realization. The value of the coefficient fell in several branches to one half and even to one fourth of its original value within a relatively short time; for the state-owned industry as a whole it decreased to 60 per cent. Such changes cannot be ascribed to technical reasons only, and lead to the conclusion that in this period the growth of production might have been impeded by difficulties connected with realization.

The results arrived at are of some interest even apart from the Lange model. Such a general and substantial decrease in the output-investment ratio — if it proves to be persisting — is a most harmful economic phenomenon that might, if prevailing beyond a certain period, endanger further economic progress. But, as it has already been emphasized above, nothing definite can be said about the further development of these parameters on the basis of these computations.

Factors of the growth of industrial production

Let us now examine the validity of the other basic assumption of the Lange model, i.e. that the increase of production is a function of investments only, and that all other factors may be neglected.

This assumption was tested by means of correlation and regression analysis based on cross-section data. Departing from pairs of data for various industrial groups or subgroups, this method examines whether higher or lower values of one of the variables are connected with higher or lower values of the other, (e.g., whether a higher or lower percentage increase of capital is connected with a higher or lower percentage increase of productivity.) Accordingly, as to the above example, the results only show whether the increase in labour productivity was above (or below) average where the increase of capital was above average. However, these results do not state anything about the possible causes of the differences.

Let us start from the data used and presented in the preceding chapter, and express the differences between the observed 1960 and 1964 figures as percentages of the observed 1960 values. Three types of classification were used in these computations: by industrial groups, by subgroups, excluding pharmaceutical industry, and finally by subgroups excluding the pharmaceutical and food industries. The first two calculations provide a means for some mutual control. The computations excluding the food industry were necessary because in this field random changes (e.g. harvest results) may significantly modify the results. The omission of the food industry was, of course, rather arbitrary, and somewhat distorted the results, because production per unit of fixed assets was particularly high in the food industry during

the period under survey. The pharmaceutical industry was omitted for similar reasons, because its highly favourable results would have distorted the general picture. The data used were weighted, the weights applied being the net output of the individual industries.

The procedure applied in these computations may seem somewhat unusual. Cross-section computations generally use the data of different enterprises of the same industry or those of different territorial units, but they utilize those of different industries only exceptionally. As a matter of fact, the results may be distorted by several factors characterizing only some of the individual industries. We tried to eliminate these factors by examining only the percentage changes, expressing the data in percentages of the 1960 values. This made interindustrial comparisons possible; exceedingly high accuracy, however, cannot be expected from such computations.

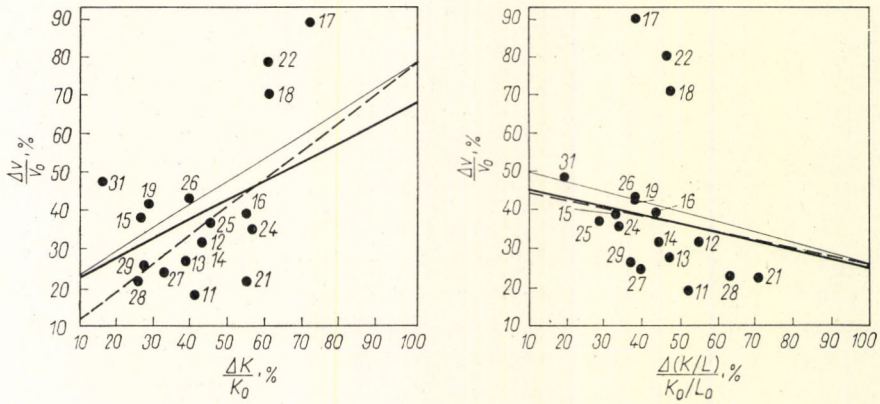
It follows from the preceding that the results cannot be interpreted as regression (but only as correlation) estimates, and it would be improper to attribute too high a significance to the numerical values of the regression coefficients. The calculations aim exclusively at establishing whether there exist some -- positive or negative — correlations between the variables considered.

In the diagrams below the points indicate the pairs of data pertaining to the industrial groups denoted by the code numbers. (In order to save space, the zeros have been omitted from the end of the code numbers in the diagrams.) Owing to the weighting of the industrial groups, the regression lines in some cases do not seem to fit the data sufficiently, and in some others the results seem to depend of only one or two of the industrial groups. The interrelations would appear more clearly from charts constructed from the data for the industrial subgroups.

The interconnections of the growth of net output and gross capital were first examined. (See Fig. 1, p.200.)

The percentage increase of net output was expressed in two different ways: as a function of the percentage increase of capital (Fig. 1/a.) and as a function of the percentage increase of capital per head (Fig. 1/b.). In the first case a moderately close *positive correlation* was found, and the regression coefficients differ from zero on a high significance level. This means that the growth of production was higher in the industries where also the increase of the capital stock was greater.

This relationship, however, does not show that the growth of capital was the *cause* of the increase of production. As a matter of fact, it is possible that also the labour force increased significantly where production and fixed assets grew to a greater extent, and thus the increase in production may be attributed also to the growth of the labour force employed.



Industrial groups:

$$\frac{\Delta V}{V_0} = \underset{(0.271)}{0.615}\ \frac{\Delta K}{K_0} + 17.445 \quad r = .4704 \qquad \frac{\Delta V}{V_0} = \underset{(0.383)}{-0.274}\ \frac{\Delta (K/L)}{K_0/L_0} + 46.999 \quad r = -.1668$$

Industrial subgroups:

$$\frac{\Delta V}{V_0} = \underset{(0.114)}{0.512}\ \frac{\Delta K}{K_0} + 17.420 \quad r = .5056 \qquad \frac{\Delta V}{V_0} = \underset{(0.174)}{-0.225}\ \frac{\Delta (K/L)}{K_0/L_0} + 42.469 \quad r = -.1664$$

Excluding food industry:

$$\frac{\Delta V}{V_0} = \underset{(0.130)}{0.750}\ \frac{\Delta K}{K_0} + 4.043 \quad r = .6469 \qquad \frac{\Delta V}{V_0} = \underset{(0.220)}{-0.210}\ \frac{\Delta (K/L)}{K_0/L_0} + 41.818 \quad r = -.1394$$

Fig. 1. Increase of net output in function of the growth of gross capital

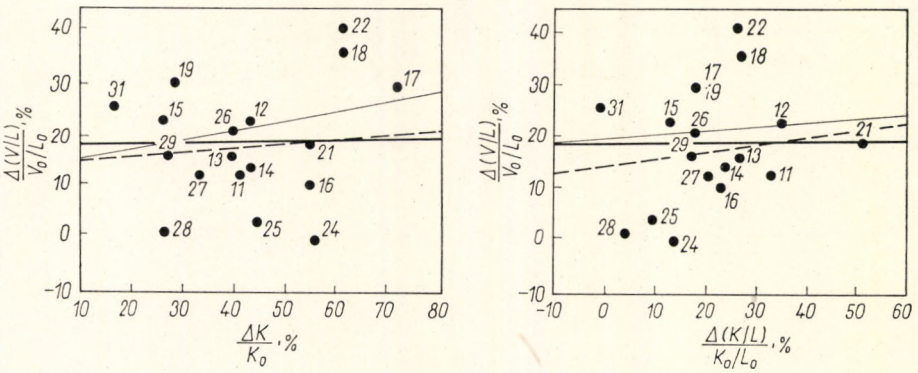
——— Industrial groups
——— Industrial subgroups
- - - - - - Excluding food industry

In order to separate the effect of the changes in the stock of fixed assets from those in the level of employment, the changes in net production were expressed (in Fig. 1/b.) as a function of changes in *per capita* fixed assets. The sign of the regression and correlation coefficients obtained here is *negative*. This suggests that the greater the increase in the stock of capital per head, the smaller the increase in production. The negative correlation is, however, rather loose. The absolute values of the dispersions of the regression coefficients are approximately the same as the coefficients themselves. Accordingly, the variables are uncorrelated, or there may be perhaps a slight negative correlation between them.

As a result, the growth of production was not greater in the industries where gross capital per head increased to a greater extent. This shows that the investments cannot be considered as the most important explanatory factor of the increase in production. This result seems contrary to one of the

fundamental assumptions of the Lange model. It is also important from the economic point of view and we shall return to its more detailed interpretation.

Having analyzed the relationship between the growth of output and capital, we proceeded to investigate the interrelations between the increase in the productivity of labour and the growth of the stock of fixed assets.



Industrial groups:

$$\frac{\Delta(V/L)}{V_0/L_0} = \underset{(0.153)}{0.189}\,\frac{\Delta K}{K_0} + 13.83 \quad r = .2789 \qquad \frac{\Delta(V/L)}{V_0/L_0} = \underset{(0.192)}{0.095}\,\frac{\Delta(K/L)}{K_0/L_0} + 19.42 \quad r = .1119$$

Industrial subgroups:

$$\frac{\Delta(V/L)}{V_0/L_0} = \underset{(0.062)}{0.007}\,\frac{\Delta K}{K_0} + 18.724 \quad r = .0137 \qquad \frac{\Delta(V/L)}{V_0/L_0} = \underset{(0.083)}{0.007}\,\frac{\Delta(K/L)}{K_0/L_0} + 18.841 \quad r = .0105$$

Excluding food industry:

$$\frac{\Delta(V/L)}{V_0/L_0} = \underset{(0.081)}{0.085}\,\frac{\Delta K}{K_0} + 13.987 \quad r = .1520 \qquad \frac{\Delta(V/L)}{V_0/L_0} = \underset{(0.105)}{0.145}\,\frac{\Delta(K/L)}{K_0/L_0} + 14.137 \quad r = .2006$$

Fig. 2. Increase of labour productivity in function of the growth of gross capital

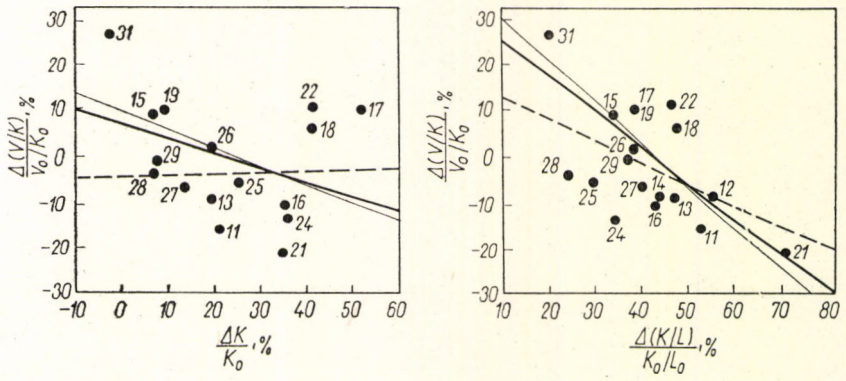
——— Industrial groups
——— Industrial subgroups
- - - - - - - Excluding food industry

These results indicate that there is *no correlation* between the growth of fixed assets (expressed in absolute or *per capita* terms) and the increase in productivity. The values of the correlation coefficients are in all cases very low, particularly in case of the computations based on the most reliable subgroup data. The values of the regression coefficients are also low and not significantly different from zero, particularly in case of subgroup data.

These results show that the growth of labour productivity was not greater — or, at best, was greater only to a negligible extent — in the industries where the percentage increase of total capital and capital per head was comparatively higher. Thus, contrary to rather widespread beliefs, investments

cannot be considered as the most important explanatory factor of the increase of production or of labour productivity. The importance of this result goes beyond the direct purpose of this study, and we shall therefore return to it later on.

The next cross-section results refer to the interrelations between changes in capital stock and those in output per unit of capital.



Industrial groups:

$$\frac{\Delta(V/K)}{V_0/K_0} = \underset{(0.199)}{-0.365}\,\frac{\Delta K}{K_0} + 16.696 \quad r = -.3975 \qquad \frac{\Delta(V/K)}{V_0/K_0} = \underset{(0.172)}{-0.896}\,\frac{\Delta(K/L)}{K_0/L_0} + 20.200 \quad r = -.7754$$

Industrial subgroups:

$$\frac{\Delta(V/K)}{V_0/K_0} = \underset{(0.095)}{-0.298}\,\frac{\Delta K}{K_0} + 12.483 \quad r = -.3767 \qquad \frac{\Delta(V/K)}{V_0/K_0} = \underset{(0.094)}{-0.776}\,\frac{\Delta(K/L)}{K_0/L_0} + 17.219 \quad r = -.7338$$

Excluding food industry:

$$\frac{\Delta(V/K)}{V_0/K_0} = \underset{(0.094)}{0.016}\,\frac{\Delta K}{K_0} - 4.099 \quad r = .0245 \qquad \frac{\Delta(V/K)}{V_0/K_0} = \underset{(0.103)}{-0.452}\,\frac{\Delta(K/L)}{K_0/L_0} + 7.578 \quad r = -.5431$$

Fig. 3. Increase of net output per unit of gross capital in function of the growth of gross capital

——— Industrial groups
——— Industrial subgroups
- - - - - - Excluding food industry

In this case — with the exception of a single computation, where the variables proved to be uncorrelated — we obtained a *negative* correlation. This negative correlation is particularly close in Fig. 3/b, where the independent variable is the change in fixed capital per head. The coefficients indicate that the correlation is surprisingly close, considering the character of the investigations. The regression coefficients are different from zero on a very

high significance level. This means that the relationship, according to which *a higher than average increase in capital per head is accompanied by a greater than average decrease in output per unit of capital* is well founded from the statistical point of view.

These results show definitely that *higher investments do not increase only production but also the capital intensity of production.* This results confirm from a new aspect the conclusion drawn from the cross-section computations, viz. that investments cannot be considered as the main explanatory factors of production growth. This supports fully the results of the computations concerning the constancy of the output-investment ratios, reported in the first part of this paper. The cross-section data also show that these ratios — as well as the output-capital ratios which are necessarily moving in the same direction — were not constant but decreased with growing investments in the period under survey.

The results of these cross-section computations seem to be of some interest not only from the methodological, but also from the economic point of view. These results may be interpreted in terms of the sectoral allocation and the optimal volume of investments, as well as in terms of the problem of realization.*

The results of the computations, which seem to be well founded from the statistical point of view, raise unavoidably the question whether the investments have been appropriately allocated among the industries. The

* Theoretically, there are at least two further possible interpretations. On the one hand, technical development in the period under review might have been of a labour-saving and capital-using character. On the other, the period under review was too short, so that the favourable effects of investments could not possibly come about. In my opinion, however, these considerations cannot explain the tendencies emerging from these examinations.

Technical development in the leading industrial countries is today mainly of a capital-saving character. In countries at the same level of economic development as ours the capital intensity of production is diminishing in most cases, particularly in the manufacturing industries. (These conclusions are fully supported by the detailed numerical materials of a study published after the presentation of this paper, and written by Bródy [1].) Under such conditions the increase of the capital-intensity of production cannot be explained by the character of technical progress. Moreover, the rate of change of this parameter in several industries is so high that it cannot be attributed to technical reasons only.

It is also impossible to explain the development of this parameter by the consideration that the favourable effects of the investments will only present themselves at a later date, and not in the relatively short period investigated. (Nevertheless, this consideration certainly holds to a certain extent.) Owing to obsolescence as well as to the considerable costs connected with depreciation and maintenance of equipment, the yield of the investments must appear within a relatively short time. Otherwise — owing to the above considerations — even an investment which is highly favourable from the technical point of view may become uneconomical. The case when the returns appear only with a time lag, and particulary with a time lag of several years, belongs in my opinion in the second of the above categories. Accordingly, whenever the favourable results of investments appear in an industry only with a lag of several years, this means that the industry in question is incapable of utilizing efficiently the full amount of investments allocated to it.

distribution of investments by industries depends, however, not only on the efficiency, but also on the structural aspect. The two aspects are, however, clearly conflicting. Should the expansion of production run into difficulties in a particular industry, the considerations based on the structural aspect suggest the concentration of investments just in this particular industry, tending to ensure its development deemed necessary because of the structural relationships. There is hardly any doubt that similar considerations actually played a role in the past decisions on economic policy. This makes it highly probable that the tendencies disclosed by our computations may — at least in part — be attributed to the fact that (at least in certain industries) the structural aspect has been overemphasized, and the efficiency aspect somewhat neglected. In asserting the structural aspect, no due attention seems to have been paid to the losses of efficiency that inevitably occur while pursuing such a policy.

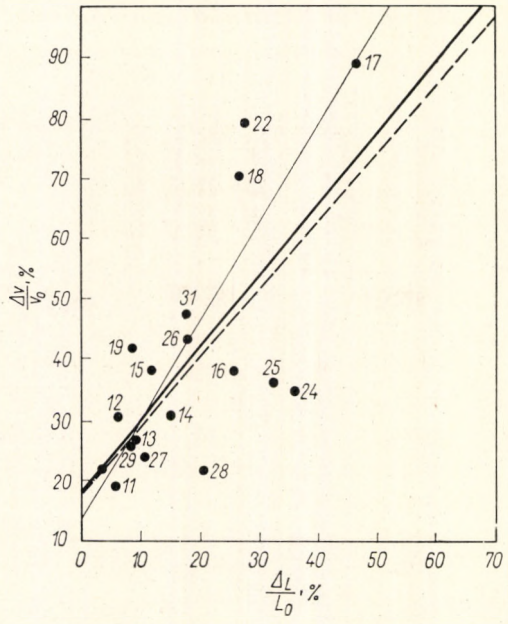
It may seem from the above reasonings that the decline in efficiency in certain industries was the consequence of technical, economic or even natural conditions — so that the only choice was either not to develop an industry or to develop it with an efficiency below the national average. In some cases this might have been so, but otherwise the inadequate efficiency might have been brought above by the *limited investment absorptive capacity* of the industries concerned.

The growth of production depends on many factors: on the state technology, on the composition of the staff employed, etc. Owing to the development of these other factors, certain industries may be incapable of utilizing an investment volume exceeding a certain critical magnitude. (This subject was treated in greater detail in a previous paper of the present author [7].) An unfavourable development of the efficiency indices might possibly be attributed in some branches to the fact that investments have surpassed this critical value.

The two lines of thought presented above try to explain the sometimes inadequate development of these parameters by the development of the production possibilities; it is however, possible that the possibilities of realization have also played here some role. Labour productivity or output per unit of capital might have developed unfavourably in certain industries also because — though the industry would have been capable of turning out more products — no outlets could be found for the products, at least not for those of the given quality and choice. These calculations cannot show, however, which of these three factors was at work and to what extent.

What has been said up to now seems to suggest that production depends but slightly on the magnitude of investments; let us now examine the development of production in the function of employment. (See Fig 4, p. 205.)

Taking into account the character of the investigations, the correlation is suprisingly close, the value of the regression coefficients is high and defi-



Industrial groups: $\frac{\Delta V}{V_0} = \underset{(0.296)}{1.614} \frac{\Delta L}{L_0} + 14.140 \quad r = .7990$

Industrial subgroups: $\frac{\Delta V}{V_0} = \underset{(0.113)}{1.214} \frac{\Delta L}{L_0} + 18.609 \quad r = .8123$

Excluding food industry: $\frac{\Delta V}{V_0} = \underset{(0.128)}{1.172} \frac{\Delta L}{L_0} + 17.728 \quad r = .8024$

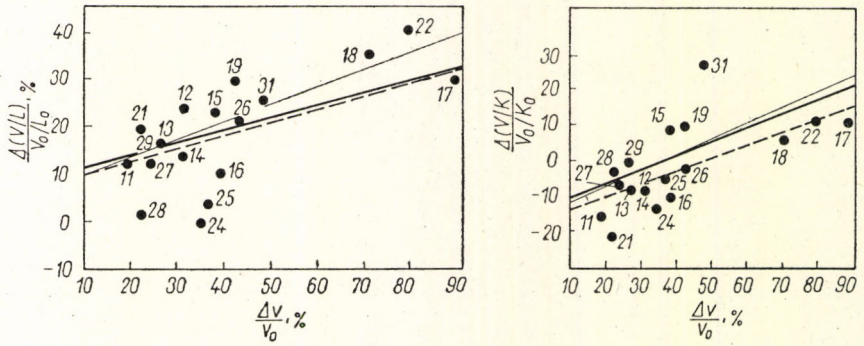
Fig. 4. Increase of net output in function of the growth of employment
——— Industrial groups
——— Industrial subgroups
- - - - - - Excluding food industry

nitely different from zero. Accordingly, the increase in employment was the main factor of the growth of production in the period under investigation. It also deserves attention that the value of the regression coefficients is significantly higher than unity. This indicates that increasing returns to scale may be present, i.e. the volume of production may grow at a higher rate than the inputs.

This highly important problem was examined separately. (See Fig 5, p. 206.)

These results indicate a moderately close correlation. All regression coefficients are positive and significantly different from zero. *Accordingly, in*

the industries where production is increasing at a relatively fast rate, both the productivity of labour and the production per unit of capital will develop favourably.



Industrial groups:

$$\frac{\Delta(V/L)}{V_0/L_0} = \underset{(0.083)}{0.378}\ \frac{\Delta V}{V_0} + 5.613 \quad r = .7312 \qquad \frac{\Delta(V/K)}{V_0/K_0} = \underset{(0.129)}{0.435}\ \frac{\Delta V}{V_0} - 15.66 \quad r = .6182$$

Industrial subgroups:

$$\frac{\Delta(V/L)}{V_0/L_0} = \underset{(0.050)}{0.276}\ \frac{\Delta V}{V_0} + 8.582 \quad r = .5839 \qquad \frac{\Delta(V/K)}{V_0/K_0} = \underset{(0.087)}{0.405}\ \frac{\Delta V}{V_0} - 14.542 \quad r = .5180$$

Excluding food industry:

$$\frac{\Delta(V/L)}{V_0/L_0} = \underset{(0.058)}{0.279}\ \frac{\Delta V}{V_0} + 7.414 \quad r = .5823 \qquad \frac{\Delta(V/K)}{V_0/K_0} = \underset{(0.062)}{0.354}\ \frac{\Delta V}{V_0} - 16.427 \quad r = .6428$$

Fig. 5. Increase of labour productivity and of net output per unit of gross capital in function of the growth of net output

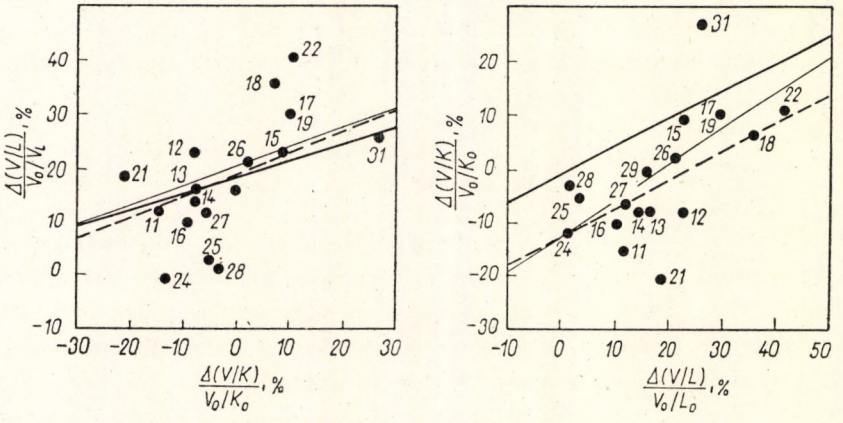
——— Industrial groups
——— Industrial subgroups
- - - - - - Excluding food industry

These results, which seem to be sufficiently well founded from the statistical side, are of great importance also from the economic point of view. First they may be interpreted in the sense that increasing returns to scale characterize the industry, second that in most cases the plants have not been used to full capacity, and finally that the limited possibilities of realization might have been among the most important impediments to the development of production. These three interpretations are closely connected or even inseparable.

In the case of increasing returns to scale, production will grow at a higher rate than inputs. The results shown above may be interpreted in these terms since in the industries where production increased at a relatively rapid rate, the growth of productivity was also rapid, and both the labour and the capital intensity of production diminished. The parallel development of

labour productivity and of production per unit of capital might at the same time point to the existence of unused capacities, or rather to the fact that the development of production was not impeded by manpower or capital availabilities. Should either of these factors constitute a bottleneck, the two coefficients would have to develop in the opposite direction: one of them should have been used to substitute for the other. This usually involves the improvement of one parameter and the deterioration of the other. If, however, the expansion of production is not restrained by the labour or capital availabilities, one must turn to the third interpretation, according to which production is mainly limited by the possibilities of realization, what means that certain industries could turn out more products than, for various reasons, they can sell.

The same relationships were also analyzed from another aspect.



Industrial groups:

$$\frac{\Delta(V/L)}{V_0/L_0} = \underset{(0.152)}{0.354}\ \frac{\Delta(V/K)}{V_0/K_0} + 20.459 \quad r = .4814 \qquad \frac{\Delta(V/K)}{V_0/K_0} = \underset{(0.281)}{0.654}\ \frac{\Delta(V/L)}{V_0/L_0} - 11.53 \quad r = .4814$$

Industrial subgroup:

$$\frac{\Delta(V/L)}{V_0/L_0} = \underset{(0.069)}{0.298}\ \frac{\Delta(V/K)}{V_0/K_0} + 18.777 \quad r = .4924 \qquad \frac{\Delta(V/K)}{V_0/K_0} = \underset{(0.187)}{0.813}\ \frac{\Delta(V/L)}{V_0/L_0} - 14.740 \quad r = .4924$$

Excluding food industry:

$$\frac{\Delta(V/L)}{V_0/L_0} = \underset{(0.114)}{0.404}\ \frac{\Delta(V/K)}{V_0/K_0} + 19.052 \quad r = .4644 \qquad \frac{\Delta(V/K)}{V_0/K_0} = \underset{(0.150)}{0.534}\ \frac{\Delta(V/L)}{V_0/L_0} - 12.848 \quad r = .4644$$

Fig. 6. Interrelations of the increase in labour productivity and of the growth of net output per unit of gross capital

——— Industrial groups
——— Industrial subgroups
- - - - - - Excluding food industry

The results point to a moderately close positive correlation, the regression coefficients being significantly above zero. This result supports what has been said in connection with Figure 5: the development of the two coefficients is positively correlated. It is thus probable that *unused capacities and labour reserves are common in the industry.* In other words, the expansion of production may not be limited by the manpower or capital available, but mainly by *problems connected with realization.*

From the point of view of the Lange model, the above results lead to the following two conclusions. First, the fundamental assumption that the increase in production is the function of investment only, and the other growth factors may be neglected, does not seem to hold in the conditions actually prevailing in Hungary. On the contrary, the model should be generalized so as to take explicitly into account the other factors promoting growth. On the other hand, the computations render it highly probable that production is limited not only by the available resources but, and perhaps to an even greater extent, by the possibilities of realization. Accordingly, this aspect must also be included into the generalized model.

Conclusions

1. As to the Lange model, this paper leads to the conclusion that the three basic assumptions of the model are inconsistent with the present conditions of the Hungarian economy, because in this country the output-investment ratio is not constant, the growth of production is not primarily dependent on investments, and it may be greatly restrained by the difficulties of realization. These results do not contradict, however, Lange's most fundamental conclusion, namely that the rate of growth may be accelerated by optimizing the allocation of investments among industries. Accordingly, the model must be generalized to account explicitly for all factors promoting the growth of production. Considering that Lange himself did not employ his model for practical planning purposes, but only to present the fundamental theoretical interrelations, its development along these lines is fully consistent with both the spirit and the fundamental objectives of his model.

2. Several results of the calculations — over and above these immediate aims — are of some interest not only from the methodological, but also from the economic point of view. The computed trends clearly show that the output-investment ratios declined in most industries rather rapidly. This decline was of such a degree that it cannot be explained by technical reasons only. The first set of cross-section results shows that production and productivity failed to grow more rapidly, while production per unit of capital actually diminished in the industries where the increase in capital per head was considerable. These results may have three economic interpretations. First, a

relatively great part of investments may have been allocated to industries where their efficiency showed an unfavourable trend but where a further development of the industry seemed to be necessary because of the sectoral interrelations. Second, certain industries may have been unable to utilize efficiently the full amount of investment funds allocated to them, and for various reasons. Third, the increase in production may have been restrained in some industries by difficulties of realization. It is impossible to assess the weight of the individual factors on the basis of these computations. The other set of the cross-section results pointed to the parallel development of the productivity of labour, and of the output per unit of capital. A favourable value of the one is accompanied by a similarly favourable value of the other, and both assume the highest values in the industries where the rate of increase in production is relatively high. These results may again be interpreted in three ways. First, the industry as a whole may be characterized by increasing returns to scale. Second, plants, as a rule, may not be used to full capacity. Third, the most important impediment to the growth of production may be the problem of realization. These three interpretations are closely interrelated and cannot be properly separated.

3. These computations lead — quite independently from their original purpose — to a conclusion that is important from the statistical point of view. It seems that the index numbers used to measure the development of the industrial production and computed from indices based on natural units of measurement and on some other methods (the so-called "net indices") had an upward bias in the period under investigation. This is due to the fact that the capital intensity of production increased in this period, meaning that depreciation, maintenance and repair costs were growing at a higher rate than production itself. Consequently, the increase in net production must have been smaller than shown by these index numbers. The effects of this distortion may be considerable in case of computations covering a rather long period. In connection with these conclusions, however, one must emphasize the following. In all concrete cases, it is highly difficult to determine the extent of the distortion owing to the difference between depreciation allowances and the sums actually used for replacement, the relatively small repair costs of new equipment etc. The possibility of such a distortion has been already known, and it was also pointed out in the relating publication of the Central Statistical Office [8]. This does not mean, however, that a better method could be found for measuring production than the method based on indices expressed in natural units of measurement. And finally, this remark is not meant as a criticism of these index numbers. Distortions of this type will necessarily occur in connection even with the most perfect indexes.

4. These computations have lead to several interesting economic conclusions. The importance of the problems connected with these results makes

it imperative to repeat the investigations on the basis of other data and with other methods. The tendencies disclosed can only be considered as sufficiently confirmed if these further investigations lead to similar results.

Appendix

Code numbers of the industrial groups

110	Mining
120	Electric energy
130	Metals
140	General engineering
150	Transport equipment
170	Telecommunication and vacuum technics industries
180	Precision engineering
190	Metal mass products
210	Building materials
220	Chemicals and rubber
240	Wood processing
250	Paper
260	Printing
270	Textiles
280	Hides, furs and shoes
290	Clothing industry
310	Food industry

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ВЗАИМОСВЯЗЬ МЕЖДУ СТРУКТУРОЙ КАПИТАЛЬНЫХ ВЛОЖЕНИЙ И ТЕМПАМИ РОСТА

ДЬ. САКОЛЬЦАИ

Приведенные в статье исследования связаны с знаменитой моделью Ланге, показывающей, что темпы роста экономики могут быть значительно ускорены путем концентрации капитальных вложений в отрасли, дающие наибольший эффект, выраженный в приросте национального дохода; далее, что максимизация темпов роста может быть сведена к решению задачи линейного программирования. Главная цель статьи заключается в изучении вопроса, насколько соответствуют венгерскому опыту прошедшего периода три основных предположения, на которых основаны эти результаты, а именно: соотношение производства и капитальных вложений является постоянной величиной; рост производства зависит только от капитальных вложений; трудности реализации не препятствуют процессу роста.

В первой части — на основании исчисления трендов — рассматривается первое предположение. Автор приходит к выводу, что соотношение производства и капитальных вложений далеко не постоянно, а сокращается довольно резко в случае расширения капитальных вложений. Поэтому при расширении капитальных вложений вообще нельзя — или можно только в определенных границах — рассчитывать на неизменность коэффициента отдачи капитальных вложений. Во второй части — на основании расчета различных разрезов — анализируется реальность второго предположения. Автор показывает, что рост производства и производительности только незначительно выделялся или совсем не был больше в тех отраслях промышленности, где капитальные вложения были относительно велики. Поэтому рост производства и производительности нельзя объяснить в первую очередь капитальными вложениями. В то же время дальнейшие исследования, приведенные в этой части, свидетельствуют о том, что для всей промышленности, вероятно, характерна растущая отдача, т. е. производство растет более высокими темпами, чем затраты. Не занимаются специальные исследования третьим предположением: вопросом реализации; на основании результатов вышеизложенных двух частей, однако, можно довольно смело заключить, что связанные с реализацией трудности в значительной мере могут ограничивать развитие производства.

Результаты, таким образом, показывают, что модель Ланге в оригинальной форме не пригодна для использования в планировании — Ланге и не предусматривал этого — а она нуждается в обобщении. В то же время расчеты полностью подтвердили важнейший теоретический вывод Ланге, а именно: что темпы роста могут быть значительно ускорены путем концентрации капитальных вложений в отрасли, где коэффициент их отдачи является наиболее высоким. Выявляется и то, что в исследуемом периоде аспект отраслевой структуры, вероятно, получил слишком большую роль по сравнению с аспектом эффективности, т. е. что, наверное, слишком высокий процент капитальных вложений приходился на отрасли, в которых эффективность складывалась неблагоприятно, но в продуктах которых была потребность ввиду соображений, связанных с межотраслевыми взаимозависимостями.

J. László

THE PLANNED CONTROL OF COOPERATIVE FARM PRODUCTION AND THE REFORM OF ECONOMIC MANAGEMENT

The planning system and cooperative farming. Major features of material interest in the cooperatives in connection with the price and financial system. Increasing the economic independence of cooperatives. The contents and forms of economic relations between the state and the cooperatives. Differences in income level between cooperatives and their interrelation with price and tax policies. Regulation by the state of incomes from individual products and the pricing of agricultural products. Planned control of production and credits.

The fundamental principles of the reform of the economic mechanism in Hungary have been established and now thousands of economic experts are engaged in drafting the practical measures to be taken. In some fields certain measures have already been implemented. This kind of work is at a more advanced stage in agriculture — particularly as regards cooperatives — than in other sectors of the national economy.

In the last one or two years the question how far a reform of the economic management system was expedient has been often raised. Evidently, the answer lies in the problems that cannot be solved in the present system of control. This question emerged also in respect of the cooperative sector.

The problems awaiting solution in the cooperative and the state sectors are partly similar, partly different. The present methods of management answer less and less the requirements of the given stage of our economic development, indeed, in many respects they are an obstacle to accelerating development. Therefore, a mechanism has to be devised that will promote the most efficient realization of our economic goals and social objectives both in the state sector and in the cooperative one.

The role and weight of agriculture is considerable in the Hungarian economy. In spite of rapid industrialization, more than 30 per cent of all earners are engaged in agriculture. Agricultural population density is high and the cultivable land area can not or hardly be extended. All that compels us to increase agricultural production primarily by raising yields, by more efficient work, by expanding cultures ensuring higher hectare yields. With the amalgamation of small-scale farms into cooperatives, with the establishment of the framework for cooperative large-scale farms and the improvement of

farming we have growing opportunities. 97 per cent of the arable land belong to the socialist sector (within that cooperatives account for 80 per cent and the state sector for 14.3 per cent). Instead of the earlier about a million and a half small peasant farms, farming is carried on in 3400 production cooperatives and 250 cooperative groups (lower type). We have 216 state farms. The average land area of state farms is 4700 hectares, that of cooperatives 1400 hectares.

We have used considerable resources to strengthen the framework of large-scale farming. Between 1959 and 1964, 45 thousand million Forints were invested into agriculture. The stock of tractors (converted into units of 15 HP) increased from 37 000 to 83 000, those of harvester combines from 3000 to 7750. The irrigated area has been considerably expanded (from 57 000 hectares to 266 000). At the same time, fertilizer consumption per hectare rose to twofold. Similar substantial results were achieved in the plantation of large vineyards and orchards as well as in investment of immovables, mainly cow-sheds and stables.

These investments and material inputs had a great influence on the development of agricultural production. They served to replace the means of production used in small-scale farming and partly to counterbalance the effect of the migration of agricultural population to other branches. As is known, industrialization raised great demand on manpower. Agricultural manpower has considerably decreased in the last decade and a half and the average age is also high (it is, e. g., 55 years among the cooperative membership). Without investments and the growth of working assets it would have been impossible to develop production. Still, the growth rate of agricultural production is lagging behind both the increasing needs and the possibilities for development. A quicker growth rate requires a further increase in material inputs, but a similarly important condition is to increase economic interest and to make the system of economic management more efficient. This paper deals with the latter problem primarily from the aspects of planning, as well as of the price and financial systems.

I. The system of planning and cooperative farming

It is a general requirement of the reform of the economic mechanism to expand market relations, to develop commodity and value relationships and substantially to diminish the extent of direct interference with the activity of the economic units. This means that the role of the market, the use of value categories in joining the cooperative farms to the social reproduction process, will have greater importance than earlier. The economic independence of farms will grow. All that requires changes in the systems of planning, state purchases, as well as in price, fiscal, financial and investment policies. The

interests of society and of the cooperatives must be harmonized with respect to all products. Under the conditions of capitalism, the equilibrium between production and consumption is assured mainly by a spontaneous development of prices according to the relation between supply and demand. In socialism, it is the task of the state to shape the incomes to be attained with the various crops according to the objectives of society and taking into account the material interests of cooperatives.

Planning is a fundamental feature of socialist economy. The system of planned management must comprise all essential elements of development, all branches of the economy, thus also agriculture. The plans contain previsions for the production, turnover, consumption and accumulation etc., conforming to the objectives of society. They necessarily must provide also for the means and methods of control required to realize the plan targets.

Prior to 1957 the system of planned central control was characterized by overall administrative interference. To realize the plan targets, compulsory delivery of products, prescriptions regarding the sown area, the crop structure etc., were used. After 1957, administrative methods of control were pushed to the background and the control by material incentives came to the fore. Society's requirements against agriculture were expressed by national economic plans, in the estimates for state purchases and contracted production figures. At the same time, we strove to create also the conditions for meeting the targets. As compared to the system of management in the preceding period, this was advantageous since it increased the material interest and economic independence of the producers. Still, there remained faults in the state control of cooperatives.

In past years production estimates were often not properly founded, e. g. in the second five year plan the planned growth rate of agricultural production was considerably higher than could have been realistically reckoned with under given conditions. The amalgamation of peasant farms into cooperatives was concluded in that period. Investments had to be made which did not create new production capacities but only served to replace the small-scale farming equipment. All that brought about tensions in the production cooperatives. In comparison to the late fifties, administrative interference with cooperative farming again increased. This interference exceeded the spheres of support and advice which are, indeed, necessary for the cooperatives. The help of the controlling bodies in large-scale cooperative farming is needed in order that organizational and managing principles should be properly applied. But in the recent past controlling bodies interfered with production decisions of the cooperatives more often than necessary. This was an unavoidable consequence of the method of breaking down national production targets to county and district targets which, then, were passed down by the local authorities to each cooperative. Such an implementation of the national

economic plan hindered the controlling bodies in evaluating the economic and natural endowments of the cooperatives. In order to fulfil their own production targets, the counties and districts endeavoured with various methods to make the targets accepted by the cooperatives.

This method of planning was abolished in 1966 and — except for bread grain — cooperatives may since independently decide on what kind of production pattern to develop. In working out the planned targets, controlling bodies have to reckon with production possibilities in a realistic manner and also with the material, financial and other conditions necessary to realize the production tasks. The plan formulated on national level is an important starting point for the farms for the determination of their own production tasks. A thorough knowledge of social needs, of the price and credit system, of material, technical and other conditions is necessary for cooperatives in order to be able to decide — considering their own endowments — on their annual and long-term tasks.

This form of planned control will, by all certainty, require that cooperatives should be given help and orientation in some form of a special advisory service. It would be expedient to consider its organization. As a matter of fact, possibilities for that will be greater than hitherto. The responsibility of the controlling bodies for plan fulfilment will cease and thus, they will be in a position to devote more attention to helping the cooperatives in the organization of production, in their methods of management.

2. Major features of economic incentives in cooperatives; the system of prices and finances

Conforming to the principles of the reform of economic control, the role of prices and the financial system will gain in importance. We should know, therefore, what requirements have to be raised against price and tax policies in order to develop a production structure in harmony with the national economic plans. From this point of view it is highly important to consider partly the natural features of agricultural production and partly to know and take into account the requirements originating in the cooperative ownership relations.

The main characteristic of cooperative farms is that they perform their activities on the land of their members, by combining their own means of production and their manpower, independently of other cooperatives. As independent and separated economic units they have to provide for the employment of their members, for an income securing the latter's livelihood and the expansion of production funds. Disregarding the state subsidies which are still necessary under certain conditions, the individual dividends of cooperative

members as well as the funds available for the expansion of the common productive equipment depend only on the amount of income yielded in their own cooperative. The amount of personal income — on the ground of the work performed by each member — depends on how their jointly achieved income (after deduction of external liabilities) is being divided between the fund of income dividend and the accumulation fund. If a higher gross income is reached, more can be distributed as personal income and more can be accumulated as well. It follows that it is a fundamental concern of each cooperative member to attain by a rational use of available resources the possible highest gross income per member. Thus, their decision on the production pattern is subject to these considerations.

In choosing a production pattern, cooperative farms have to take into account their natural and economic resources. It is well known that the development of agricultural production is highly influenced by soil conditions, weather and climatic factors. The diversity of these factors may cause great income differences by regions or even between neighbouring farms. Owing to these differing endowments various products may yield widely differing results. Neither is it of small importance that the labour intensities (man-days per unit of area) of various products are also different. In most cases agricultural production cycles and working time do not coincide. Due to the production cycles, the utilization of invested means and of manpower is uneven. In addition to the differences in natural conditions, the cooperatives also differ considerably in economic respects. For the planned control of the cooperatives a system should be devised which would enable a flexible, independent farming, conforming to given conditions.

According to the principles of the reform of the economic mechanism the independence of farming cooperatives in taking production decisions must be secured and the economic and financial conditions for that must be created. Our experiences have convincingly proved that without the financial conditions necessary for independent farming the economic interest in raising production cannot properly assert itself. The situation is similar if we look at the problem from the aspect of restricting the rights of decision. Economic interest will not, namely, cease to exert its influence if the rights to decide are restricted. Thus, in all cases when the central requirement is opposed to the interest of the farming units, the factors of production — land, labour, machinery and equipment, etc. — will be necessarily utilized less efficiently than possible. It is a fundamental interest of both the farms and society to avoid such situations. The measures taken since 1957 relying on this recognition undefeatably prove that the most important factor in accelerating our development is to increase independence in both senses, to assert the principle of economic interest. Therefore, further measures of this kind have to be taken, mainly as regards the agricultural price level.

The level of agricultural prices was determined in a period when small individual peasant farms accounted for a major part of agricultural production. In connection with this, the standpoint was that the price level should cover only simple reproduction and the means necessary to develop large-scale agricultural production: part of the income, diverted by the means of the low prices, should be centrally reallocated to the cooperatives and the state farms. Therefore, it was unavoidable that various forms of state subsidies should be used in the socialist sector of agriculture (in the form of favourable credit terms, cancellation of credits, etc.). By the end of 1961, the amalgamation of peasant farms into cooperatives was essentially completed. Thus, the low price level lost its reason of existence, its maintenance could be no more justified.

The establishment of large-scale farms requires huge investments. Thus, with the price level having hardly changed, it became necessary to extend the system of subsidies and long-term credits, applied earlier only to a smaller extent, to the majority of the cooperatives.

With the present price level only a relatively small part of the cooperatives is in a position to expand its production funds from their own incomes and pay a suitable income dividend to its members. These are the so-called "good" or high-income cooperatives. Another part of the cooperatives — those farming on average level — can meet these two requirements from their own income only partially and on a much lower level, therefore they must be subsidized. A third part of the cooperatives, the low-income type, are wholly unable to expand production funds and some of them can ensure even the means for simple reproduction and a very modest dividend only by requesting state subsidies.

It should be obvious that in the cooperatives belonging to this latter group economic interest in improving production cannot be satisfactory.

Such economic situation of the cooperatives is a necessary effect of the price level. The expansion of production funds, often even their simple replacement could be realized in their majority by means of state credits and subsidies which again led to the cooperatives' running into debts, even in the case of a part of better cooperatives. In recent years, indebtedness was partly mitigated by the cancelling or prolongation of credits. All that could not change the fact that with the given price level the cooperatives had to raise ever newer credits for which there was no cover in their sales returns.

In this manner part of the credits became, as a matter of fact, a complement to the price system and essentially differed from usual credit transactions. The possibility of obtaining credits which evidently have not to be repaid has, of course, many adverse effects. In this knowledge, the cooperative raising the credit does not take proper precautions, it is less interested in an efficient use of the credit, etc. On the other hand, the organs granting the credit interfered more with the farming decisions of the cooperatives.

The wide system of money allocations outside the sale of goods, i. e. outside the sphere of the market has adverse effects both on the cooperatives and on those working in other fields of the national economy. Owing to the given system of prices and finances, it is a rather widespread belief that the means necessary to expand agricultural production must be collected from the urban population. In the cooperative peasantry, again, this false appear. ance of being "dependants" causes problems. Such a system of relations between the state and the cooperatives has necessarily administrative features since a substantial part of the latter's income is not "earned" by them but "allocated" by some authority. This state of things often works against the plan and causes an irrational utilization of resources. This is why the resolution on the reform of the economic mechanism states that instead of a system relying on direct financial relations and having the character of subsidies, a system of prices and finances should be established which would create the conditions for independent farming. A price and credit policy bringing about the economic and financial conditions of independence is a much more powerful weapon for increasing economic interest than the system of direct financial relations of an administrative character.

In order to implement the decree on the reform of the price and financial systems the knowledge and a critical evaluation of the cooperatives' situation is needed. Without that, it is impossible to work out well-founded measures, or to mark out the ways and methods of solution, and no fruitful discussion can be conducted with those who are partly or entirely of a different opinion.

Discussion of the problems of the price and financial systems relating to the cooperatives has been going on for some time. Some people argue in favour of maintaining the broadly applied system of subsidies which circumvents the low price level and the market relationships. Others are for a gradual abolition of this form and wish to introduce a price level that would better conform to the economic interests of the cooperatives. Those who wish to maintain the present system of prices and finances argue that in the cooperatives having considerably different endowments the state can enforce the principle of distribution according to the work done only if agricultural products are priced well below their value, i. e. if they are priced according to the inputs of farms with better or at least average endowments. Then, part of the income collected by means of the low price level should be allocated in a differentiated manner to those cooperatives where, due to natural and economic conditions, an adequate income to meet personal and cooperative (accumulation) requirements cannot be achieved. In favour of a low agricultural price level it is also mentioned that if the agricultural price level was established on the basis of the inputs of cooperatives farming under less favourable — though not the worst — conditions, the cooperatives with better endowments would have to pay unduly high taxes and also the consumer prices of food-

stuffs would have to be raised. These two latter arguments are, indeed, worth attention from a certain point of view.

As has been expounded above, our farming cooperatives may be classified into three great groups (good, average, poor). In past years a price and financial system prevailed which enabled a differentiated treatment of the cooperatives. Still, we were not able to give enough support to raise the poor cooperatives to the level of the average ones, or the average cooperatives to that of the good ones. Thus, the system did not come up to expectations. On the contrary, it hindered the creation of an incentive system that would build upon the economic interest of the cooperative and which would be, precisely on this account, more efficient from the points of view of both the cooperative and the economy as a whole.

The form of securing in agriculture the socially justified cooperative income *outside* the market relations can not, with the best of intentions, be coupled with the principle that everybody's income should be proportional to the socially useful work performed by him or her. In this respect there is meaningful evidence not only from cooperative practice but also from the state sector. If, however, incomes depend on market relations, they will evidently develop according to the volume of commodities marketed.

Of course, a system of prices and finances which would directly act on the economic interests of cooperatives cannot be established overnight. There are several reasons for that. On the one hand, a raising of the price level would cause an unjustified rise in the income of those cooperatives which are in a better situation than those for which the prices were tailored. It is an important task of the socialist state to develop correct income proportions between the agricultural population and those living on wages and salaries; moreover, to secure that the incomes of cooperatives farming under different conditions should not unduly deviate from each other. Thus, the establishment of such a price level, or of one only approximating it, necessarily requires also changes in the taxation of agricultural incomes.

Taxation is the most appropriate measure to regulate incomes between cooperatives. By means of taxation the income realizable in cooperatives with better endowments can be reduced to the desired level. This is both necessary and justified, since the part of income taxed away is not due to better work, it is not the result of more up-to-date farming but a present from nature or a concomitant of social progress which comes about independently of the activity in the farms in question (e. g. due to irrigation facilities or roads built by the state).

An increase in the price level, indeed, raises also the question of consumer prices of foodstuffs and by that, obviously, also wage policy. Therefore, the changes which would be otherwise quite in place, should be implemented only gradually, in harmony with all the other connected fields.

According to the resolution on the reform of the economic mechanism, measures must be formulated which will enable the majority of cooperative farms already in the near future to cover from their own receipts the means necessary to expand production and to pay an acceptable dividend to their members.

In 1966 and 1967 important initial steps were taken to develop favourable economic and financial conditions for the independent farming of the cooperatives. In 1966 the state raised the price level of agricultural products and in 1967 it cancelled a considerable amount of credits; by 1968 a further rise in prices is provided for. In a few years, these measures may bring about important changes in the situation of cooperatives. The economic and financial conditions of independent farming will get improved in a growing number of cooperatives. No fundamental changes can, however, be expected in the next two or three years in the cooperatives with unfavourable conditions. A considerable part of these will not be able to give their members an adequate income and, at the same time, expand their production funds from their own receipts. They will continue to rely on state subsidies though, let us hope, to a diminishing extent.

3. State regulation of profitability and of income from various crops

While reviewing the general features of economic interests in the cooperatives, in what has been said hitherto only references have been made to the evaluation of profitability by crops. In the following we are going to give an answer to the question: how can the development of a production pattern answering the requirements of national economic objectives be achieved. Namely, in order to influence production efficiently, it is insufficient to know the economic interests of cooperatives only in a general way. It is necessary that the production pattern in the cooperatives should develop in a manner determined in the national economic plans. The production factors available — land, equipment, labour, etc. — are limited on national level, also. Thus, the individual products "compete" for the scarce production factors. In order to ensure that each of them be produced in the quantity needed by the economy, a definite ranking of profitability must be established between them.

Cooperatives are able to produce a wide variety of products, which differ from each other in several respects. From the point of view of our analysis the differences in labour intensity (man-days per hectare) are particularly important. There are products which require 100 man-days per unit of area while others only 6—10. Therefore, also the incomes per unit of area must be different. The cooperatives, obviously, weigh the labour input requirements in connection with the income attainable. We have already mentioned that co-

operatives are interested in attaining the possible highest annual gross income per cooperative member. In choosing their production pattern, their interests are directly coupled to this indicator. This is why they evaluate the merits of various products from the point of view of the role played by them in maximizing the annual gross income per head.

The production of various crops is considered by cooperatives as the condition for receiving the equivalent of the work performed by them, as a possibility to achieve an income. In their commodity relations, cooperatives do not directly take into account the interests of society. In order to maximize the annual gross income per head they prefer the production of such products which, with a rational utilization of the land, production equipment and manpower available, promise the most favourable result.

The cooperatives have to weigh the expected results from various products also from the point of view how the working capacity of their members will be utilized; this, again, raises also the question of the expectable income per unit of area. One of the main factors ensuring the livelihood of members and the development of common funds — i. e. land area — is practically unchangeable, and so is the number of cooperative members. Therefore, members must be provided suitable employment and an acceptable income on a limited land area. In deciding on the production pattern, the products yielding different incomes per unit of area should be coupled in a way to achieve maximum income per head.

It is in the interest of all cooperatives to increase the production of crops yielding a higher income per unit of area and decrease the production of those yielding lower incomes. However, society may need a bigger volume of products of lower labour intensity and yielding a lower income per unit of area. The two kinds of interest, i. e. the production pattern conforming to the objectives of the national economy and the requirement of maximizing the gross annual income per head in cooperatives should be harmonized by regulating the relative incomes from various products.

This double requirement can be met by such relative income proportions of products which enable the achievement of maximum income per head in case the various products are produced by cooperatives in a pattern conforming to the objectives of the national economy. That necessitates in our country the maintenance of a price and financial system where products securing a lower employment per unit of area will yield essentially higher gross incomes per unit of labour input than will the more labour intensive ones. Without such a price policy, we could not ensure that products with a low labour intensity per unit of area should be produced in a quantity needed by society. This is well illustrated by the fact that, actually, the production of bread grain cannot be secured without obligatory prescriptions, in spite of the high gross income per man-day it yields.

In recent years it has been often remarked that a system of prices and finances built on the supposition that the cooperatives are interested in maximizing their *gross* income and, thereby, deviating from the principles prevailing in other fields of the economy, does not make possible a "clear" comparison between the branches of the economy. According to this opinion, an identical method of valuation is needed, in the form of a uniform price-type, relying on the valuation of inputs. In my opinion, it is not likely that a uniform type of input-proportionate prices can ever be established. This must be the explanation for the fact that — instead of the uniform type of prices so often argued in the first stages of elaborating the reform — now it is, correctly, stressed that prices should be established by simultaneously weighing

— the production inputs,

— the value judgements of producers and buyers, and

— the preferences resulting from the needs of the national economy.

Socially necessary inputs should, therefore, be conceived of only in this broader and more intricate sense. This principle was asserted also in the 1966 adjustment of agricultural prices. Let us have a practical example. From this point of view it is worth to examine the price adjustment increasing the profitability of cattle raising and wheat growing.

Cooparatives were not sufficiently interested in keeping cattle. Price and financial conditions favoured more the raising of pigs and some other branches. For one or two years following 1957, the two main branches of animal husbandry (pig and cattle) have developed proportionately because their profitability, too, has been proportionate. In later years, mainly because of changes in the conditions of producing fodder for the two branches, the profitability of raising pigs increased.

In Hungary, the raising and especially the fattening of pigs is based mainly on maize, while cattle raising requires mainly rough fodder. Now, the hectare yields of these latter have hardly if at all changed in the past decade. In maize growing, however, an almost revolutionary change has taken place and hectare yields are now by 40—50 per cent higher while input requirements are substantially less. Of course, this must have had an influence on the profitability situation of the two major branches of animal husbandry. In taking measures of price and financial nature we have, obviously, to reckon with that, since the changes in profitability caused by changes in input requirements must be somehow levelled out.

An increase in the profitability of bread grain growing seemed necessary by somewhat different reasons. In our country, it is wheat that yields the highest gross income per man-day. Still, obligatory prescriptions had to be applied for its production. We have not succeeded in raising its profitability to an extent that the volume envisaged in the national plans should be produced without mandatory plan figures. This attitude of the producers results from

the fact that, in addition to the income per man-day input, they weigh also other indicators, among them mainly the low income of wheat per unit of area in comparison to other crops. This cannot be counterbalanced by the high income per man-day even after the price adjustment.

It is to be seen that when pricing cattle and pigs, both the change in production inputs and the requirements of consumption had to be weighed. In contrast, in the pricing of wheat and rye the consumption requirements had won and resulted in a price raising, although, from the point of view of inputs, their prices should have been reduced. Namely, their hectare yields, as well as those of maize, are now substantially greater, with diminishing inputs. These two examples show that correct pricing is a complicated task and cannot be decided upon one-sidedly, only on the basis of production inputs.

4. Planned control of production and credit policy

Credit policy, too, has to meet a double requirement. In addition to the requirement connected with the financing of farming, also considerations of the production and supply policy must be accounted for. Credit may play, namely, a role in shaping the proportions between the incomes yielded by various products and its function, in this respect, is identical with that of prices. In planned control such considerations are highly important for the credit policy. The credits granted in a general way either for investment or for expanding working assets are but losely connected with the shaping of the production pattern since they may be used for several productive branches or all of them. There are, however, also credits granted for a specified branch of animal husbandry or plant growing.

In our past credit policy, as mentioned, the price-complementing function of credit was dominating. Under such conditions credit could not become an effective means of production control. In allocating credits, in addition to the banks, also the local authorities and the state-owned purchasing enterprises had a decisive role. The granting of credits depended on whether the cooperatives accepted the production plan proposed to them or not. It followed that cooperatives — in order to obtain credits, — were often compelled to shape their production pattern otherwise than what seemed most advantageous for them.

These features of the credit system were in close connection with the given system of economic control and management. Its deficiencies became increasingly pronounced. In the above we have already mentioned that, in order to improve the economic situation of the cooperatives, the credits granted frequently had to be cancelled. Recently, however, also the transformation of the credit system began. The reform of the economic mechanism provides for important changes also on this field. Credits will be essentially business

transactions between the cooperatives and the banks. (It should be remarked, that as a deviation from the general rule, the system of subsidies will be maintained for cooperatives farming under very adverse natural conditions.) The granting of the credit will be weighed by the bank partly from the point of view of a production pattern conforming to the interest of the national economy and partly on the ground of the cover and the repayment schedule offered by the cooperative. From the new system of credit it may be expected that the credits granted will be efficiently used also from the point of view of profitability. Thus, a connection will get established between the systems of prices and credit. Therefore, in formulating and applying credit policy, the same requirements have to be met as were enumerated in connection with the systems of prices and taxation. Cooperatives will decide also on their claims on credit on the basis of their efforts aimed at maximizing the gross income per head. They will weigh for what investments or what expansion of working assets is it expedient to raise credits. They will perform this weighing process uniformly on the basis of total gross income, both in case of investments relating to the whole of their farming and, in case of individual branches, according to the expected contribution of each branch to raising total gross income per head. The objectives to be attained by the price policy can be successfully supported by credit policy.

The measures mentioned above in connection with the reform of the control of farming cooperatives by the state do by far not embrace the measures taken up to now and much less those to be taken hereafter, nor their effects. No mention has been made in this article about important measures already implemented or under implementation. Thus, we have not mentioned the reform of the social insurance and pension system of the cooperative peasantry and several other important aspects. A loosening of restrictions on the processing of raw products by the cooperatives, the possibility of direct selling to consumers and of pursuing activities other than agricultural production all serve to strengthen the cooperative farms and accelerate their development. Let it be our excuse that it is impossible to analyse all questions in a single article or even to touch upon all essential interrelations.

ПЛАНОМЕРНОЕ УПРАВЛЕНИЕ ПРОИЗВОДСТВОМ КООПЕРАТИВНЫХ ХОЗЯЙСТВ И РЕФОРМА ХОЗЯЙСТВЕННОГО УПРАВЛЕНИЯ

Я. ЛАСЛО

В венгерской экономической политике с 1957 года для согласования сельскохозяйственного производства с интересами общества государством применялась, главным образом, система цен и финансов. В результате этой формы управления производством произошли благоприятные изменения, производство складывалось гораздо планомернее, чем во времена обязательных поставок и применения производственных предписаний. В системе управления, однако, сохранилось еще много регламентаций. Со времени завершения объединения крестьянских хозяйств в кооперативы политика цен и финансов все менее отвечала предъявляемым требованиям.

Оставшиеся в управлении хозяйственной деятельностью кооперативов регламентации и низкий уровень сельскохозяйственных цен препятствовали росту производства, повышению его эффективности.

Постановление о реформе системы экономического управления указывает в качестве основного принципа на следующее: следует обеспечить самостоятельность кооперативов в производстве, в принятии ими решений о капиталовложениях и прочих вопросах и создать материальные и финансовые предпосылки самостоятельного хозяйствования. В интересах этого был повышен уровень сельскохозяйственных цен в 1966 году, а в 1967 году были списаны значительные задолженности по кредитам; кооперативы могут свободно принимать решения в своей хозяйственной деятельности, за исключением производства продовольственного зерна.

Создание материально-финансовых условий самостоятельного хозяйствования требует еще дальнейших мероприятий. Экономическое положение кооперативов весьма дифференцировано. Кооперативы, ведущие хозяйство в неблагоприятных условиях, не в состоянии расширять свои производственные фонды без государственной поддержки, и даже скромный доход своим членам они могут обеспечивать лишь с помощью государства. Последняя, однако, является полезной и эффективной лишь до определенной степени. Ее широкое применение — особенно для пополнения личных доходов — как в отношении членов кооперативов, так и работников, занятых в прочих областях народного хозяйства, ведет к нежелательным последствиям, и не может считаться удовлетворительным с точки зрения экономической эффективности.

Вместо прямой связи между государством и кооперативами, выражающейся в оказании им помощи и в финансовых отношениях, целесообразнее установить уровень цен, отвечающий требованиям самостоятельного хозяйствования. Это — более эффективный метод поощрения хозяйственной деятельности кооперативов и повышения их заинтересованности в доходах, так как непосредственная форма общественно обоснованного дополнения доходов, осуществляемого вне товарных отношений, в сельском хозяйстве не может быть успешно связана с затраченным трудом и его общественно полезным количеством. Поэтому следует создать такой уровень сельскохозяйственных цен, который обеспечивал бы возмещение материальных издержек производства и валовой доход, соответствующий личным потребностям и потребностям накопления.

Успешное включение производства кооперативных хозяйств в процесс общественного воспроизводства требует учета общих и конкретных требований материальной заинтересованности. Имеющиеся производственные факторы и в общественных масштабах не являются неограниченными, поэтому создание производственной структуры, отвечающей потребностям, возможно лишь при ценообразовании на различные продукты, учитывающем материальную заинтересованность кооперативов в получении дохода. Фундаментальный интерес кооперативных хозяйств направлен на достижение максимального валового дохода в расчете на одного члена. Этим руководствуются они, принимая решение о совмещении производства различных продуктов, при выборе своей производственной структуры. В интересах максимизации годового валового дохода в расчете на одного члена кооперативы выбирают производство того продукта, который обещает в данных условиях при рациональном использовании имеющихся земель, средств производства и рабочей силы дать наиболее благоприятные результаты.

Кооперативы могут производить разнообразные продукты, причем такие, которые значительно отличаются друг от друга по трудоемкости, затратам средств и т. д. Их заинтересованность не связана непосредственно ни с одним из производимых продуктов, ни даже с доходом от последних. Именно поэтому производство различных продуктов может осуществляться в соответствии с задачами народнохозяйственного плана, если при их производстве можно получить доход, отвечающий материальной заинтересованности кооперативов. В условиях венгерского народного хозяйства это возможно в случае, когда при производстве продуктов, требующих меньших затрат труда на единицу площади, можно достигнуть больше дохода в расчете на единицу труда, чем при производстве продуктов, требующих больших затрат.

По отношению к кредитной политике — аналогично политике цен — предъявляется также двойное требование. Одно из них заключается в материальном обосновании хозяйствования, а второе возникает со стороны управления производством, требуя формирования производственной структуры в соответствии с общественными целями. Обе формы кредита являются весьма важными в планомерном управлении, все же кредит, обращаемый на капиталовложения, затрагивающие несколько отраслей или почти все из них, или же на расширение оборотных средств, связан с производственной структурой гораздо слабее. При применении кредита поэтому также следует принимать во внимание требования, возникающие в связи с политикой цен.

К. ИРИГ

КАПИТАЛИСТИЧЕСКОЕ СЕЛЬСКОЕ ХОЗЯЙСТВО И ЭКОНОМИЧЕСКИЙ РОСТ

Явления роста сельского хозяйства следует рассматривать как вклад в рост народного хозяйства. — Вклад по передаче и перенятию. — Факторы этого. — Необходимость технической приспосабливаемости и нормального функционирования рынка. — Факторы, препятствующие концентрации и специализации. — Неэластичность спроса и предложения. — Диспаритет доходов в росте. — Кооперация. — Государственная политика роста.

I. Роль сельского хозяйства в росте

1. Понятие и факторы роста

Рост представляет собой использование национального и международного разделения труда при изменяющихся условиях техники производства с целью увеличения объема реального общественного продукта в расчете на душу населения при одновременном росте численности населения (т. н. агрегатный подход по Кузнецу). Эта формулировка при определении темпа роста а) учитывает лишь входящие в состав общественного продукта блага и поэтому не принимает во внимание, например, улучшения удовлетворения культурных потребностей или, что еще важнее: соотношения времени, проводимого на работе в интересах создания общественного продукта, и свободного времени, обращаемого на отдых и развлечения, и далее б) основной экономической целью считает настоящее материальное благосостояние, в то время как она может заключаться и в повышении жизненного уровня будущего поколения, в интересах которого настоящее должно приносить определенные жертвы.

Из числа математических формул функции темпа роста наиболее часто можно встретиться с функцией Кобба—Дугласа. В ней независимыми переменными (факторами роста) являются: а) прирост населения (рабочей силы), б) прирост общественного объема средств производства (основных средств) и, наконец, в) сгруппированные в факторе «z» т. н. «человеческие факторы» или «человеческий капитал», в первую очередь, как прогресс в области технологии, организации производства, экономической политики, а также

как совершенствование учреждений, развитие здравоохранения и просвещения и т. п.

Прирост населения, то есть рабочей силы, означает фактически прирост занятых. Его взаимосвязь с темпом роста может быть доказана и на цифровом материале. Естественно, теснота корреляционной зависимости и в этом случае неопределенна, как всегда, когда результат ряда действующих совместно причин сопоставляется лишь с одной из них. То же самое происходит и в этом случае, когда нами учитывается лишь рабочая сила, хотя ее прирост и не может создавать прибавочного общественного продукта, если общественный объем средств производства не увиличивается настолько, чтобы большее количество рабочей силы могло использоваться по меньшей мере с прежней производительностью труда.

Роль факторов «z», главным образом, технологии, не подвергается сомнению. Тем более спорным является точное понятие технологического прогресса, а также метод измерения последнего и прочих человеческих факторов.

2. Интердепенденция и пропорциональность роста

В секторном отношении явления роста имеют иную окраску, чем в отношении всего народного хозяйства. Ведь экономический рост ни одного из секторов не может приписываться исключительно лишь ему самому, и, таким образом, стремясь установить результат роста с его точки зрения, всегда следует учитывать его взаимную зависимость с остальными секторами. Любое производство достигает определенного экономического результата благодаря также и тому, что, с одной стороны, оно имело возможность перенять продукты другого производства, а с другой стороны, тому, что другие производства нуждались в его продуктах. Межсекторные связи, таким образом, состоят частью из взаимной передачи, частью же из взаимного перенятия продуктов. Последнее ничем не менее важно первого, ибо если в отношении какого-либо продукта или количества продуктов не имеется, вообще, способного к перенятию производства, то в его производственной деятельности, очевидно, была напрасно затрачена производительная сила.

Это относится и к процессам роста. Способность к передаче и способность к перенятию взаимно обуславливают друг друга и посредством этого рост отдельных секторов воздействует на остальных; они находятся во взаимной зависимости (интердепенденции). Поэтому, по сути дела, неправильно говорить о росте сельского хозяйства, так как какой бы величиной ни хотели мы его выразить, наверняка, выявляемый прирост создается благодаря также и другим секторам, и в то же время часть результата его роста кроется в результате, выявляемом в других секторах. Так, например, измерять «рост» сельского хозяйства исключительно посредством его доли в

совокупном общественном продукте было бы неправильно уже и потому, что каждый сектор может содействовать росту остальных не только своими продуктами, но и производственными факторами, например, рабочей силой.

Из того, что действительным результатом роста является лишь то, в чем имеется народнохозяйственная потребность, и в отношении чего соответственно с этим имеется способное к перенятию производство, следует, что рост отдельных секторов должен происходить пропорционально. Это должно обуславливаться пропорциональным, то тесть таким распределением общественных производительных сил, а также факторов роста между секторами и их производствами, чтобы каждая их частица участвовала в общественном производстве в таком объединении или производстве, где она может наилучшим образом повышать эффективность последнего.

Предпосылкой осуществления интердепенденциальных возможностей, связанных с пропорциональным ростом, является хорошее функционирование рынка, то есть механизма, заботящегося а) о встрече благ и потребностей (функция уравновешивания), а также б) о создании или функционировании цены производительных сил (функция ценооразования).

Из этого следует, что политика роста должна стремиться не только к повышению производства, а должна уделять внимание и рыночным отношениям, то есть она — если хочет способствовать созданию оптимума роста — должна обеспечивать соответствующую рыночную инфраструктуру и гармоничную систему цен.

3. Вклад сельского хозяйства в рост

Роль сельского хозяйства с самого начала по сей день определяется тем, что, с одной стороны, оно является производителем органических продовольственных продуктов и прочего сырья, а с другой стороны, что оно является исконным занятием, плохо ли, хорошо ли, но выполнимым и без всяких специальных знаний и значительных средств.

На настоящем этапе развитого хозяйствования прогресс технологии сокращает потребность в рабочей силе в сельском хозяйстве и увеличивает ее в остальных областях. В покрытии последней большую роль играет высвободившийся в сельском хозяйстве избыток рабочей силы. Снабжение города продовольствием также требует от сельского хозяйства повышенных результатов, в особенности в отношении качества и производственных издержек. В то же время его способность к накоплению является скорее отрицательной. По некоторым мнениям, в этом периоде остальные отрасли играют большую роль в формировании результатов роста сельского хозяйства, чем оно само. Как правило, его доля в передаче является убывающей, по сравнению с другими секторами. В результате этой тенденции, естественно, слабеет и прирост способности сельского хозяйства к перенятию — выра-

жаемой его спросом на продукты прочих секторов — вызываемый в свою очередь его механизацией и химизацией, а также повышением его дохода.

Передаточный вклад отдельных секторов состоит частью в создании прибавочного продукта, частью в предоставлении производительных сил другим секторам.

Предоставляемую сельским хозяйством долю продуктов составляют частью продовольственные продукты, частью используемые им самим средства производства, частью же — промышленное сырье.

Вклад сельского хозяйства во внутреннее снабжение продуктами означает не только большие количества и лучшие качества, но и понижение себестоимости и цен, а в развитых странах последнее является даже более важным явлением, так как у них внутреннее производство полностью или приблизительно покрывает потребности в калориях, в то же время стабильность ценового уровня продовольственных продуктов — или его понижение — является противоинфляционным фактором, а оказываемое им влияние на заработную плату — фактором повышения конкурентоспособности экспорта, так же, как и понижение цен на сырье сельскохозяйственного происхождения.

Вклад сельского хозяйства посредством факторов производства заключается, главным образом, в рабочей силе. Значение последнего вытекает не только из необходимости ее с точки зрения развития промышленности, но и из того, что передача рабочей силы в развитых условиях является следствием скорее повышения производительности труда в сельском хозяйстве, чем перенаселенности и, таким образом, знаком того, что в себестоимости сократилась статья расходов на рабочую силу.

Степень вклада рабочей силой зависит, с одной стороны, от того, какими темпами продвигается способность промышленности к передаче, а сельского хозяйства — к перенятию по отношению к техническим новшествам, экономящим труд (технический фактор), а с другой стороны, от мобильности сельскохозяйственной рабочей силы (общественный фактор).

При определении вклада сельского хозяйства в росте, связанного с основными средствами (согласно терминологии буржуазной теории роста: капитальными благами), прежде всего не следует забывать о средствах, накапливаемых им для собственных целей, на что следует обратить внимание потому, что эти блага остаются вне рыночного обращения и с трудом могут быть оценены в деньгах; правда, их доля в общем общественном накоплении сокращается вследствие выдвижения на передний план средств производства промышленного происхождения. Подобно этому таким же вкладом средств являются любое капиталовложение и ремонт, производимые в мелких хозяйствах и на приусадебных участках семейным трудом, не выражающимся в заработной плате; а также суммы, вложенные в воспитание, переобучение и т. д. мигрирующей рабочей силы.

Почему в числе факторов роста не упоминается природа? Очевидно, потому, что у нее не наблюдается «прироста»; хотя и некоторые ее силы становятся используемыми лишь по мере развития; это, однако, явно должно приписываться изобретению или открытию, то есть технике. Подходя к этому вопросу таким образом, роль природы несомненно уменьшается по мере развития сельского хозяйства. Зато тем большей может быть она в различии потенциалов роста отдельных стран или краев. Географические местности, или края, где вследствие природных условий труд может быть более эффективным, оказывают притягательную силу на рабочую силу, а в некоторых случаях — даже на мобильные вещественные факторы.

Общая черта не связанных с технологией человеческих факторов заключается в том, что их прирост неизмерим численно (в крайнем случае, эффект некоторых из них), и в том, что, по существу, они проявляются в качестве, а в некоторой мере, конечно, и в распространении технических средств, образования и т. п., что может быть измерено. В сельском хозяйстве особое значение имеют институты, определяемые или обычаем и традицией, или же правом.

То, что мы называем техническим прогрессом, состоит, с одной стороны, из применения более эффективных средств производства, а с другой стороны, из лучшего сочетания производительных сил; первое из них означает технологическое развитие, а последнее — субституцию одного средства производства другим, оказывающим тот же вид эффекта в большей мере.

Специфика сельскохозяйственной технологии решающим образом влияет на оптимальную способность сельского хозяйства вносить свой вклад в рост. Она заключается в следующем: 1. сельское хозяйство не имеет абсолютной техники, это вытекает уже и из того, что его продукты (крахмал, белки, витамины, волокно и т. п.) произрастают и в диком виде; 2. оно не имеет абсолютного производственного минимума; 3. зато абсолютным, неизбежным его фактором являются период и ход времени, вследствие которых решающие процессы могут быть связаны между собой лишь последовательно, а не параллельно; 4. значительную роль играют биологические силы; 5. эффект укрупнения производства меньший, чем в промышленности; 6. решающую роль в производстве играет недвижимая в количественном и территориальном отношении плодородная земля, а поэтому и масштабы места производственной деятельности.

4. Сельскохояйственные производства и рынок в росте

Лишь те количества факторов роста имеют влияние, которые участвуют в процессах какого-либо производства. Их воздействие проявляется в повышении результатов производственных процессов. Хотя вследствие этого прирост объема общественного продукта и возникает в отдельных

производствах, все же в результате интердепенденции рост является определенно экономическим процессом. Из этого следует, а) что экономический результат этого влияния не равен математической сумме полученных в отдельных производствах результатов, а также что б) самостоятельное значение с точки зрения роста имеют и те процессы, посредством которых возможна реализация взаимных влияний отдельных производств в отношении роста, то есть — рынка.

Предпосылкой оптимальной эффективности каждого хозяйства является оптимальное сочетание их производительных сил. В результате технологического прогресса оптимум постоянно изменяется. Поэтому производительным силам отдельных хозяйств по своему составу и величине следует приспособляться к изменениям. От того, насколько пригодны они для этого, и насколько гибкими являются они в отношении концентрации и специализации, решающим образом зависят их участие и роль в росте.

Отдельные хозяйства применяют факторы роста не с целью увеличения общественного продукта, а в интересах повышения собственного результата (и посредством этого — улучшения материального положения собственника хозяйства). Результат зависит не только от эффективности процессов, но и от ценовых условий. Чем более благоприятными являются пропорции цен с точки зрения хозяйства, с одной стороны, во взаимоотношении продуктов и производительных сил, а с другой стороны, во взаимоотношении отдельных благ как в первой, так и во второй сфере, тем больше рентабельность данной эффективности. Система цен, отклоняющаяся от соотношений общественной себестоимости благ и услуг, задерживает рост, в частности тем, что не направляет факторы роста в хозяйства, использующие их с наибольшей общественной эффективностью.

Дальнейшей задачей рынка является балансирование производства и потребления благ и услуг. Эта функция уравновешивания также способствует росту, так как средства, сэкономленные в результате понижения издержек обращения или устранения возможных помех обращения и связанных с ними потерь, представляют собой прибавочный общественный продукт.

Структура спроса и предложения в отношении сельского хозяйства, а также влияющая на его рентабельность система цен изменяются. На темп роста воздействует в конечном счете также приспособляемость отдельных хозяйств к рыночной структуре.

С точки зрения приспособляемости как к производственным, так и рыночно-структурным изменениям развития сельское хозяйство является менее гибким, чем большинство прочих секторов. Этому и соответствует его положение в отношении роста. Формирование этого, однако, зависит от того, в какой степени позволяет общественный строй воздействовать стихийным силам на положение хозяйств, с одной стороны, и на рыночные движения, с другой стороны; насколько регулируются им те и другие. В этом отношении

социализм и капитализм совершенно различны. Поэтому излагаемые в дальнейшем взаимосвязи гораздо более касаются развитого капиталистического сельского хозяйства, чем изложенные выше.

II. Положение капиталистического сельского хозяйства в росте

5. Структурные последствия прогресса

а) *Централизация (концентрация хозяйств)*

Одно из последствий технического прогресса заключается во всеобщей тенденции к укрупнению хозяйств, то есть в централизации, известной в литературе под названием производственной концентрации.

Другое воздействие технического прогресса на организацию хозяйств состоит в специализации, являющейся, по существу, проявлением развитого разделения труда и не совсем независимого от производственной концентрации.

Технологический прогресс заключается в повышении эффективности применяемых средств. Его концентрирующее влияние в основном зависит от того, делимы ли его новые средства или нет. В сфере сельского хозяйства, как правило, делимы те из них, которые имеют, главным образом, биологический эффект, то есть способствуют повышению урожая и продуктивности; те же из них, которые дают экономию человеческого (или животного) труда и, таким образом, сокращение издержек, как правило, неделимы. Характерным примером для первых являются искусственные удобрения, для последних — машины. Машины могут быть различных типов по своим габаритам, однако, ни одна из них не отвечает полностью использующему ее хозяйству с точки зрения величины, а как раз наоборот, каждая из машин требует приспособления к себе величины хозяйства, так как ее экономически эффективное использование возможно лишь при определенном минимуме производства. Подобный характер носят здания. Большая часть издержек по использованию машин — ввиду их неделимости — является независимой от производимого с их помощью количества продукции, постоянной, причем та часть их, которая входит в себестоимость единицы продукции, обратно пропорциональна количеству продукции. Вследствие этого механизация оказывает концентрирующее влияние на структуру сельского хозяйства. Делимые технологические новшества не оказывают такого влияния, так как при их применении в рамках закона пропорциональности любое их количество может быть совмещено с остальными факторами при той же эффективности.

Из этих двух групп средств технологического прогресса в развитых странах сегодня уже на передний план выдвигаются средства, относящиеся к кругу механизации (и рационализации ферм), так как а) производство продовольственных продуктов уже приблизилось к самоснабжению, обеспечивающему нормальное питание, или даже обогнало его, и таким образом, его повышение экономически эффективно, в крайнем случае, лишь до тех пор, пока оно возможно при общественных издержках, не превышающих настоящие, а, возможно, еще недостающие количества могут быть более дешево приобретены за счет импорта; б) темп удорожания рабочей силы превышает удорожание машин, то есть механизация в производственном отношении приводит к сокращению себестоимости, а в общественном аспекте означает удешевление снабжения продовольственными продуктами. При использовании этих преимуществ складываются тенденции создания производственных масштабов, отвечающих требованиям машин.

Укрупнение отдельных хозяйств возможно в трех направлениях: а) горизонтально, то есть экстенсивно, путем расширения площадей, б) вертикально, то есть путем интенсификации, когда результат укрупнения проявляется в приходящемся на единицу площади количестве продукции, и в) путем сокращения ассортимента конечной и промежуточной продукции производства, то есть специализации.

Первое затрудняется отсутствием земельных резервов, недвижимостью земли. Негибкость производственной структуры, коренящаяся в ограниченном количестве и различном плодородии почвы, а также в данном физиологическом уровне продуктивности животных, смягчается повышающими урожай и продуктивность техническими нововведениями. Это, однако, уже относится к укрупнению производств путем интенсификации и централизации.

Экстенсивное укрупнение хозяйств, производимое путем распространения площадей, ограничивается не только недостатком земельных резервов. Его предпосылкой является форсированная механизация. Насколько бы оно ни сопровождалось экономией труда, для обслуживания машин все же требуется человеческий труд, то есть увеличение их объема постепенно вызывает новые и новые потребности в рабочей силе, и, таким образом, рано или поздно устанавливается такая степень механизации, при которой затраты на заработную плату дополнительной рабочей силы будут превышать стоимость добавочной продукции, получаемой посредством механизации.

Особенно в семейных хозяйствах останавливается механизация на уровне, при котором затраты на становящийся неизбежным наемный труд сказываются на семейном доходе. Укрупнение хозяйств в тенденции приближается к масштабам, при которых обеспечивается полная занятость семейной рабочей силы, обслуживающей машины по всем предписаниям, и пло-

щадь является достаточно большой для полного использования машин. Такое оптимальное сочетание производительных сил крупные крестьянские хозяйства, применявшие до сих пор наемных работников, стремятся обеспечить путем сокращения площади, а наименьшие хозяйства — путем расширения своих площадей. Таким образом, производственная концентрация направлена на среднюю величину, и ее типом становится интенсифицирующееся семейное хозяйство.

Машины различаются с точки зрения этого их воздействия на формирование величины хозяйств. Чем специфичнее их применение, тем больших территорий они требуют, зато в случае их полного использования получаются тем большая экономия труда и сокращение издержек. Такой специальной машиной является, например, комбайн. В то же время трактор как универсальный двигатель может быть рентабельно использован и в гораздо меньшем хозяйстве, чем комбайн; поэтому и является он наиболее распространенной машиной и может быть стержнем организации современного семейного хозяйства, так как к нему приспосабливается все сочетание факторов, за исключением рабочей силы.

Суть специализации заключается в приспособлении организации и управления производств к производительным силам, наиболее способствующим повышению их эффективности, с целью наилучшего приближения к их оптимальному использованию, — и в связи с этим в исключении всех производственных отраслей или процессов, препятствующих такой концентрации сил. Центром тяжести может служить производительная сила, представляющая собой какое-либо природное условие, на использование которого базируется производство данного края; может служить расположение по отношению к рынку, что тоже является фактором производства на данной территории; может служить какая-либо специфическая машина (возможно, имеющееся здание), при полном использовании мощности которой можно достигнуть сбережений, превышающих дополнительные издержки, связанные с односторонностью производства. Если вследствие исключения какого-либо процесса или отрасли в хозяйстве прекращается производство какого-либо конечного продукта, то произошла отраслевая специализация; если же исключается лишь выполнение какой-нибудь части процесса производства какого-либо конечного продукта, и результат этого обособленного частного процесса приобретается от другого хозяйства, то следует говорить о пооперационной специализации. В обоих случаях, по существу, имеющиеся в хозяйствах производительные силы сосредотачиваются на относительно более эффективных операциях, то есть отдельные отрасли или процессы увеличиваются за счет других, и, таким образом, происходит внутрипроизводственная централизация.

И с точки зрения специализации положение сельского хозяйства и, главным образом, семейного хозяйства является особым. В своей традицион-

ной форме выгодность многоотраслевого хозяйстваи стремления к самоснабжению также и с точки зрения различных производственных процессов обуславливались комплементарностью отдельных отраслей и обеспечением непрерывной полной занятости семейной рабочей силы. В результате прогресса существенно ослабли тесные взаимосвязи между сельскохозяйственными производственными отраслями, и представилась возможность для концентрации производительных сил в наиболее рентабельных из них (конечно, в развитом капиталистическом сельском хозяйстве это, как правило, не доходит до монокультуры). Аналогичное ослабляющее влияние оказала постепенная замена биологических процессов механическими и химическими в отношении процессов производства отдельных конечных продуктов, позволившая приобретать возникающие в результате частных процессов промежуточные продукты или услуги от специализированных на это хозяйств, освобождать производящие конечный продукт хозяйства от этих процессов и обращать высвобождающуюся рабочую силу на выполнение боле эффективных процессов. Такое упрощение производств предполагает более гибкое обеспечение рабочей силой так, чтобы было возможно увольнение той части ее, которая высвобождается при этой «вертикальной специализации». В семейном хозяйстве рабочая сила все более состоит из владельцев-супругов, часть которых нельзя уволить; даже когда она стала излишней, ее надо содержать. Поэтому упрощение хозяйства не приносит выгоды, если освободившаяся рабочая сила не может быть занята с такой же пользой, как до сих пор на обособившейся операции. Поэтому сельское хезяйство семейной системы является менее гибким и в отношении связанных с ростом требований специализации, чем, например, промышленная производственная единица. Кроме того, оно является недостаточно большим для того, чтобы иметь специфические машины.

б) *Концентрация рынка*

В товарном производстве закупка и сбыт являются не менее важными процессами хозяйства, чем сами производственные процессы. При их выполнении хозяйства должны частью приспособляться к рыночным партнерам, частью же понуждать их к приспосабливанию. Поэтому в связи с ними большое значение имеет относительная рыночная сила или власть.

Прогресс приносит изменения как на рынках спроса, так и на рынках предложения сельского хозяйства. В сфере обращения совершенствуется техника транспортирования, консервирования, связи и администрации; в результате развития производственной техники изменяются средства производства, а вследствие повышения доходов потребителей — товарная структура спроса на продовольствие. Отчасти из-за этого, но, главным образом,

из-за производственной централизации концентрируется структура рынка, и все увеличивающаяся часть спроса и предложения отдельных товаров подпадает под власть единых централизованных решений. Промышленность, торговля, транспорт и т. д. более гибко приспосабливаются к рыночным изменениям, и поэтому они в большей мере могут увеличивать свой вклад в рост, чем сельское хозяйство, которое из-за этого может отставать в росте и в получении соответствующих выгод.

Основа усиления рыночной власти заключается в соглашении экономических субъектов, имеющих аналогичные производственные цели о прекращении или ограничении взаимной конкуренции. Кроме этой горизонтальной концентрации усиливается и вертикальная, состоящая в том, что хозяйства, функционирующие на соседних отрезках трассы обращения, ведущей к какому-либо данному конечному продукту, осуществляют свои рыночные взаимосвязи на основании согласованных единых решений, с прекращением конкуренции между собой.

6. Спрос и предложение продуктов в росте

В результате технического прогресса увеличивается не только производство сельскохозяйственных продуктов, но и спрос на них, на который благоприятное влияние оказывает повышение уровня доходов. Однако, согласно общеизвестному закону неэластичности с повышением доходов потребителей сокращается доля, обращаемая на продовольствие. Из-за этого по мере роста постоянно уменьшается воздействие повышения доходов потребителей на спрос продовольственных продуктов; оно скорее сказывается на структуре питания, то есть на структуре спроса сельскохозяйственных продуктов.

Неблагоприятное положение сельскохозяйственных продуктов с точки зрения спроса усиливается еще и тем, что понижение цен также оживляет спрос на продовольствие тем менее, чем выше жизненный уровень. Таким образом, даже если вследствие развития понижается уровень сельскохозяйственных цен, влияние этого остается незначительным. В связи с изучением изменения спроса в зависимости от влияния как доходов, так и цен, следует сосредоточить внимание на уровне оптовых цен.

Эластичность спроса на промышленные изделия является гораздо большей, однако, быстрый рост спроса на них едва приносит пользу сельскому хозяйству как производителю сырья, так как, с одной стороны, его продукты все более вытесняются синтетическим сырьем, а с другой стороны, в результате технического прогресса сокращается количество сырья, затрачиваемое на производство единицы продукции.

В результате технического прогресса и повышения доходного уровня уменьшается бытовое и производственное самоснабжение сельского хозяй-

ства, и этим усиливается его зависимость от рынка. Растут качественные требования потребителей, обрабатывающей промышленности и торговли, а техника транспортирования и консервирования расширяет потенциальные рынки отдельных хозяйств. Все это требует таких познаний, оборудования, рыночных информаций, ожидать которых от большинства руководителей сельскохозяйственных производств нельзя, тем более, что их приобретение и не было бы экономически эффективным, поскольку из-за малых масштабов хозяйств невозможно было бы их использовать, и часть вложенных в них общественных затрат пропала бы даром.

Спрос предъявляет свои требования тем строже, чем он концентрированнее. Производители сегодня уже лишь в исключительных случаях имеют партнерами неконцентрированные потребляющие производства, а именно, домашние хозяйства; их покупателями в подавляющей мере являются торговые или фабрично-заводские предприятия. Эти предприятия по мере роста все более концентрируются как с точки зрения производства, так и — рыночной власти, то есть увеличивают свое рыночное превосходство.

Из-за вышеизложенного характера спроса сельскохозяйственное производство должно быть осторожным при развитии производства, дабы не появились излишки и завышенное предложение. Последние означают, что передаваемая продукция превышает способность остальных отраслей к ее перенятию.

Поэтому в формировании положения сельского хозяйства в общем росте важную роль играет то обстоятельство, каким образом реагирует его производство на формирование цен. Хотя рост является определенно перспективным процессом, но поскольку с его точки зрения не менее важным является его равномерность во времени, в этом отношении определенные последствия имеет не только перспективная, то есть структурная, но и конъюнктурная эластичность производства от цен. Общеизвестный и широко наблюдаемый факт, что сельское хозяйство довольно легко реагирует на *повышение* цен как в длительной, так и в близкой перспективе. Однако влияние конъюнктурной *депрессии* цен на снижение предложения тормозится следующими причинами: 1. из-за легкой порчи продуктов, недостатка складов и недостатка капиталов у производителей предложение не может регулироваться в соответствии с сезонными колебаниями спроса; 2. из-за меньшей удельной транспортабельности ограничены возможности желаемого территориального распределения предложения; 3. накладные издержки (главным образом, затраты на воспроизводство семейной рабочей силы) могут понижаться лишь умеренно; более эффективным способом сокращения себестоимости является повышение урожая и продуктивности, ограничиваемое лишь законом пропорциональности и покупательной способностью хозяйства в отношении средств производства; 4. поэтому для смягчения сокращения дохода представляется пригодным увеличение рыночной выручки

путем повышения предложения товарной продукции, хотя и по пониженным ценам, но с одновременно понизившейся себестоимостью; 5. значительная часть издержек не связана с денежными расходами, и сокращение рыночной выручки уже и поэтому относительно мало препятствует поддержанию производства на том же или, возможно, более высоком уровне; 6. в депрессии падает и цена на средства производства промышленного производства, — хотя и в меньшей мере — что до некоторой степени уравновешивает понижение цен на сельскохозяйственные продукты. Поэтому во время конъюнктурного падения цен сельскохозяйственное производство может даже повыситься.

Проблема роста, однако, связана не с конъюнктурной, а со структурной депрессией цен, не обещающей циклического улучшения, и действительной в случае, когда цены не покрывают даже технически возможную себестоимость продуктов. Одна из причин этого может крыться в рыночной слабости сельского хозяйства и в возможной вследствие этого эксплуатации со стороны противостоящего ему спроса или предложения, но в развитых условиях это вряд ли может произойти. Другая причина заключается в том, что сельское хозяйство вследствие повышения своей производительности и указанного характера спроса на его продукты попадает в положение перепроизводства. Прекращением последнего сельское хозяйство должно бы восстановить свой рентабельный уровень и с этой целью отвлечь от производства часть производительных сил. Это, однако, связано с особыми трудностями. Ликвидация вложений — включая и оставление земель невозделанными — возможна лишь с большими потерями; учитывая такое сокращение стоимостей, существенно понизятся себестоимость и дефицитность цен. А владелец семейного хозяйства может найти себе другое занятие лишь с большим трудом. Поэтому даже еле перебивающегося мелкого крестьянина трудно отделить от его земли и дома.

Неблагоприятный уровень цен, однако, может быть лишь *видимым*, а именно, если цены дефицитны лишь из-за себестоимостей, необоснованных по сравнению с техническими возможностями и ценовыми пропорциями средств производства. В этом заключается ныне подлинная проблема в развитых странах. Ее причина: препятствия в применении сокращающих издержки технических новшеств из-за недостаточно централизованной производственной структуры, вследствие чего и затраты на труд высоки в том смысле, что на каждый акр семейных хозяйств приходится больше рабочей силы, которую нельзя сократить с целью обеспечения оптимальных пропорций земли, труда и капитала или из-за того, что семейная рабочая сила уже сократилась до супружеской четы, или же из-за социальных преград миграции из сельского хозяйства. Уже само по себе сокращение излишков рабочей силы, то есть числа лиц, содержимых за счет нынешних доходов, могло бы привести к снижению себестоимости.

7. *Сущность проблемы роста капиталистического сельского хозяйства*

Вследствие равнения концентрации на средние масштабы, то есть ограниченного роста размеров хозяйств, сельскохозяйственные производства не используют значительной части возможностей экономии труда, сокращения издержек, открываемых применением нововведений технического прогресса по механизации, устройству укрупненных усадеб и т. п., так как мощности требуемого для этого инвентаря и оборудования превышают их потребности. В результате этого хозяйства применяют — по сравнению с достигнутым уровнем развития техники — относительно много рабочей силы; другим отраслям передается меньше рабочей силы, чем это было бы возможно; за счет доходов приходится содержать технически необоснованную рабочую силу; величина дохода в расчете на члена семьи не удовлетворительна, и не может развернуться воздействие техники на сокращение издержек.

Себестоимость может быть снижена и путем повышения урожайности и продуктивности. Этот путь под силу и малым хозяйствам, так как эффективность средств по повышению урожая и продуктивности независима от величины применяющего их хозяйства. Растущее в результате этого предложение, однако, из-за неэластичности спроса на продовольствие встречается на рынке лишь с умеренно растущим спросом. Следствием этого является структурная депрессия цен. Равновесие могло бы быть восстановлено сельским хозяйством лишь путем регулирования предложения или производства на основании общих действий производителей, этому, однако, препятствуют производственная децентрализация и вытекающая из нее взаимная конкуренция производителей. Это препятствует и тому, чтобы можно было подобно картелям вынудить на рынке уровень цен, покрывающий издержки. Цены в подавляющей их части складываются независимо от издержек производства, в соответствии со спросом и предложением.

Таким образом, посредством развития своей техники сельское хозяйство само способствует неблагоприятной динамике своего уровня цен, а этим и тому, что результаты его достижений в росте и его растущей производительности в большей мере используются потребителями, чем им самим.

Однако нельзя допускать, чтобы уровень цен снижался в соответствии с перевесом предложения. Специфика формирования сельскохозяйственных цен заключается в том, что понижающее влияние, оказываемое на них превышением предложения, является слишком большим. Государство должно постоянно осуществлять регулирование рынка и политику цен, чтобы воспрепятствовать катастрофическому падению доходов. Все же диспаритет сельскохозяйственных доходов не прекращается. Кроме того аграрная политика, направленная на субвенционирование доходов, препятствует выпа-

дению предельных хозяйств с самым высоким уровнем издержек, без которых уже можно обойтись в производстве. Остается неиспользованным резерв производительности только лишь из-за производственной структуры сельского хозяйства и отсутствия у нее способности приспосабливаться к рыночной структуре. Таково пагубное последствие этого положения для экономики; а для сельского хозяйства — неблагоприятный диспаритет доходов.

В перспективе нескольких десятилетий нельзя исключить — вследствие повышения уровня доходов — такой рост спроса на более благородные продовольствия, а в особенности на животные продукты, который — отражаясь и на производстве кормов в растениеводстве — уравновешивал бы последствия понижения цен, вызванного воздействием техники на увеличение предложения. Такая тенденция наблюдается в последние годы в типичной для проблем, связанных с ростом сельского хозяйства, стране — США. Одновременно с этим скачкообразно возрос экспорт продовольственных продуктов, конечно, в первую очередь, в развивающиеся страны, в качестве помощи, с экономическим убытком. Зато сократились запасы, уровень цен поднялся до рентабельности, а политика в области сельскохозяйственного производства — в отличие от прежней тенденции ограничения производства — начинает обращаться к его повышению.

В остальной части развитого мира сельское хозяйство лишь в отдельных странах достигло вышеуказанного положения роста, за исключением, быть может, Франции, в которой, однако, вопреки предоставляемой Общим Рынком защите также бывают крестьянские забастовки. Пока что можно предполагать, что в зависимости от результатов государственной политики роста рано или поздно, в перспективе десятилетий наступит воздействие дегрессии роста спроса на продовольствие — сопровождаемое прогрессивным воздействием техники на производительность — и в странах, которые до этого не могут рассчитывать на смягчение своих забот в области аграрной политики в результате наблюдаемого в настоящее время в США эффекта изменения структуры питания; ведь необозримы границы технического прогресса в области производства, но весьма ограничены с точки зрения физиологических потребностей человеческого организма.

При такой вековой перспективе, однако, следует мыслить в категориях единого мирового хозяйства. Наверное, еще долгое время будет усиливаться зависимость развивающихся стран от импорта продовольственных продуктов, причем из развитых стран, потому что промышленности последних требуется то, что первые смогут импортировать: сырье. В результате этого, прежде чем углубилось бы неблагоприятное положение сельского хозяйства в росте, и для развитых стран может открыться — естественно, субсидируемый государством — клапан вывоза продовольствия, что может отодвинуть всеобщее и серьезное обострение дилеммы роста сельского хозяйства.

Проблемы, однако, в настоящее время понуждают как сельское хозяйство, так и государство к усилиям, обеспечивающим развитие без диспаритета доходов.

8. Межпроизводственное сотрудничество

Ввиду того, что отдельные хозяйства не в состоянии собственными силами устранить препятствия сокращения издержек наиболее естественным образом — путем обеспечения оптимальной пропорции человеческого труда, машин и земли — им приходится обращаться к иным способам. Этот выход состоит в том, что осуществление возможных технически, но невозможных из-за малых масштабов хозяйств процессов по снижению издержек или повышению цен предоставляется ими специализированным для этого хозяйствам, выполняющим эти процессы индустриализованными методами, то есть производящими с меньшими издержками свои продукты, представляющие собой блага (например, кормовые смеси) или услуги (например, машинный труд), и предоставляющим их в соответствии с этим сельскохозяйственным производствам по цене, меньшей, чем была бы стоимость при их производстве «хозяйственным способом»; таким образом, последние вопреки своим малым масштабам могут использовать возможности технического прогресса. Выполняющие такие процессы т. н. производства по предоставлению услуг дополняют своей продукцией процессы производящих конечные продукты хозяйств; то есть цена их продукции влияет на издержки по конечному продукту. В таком смысле они технически связаны с производящими конечный продукт хозяйствами. Их процессы могут связываться с производственными или рыночными отношениями производства конечного продукта. Наиболее эффективными с точки зрения производства конечного продукта они могут быть в случае, когда они вместе с последним подчинены единой власти, принимающей решения, то есть вертикально интегрируются с ним.

С точки зрения сельскохозяйственных производств приобретение и изготовление средств производства являются наиболее важными предварительными процессами, а вынос продуктов на рынок, их обработка и доведение их до потребителя — основными последующими процессами. Интеграция обещает сельскому хозяйству наибольшие выгоды в случае, если дополняющее производство относится к сфере собственных хозяйств. Это может быть осуществлено лишь таким образом, если производители будут сотрудничать в создании и использовании общего предприятия, выполняющего для всех них соответствующие процессы. Это в настоящее время также является типичным и все более частым явлением развития сельского хозяйства.

Необходимость и выгоды такого межпроизводственного сотрудничества определяются частью характером процессов, частью же производственной структурой. Экономическая выгода создается лишь в случае, если повышается и эффективность, однако, с точки зрения частных хозяйств оно может быть обосновано и умерением рыночной слабости, связанной с децентрализацией. Наиболее распространенной формой такого сотрудничества в настоящее время является кооператив. Он, по существу, также является одной из форм вертикальной интеграции. Несомненно, это самая благоприятная форма, не только с точки зрения дохода его членов, но и эффективности выполнения процесса; ведь поскольку члены кооператива получают его продукцию не по рыночным ценам, а, по существу, по себестоимости, то поэтому кооперативное производство они могут считать как бы одной из отраслей своего хозяйства, и, таким образом, и со своей стороны они стараются способствовать наиболее эффективному выполнению процессов, дополняющих их хозяйственную деятельность, зная, что получаемая от этого выгода снижает издержки выполняемых в их хозяйстве процессов.

В то же время специфические принципы кооперации, действующие в этой форме, оказывают и неблагоприятное влияние на эффективность такой вертикальной интеграции. Демократическая организация кооперативов, в силу которой основным источником любого принимаемого решения является коллективная воля хозяйств-членов, затрудняет обеспечение такой дисциплины хозяйствования, которая является основным условием конкурентоспособного выполнения интеграционной задачи. Следует считаться и с тем, что кооперативное хозяйство, по крайней мере, при строгом соблюдении демократических принципов, в определенной степени и само встречается с препятствиями и трудностями приспособления при выполнении своих задач в отношении роста. Поэтому в последнее время находят распространение и иные методы межпроизводственного сотрудничества («agriculture de groupe» во Франции, «Erzeugergemeinschaften» в Западной Германии, «Produktschappen» в Голландии).

В процессе роста межпроизводственное сотрудничество все более усиливается в следующих направлениях: а) в результате технического прогресса увеличивается число процессов, экономически эффективно выполняемых только при сотрудничестве, вследствие чего усиливаются внутрипроизводственная специализация и б) зависимость производящего конечный продукт хозяйства от предоставляющих услуги производств; в) все большее число процессов превышает мощность первичных кооперативов и требует вторичных или даже третичных кооперации, а в связи с этим и сфера принятия решений концентрируется на более высоком уровне; г) этим все более ограничивается сфера принятия решений производителями, так как она по своему большему числу процессов переходит от пленума членов первичных кооперативов к их правлениям, от последних — к выборным коллегиям

кооперацій более высокого уровня, а от них — к назначаемым последними руководящим служащим.

В результате интеграционного и концентрированного развития кроме производственной структуры основательно изменяются и производственные отношения, так как, с одной стороны, собственниками увеличивающейся доли средств производства становятся органы сотрудничества (или, в некоторых случаях, возможно, интегрирующие организации вне сельского хозяйства); и хотя они и остаются в *коллективном* распоряжении индивидуальных производителей, все же сфера самостоятельного принятия решения последними существенно ограничивается, что, однако, является сутью индивидуального хозяйствования. Сотрудничество продвигается все более вглубь процессов хозяйствования и постепенно растет вширь в отношении их числа. Это может дойти до того, что крестьянину остается уже только его собственность и выполнение операций, вовлечение которых в кооперацию пока еще было бы нецелесообразным, но он все менее остается самостоятельным производителем, берущим на себя риск и принимающим решения.

Это развитие ясно осознается на западе, где ставится вопрос о том, до каких пределов может продвигаться органичение самостоятельности и свободы производителя без превращения сотрудничества, по существу, в слияние, а считающиеся дополняющими (то есть предоставляющие производителям свободу в выборе процессов, представляющих предмет сотрудничества) кооперативы — в производственные кооперативы, производящие все процессы общими силами.

9. Капиталистическая политика сельскохозяйственного роста

Стихийные стимулы уже сами по себе могут вынудить применение хозяйствами технических новшеств без угрозы перепроизводства и сокращение ими в соответствии с прогрессом своих издержек, то есть повышение их производительности без диспаритета доходов. Это, однако, возможно лишь при величине хозяйств, превышающей определенный минимум, причем в относительно длительном процессе. Неуравновешенный рост же приводит к общественным неурядицам и задерживает отрасли, способные к более быстрому росту.

Поэтому капиталистическая сельскохозяйственная политика по сегодня является, по существу, политикой роста. Она имеет три основные ветви.

Одна из них способствует ликвидации т. н. предельных хозяйств, совершенно неспособных к дополнению, позволяющему рационализировать производственные площади, применению современной техники, миграции

излишней рабочей силы из сельского хозяйства, то есть модернизации производственной структуры (внешняя рационализация). Другая представляет собой политику цен, которая, однако, с момента опознания пагубных побочных влияний различных систем субвенционирования цен и их непригодности для прекращения доходного диспаритета постепенно преобразуется в политику доходов. Последняя посредством денежных субвенций, дополняющих доход, или помощи, оказываемой производителям, старается обеспечить рентабельность производства, не изменяя цен; ее преимущество заключается в том, что она может ограничиваться действительно нуждающимися группами хозяйств, в то время как политика цен не может делать в этом отношении различий и поэтому повышает доходы и в необоснованных случаях. Наконец, государства делают соответствующие выводы и в том аспекте, что сельское хозяйство предъявляет особые требования к рыночной организации, порядку владения и наследования, организации и учреждениям кредитования, оборудованию транспорта и связи, учреждениям всеобщего и специального обучения, а также здравоохранения и организации административного управления. Создание состоящей из них т. н. инфраструктуры также способствует улучшению результатов роста сельского хозяйства и в соответствии с этим — его положения.

CAPITALIST AGRICULTURE AND ECONOMIC GROWTH

K. Ihrig

Owing to the close interdependence of industries in economic growth it should be spoken of the contribution of agriculture to the growth of the national economy instead of its own growth. Its contribution is determined by its capacity to transfer products and resources to, respectively to take away the same, from the other industries. Its active contribution consists mainly in the provision of food for, and in yielding labour to them. Its capacity to both, as far as its own growth factors are concerned depends on the increase of its capital and on its technical progress, further on the adaptability of the producing units to structural changes provoked by the process of growth, on the one hand and on the proper functioning of the market with regard to adjustment of supply and demand as well as to maintaining an adequate price structure, on the other.

In general, growth promotes concentration of the producing units (plants) as well as of economic power. As for the former, in agriculture there are three possibilities of increasing farm size: by extending its land, by increasing the capital and by restricting the sphere of products marketed by, or of the functions performed within the farm (specialization). The first is impeded by the limited quantity and the immobility of the factor land, the second and the third mainly by the family structure which may prevent mechanization if there is no possibility to increase farm land and/or to decrease family labour in an adequate measure and may prevent product specialization owing to full-employment problems of farm resources.

As a consequence of all this and of the difficulties connected with providing labour in the large farms, development of the producing units takes place towards the middle-sized and technically well equipped farms, which, however, are unable individually to maintain such conditions on their markets as are required for the expansion of their contribution capacity to the technically possible measure.

The inelasticity of demand for food to income as well as price and of supply to price may easily lead to an oversupply of the additional product quantities caused by

technical progress in agriculture and to call forth a market on which agricultural short-term prices are influenced by demand and supply alone without proper regard to production costs. The reduction of the latter by rationalization is hampered by the structural inflexibility of and the oversupply with labour of the sector. Agriculture has to share the benefits of its progress with the consumers while suffering from income disparity. Co-operation is the mens of self-help against this situation. It increases technical flexibility and market power of the producing units and helps them to hold their own in the trend of vertical integration, which otherwise would degrade agriculture into the position of a raw material producing branch of the food industry. Also a growth policy of the state consisting in the improvement of farm structure, infrastructure and price structure is indispensable.

NOTES

B. MARTOS

ON THE EFFICIENT CONSUMPTION PATHS IN A HARROD-DOMAR TYPE MODEL

We are looking for a characterization of efficient consumption paths in the simplest aggregate model of growth with capital as a single productive factor and a linear production function.

Let us denote:

$K = K(t)$ = capital stock
$C = C(t)$ = consumption
$Y = Y(t)$ = net national product
k = output-capital ratio (constant)

A time derivation is marked by a dot $\left(\text{e.g. } \dot{C} = \frac{dC}{dt}\right)$ and differentiability is assumed.

A consumption path is called *feasible* if it satisfies the following system: (1) — (5) for all $t \geq 0$.

(1) $Y = C + \dot{K}$
(2) $Y = kK$
(3) $C \geq 0$
(4) $\dot{C} \geq 0$
(5) $Y \geq C$

with the initial condition:

(6) $K(0) = K_0$

(Then from (6) and (2) $Y(0) = kK_0 = Y_0$ is fixed, too, but $C(0)$ can have any value $0 \leq C(0) \leq Y_0$)

A feasible consumption path $\overline{C}(t)$ will be called *efficient* if there does *not* exist any feasible path $C(t)$ satisfying

a) $C(t) \geq \overline{C}(t)$ for all $t \geq 0$

and b) $C(t) > \overline{C}(t)$ for a positive length interval in $(0, +\infty)$

Solving the system (1)—(2) with respect to (6) we get:

$$Y = Y_0 e^{kt} - ke^{kt} \int_0^t e^{-k\tau} C(\tau)\, d\tau \tag{7}$$

First we consider the restriction $Y \geq 0$, arising from (3) and (5), and from

$$Y_0 e^{kt} - ke^{kt} \int_0^t e^{-k\tau} C(\tau)\, d\tau \geq O$$

we get

$$\int_0^t e^{-k\tau} C(\tau)\, d\tau \leq K_0 \qquad \text{for } t \geq 0 \tag{8}$$

The integrand being non-negative under assumption (3), (8) turns out to be equivalent with

$$\int_0^\infty e^{-k\tau} C(\tau)\, d\tau \leq K_0 \tag{9}$$

This means that for a feasible consumption path:

A) the left side improprius integral must be convergent

B) $\lim_{\tau \to +\infty} e^{-k\tau} C(\tau) = 0$, consequently.

Now we consider the stronger restriction (5): $Y \geq C$ and prove that it derives from (4), (7), and (9). Namely from

$$Y_0 e^{kt} - ke^{kt} \int_0^t e^{-k\tau} C(\tau)\, d\tau \geq C \qquad \text{for } t \geq 0 \tag{10}$$

we get

$$e^{-kt} C + k \int_0^t e^{-k\tau} C(\tau)\, d\tau \leq Y_0 \qquad \text{for } t \geq 0 \tag{11}$$

Applying the trivial indentity of

$$e^{-kt} C(t) = \{e^{-k\tau} C(\tau)\}_0^t + C(0) \tag{12}$$

and the rule of partial integration, we get

$$\int_0^t e^{-k\tau} \dot{C}(\tau)\, d\tau \leq Y_0 - C(0) \qquad \text{for } t \geq 0 \tag{13}$$

By (4) this is equivalent to

$$\int_0^\infty e^{-k\tau} \dot{C}(\tau)\, d\tau \leq Y_0 - C(0) \tag{14}$$

Now if we go back from (14) along the same sequence of transformations in the reversed direction, we get

$$e^{-k\tau} C(\tau)\big|_{\tau=\infty} + k \int_0^\infty e^{-k\tau} C(\tau)\, d\tau \leq Y_0$$

The first term on the left vanishes according to B) and so we get back to (9). Thus we have proved the following:

Proposition 1. A consumption path $C(t)$ is *feasible* — if and only if

$$C \geq 0 \qquad \text{for } t \geq 0$$
$$\dot{C} \geq 0 \qquad \text{for } t \geq 0$$

and

$$\int_0^\infty e^{-k\tau} C(\tau)\, d\tau \leq K_0$$

Now the condition for *efficiency* results almost trivially. If in the last inequality the strict inequality holds, then the function $C(t)$ can be raised for a non-zero length period without being cut down elsewhere and without violating feasibility. Therefore, it turns out to be inefficient. The very opposite is valid if the equality holds. Thus we came to

Proposition 2. A feasible consumption path $C(t)$ is *efficient* if and only if

$$\int_0^\infty e^{-k\tau} C(\tau)\, d\tau = K_0$$

Conclusion:

1. Efficient consumption paths can simply be characterized in this simplified model.
2. The output-capital ratio, k, serves as a discount rate when reallocating consumption between time periods. This discounting equalizes the present value of all efficient consumption paths and does not involve any, even partial, preference ordering among them.

REVIEWS

E. Csizmadia

ASSOCIATION OF FARMING COOPERATIVES IN HUNGARY

The first National Congress of Farming Cooperatives was held in Hungary in April 1967. It was convened on the basis of the resolution passed at the Ninth Congress of the Hungarian Socialist Workers Party at the end of 1966. Its task was to assess the situation of the agricultural cooperative movement and make the first steps towards bringing about democratically elected representative bodies.

The congress discussed the experiences of the Hungarian cooperative movement and elected a National Council. In addition it called upon the membership and leaders of all farming cooperatives to create, by way of democratic election, their territorial associations in the course of this year.

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The first farming cooperatives were established in Hungary in 1948. For a decade the cooperative farms cultivated but one fifth — one sixth of the country's land area. The massive formation of producers' cooperatives began only in 1959 and it was carried out in a relatively short time, by the end of 1961.

At present there are 3187 farming cooperatives. The average size of a farm is 1900 hectares. The total membership is about one million. They cultivate about two thirds of the country's land area and 80 per cent of the arable land. 76 per cent of all persons engaged in agriculture are working in these cooperatives.

Cooperatives have much gained in strength in the last 5—6 years. Their production increased by more than 30 per cent, the amount of marketed commodities by 40 per cent. Per hectare of productive area they turned out in 1966 by 18 per cent more of bread grain, by 10 per cent more of meat and by 60 per cent more of vegetables than in 1961. As regards the major crops, hectare yields of wheat, maize and sugar beet exceeded, in the average of the last five years, by 30—40 per cent those that had been attained at the times of private farming.

All that, of course, does not yet mean that we have achieved all that large-scale farming is capable of. It is, however, beyond doubt that in spite of the initial difficulties, our cooperative farms increasingly answer the hopes attached to them.

Obviously, the advantages of cooperative farming do not assert themselves spontaneously. The extent of their realization always depends on the given

economic conditions, on how the economic policy and management embracing the entirety of cooparative farming as well as the management of the individual cooperative can utilize the possibilities inherent to cooperative farming, whether they promote of hinder the unfolding of its favourable aspects.

Several measures have been lately taken in Hungary to promote this process. The important initiative to bring about in this year the representative bodies of the cooperatives also belongs to them.

Associations of cooperatives

Up to now the producers' cooperatives had in Hungary no central or regional representative bodies. There existed a Council of Producers' Cooperatives, but it was not elected by the cooperatives (its members were appointed by the government) and acted but as a consultative body of the Minister of Agriculture.

Experience has shown that this form was inadequate. Producers' cooperatives have many a common task they cannot solve if they act separately. On the other hand, however, while the various state agencies recognize the interests of the cooperatives, it will be the cooperatives' own organs that know and represent them best.

The necessity of the cooperatives bringing about their own elected representative bodies has been urged lately by the resolution of the Hungarian Socialist Workers' Party on the overall transformation of the economic mechanism. In January 1968 a reform covering the central control and enterpreneurial management of economic activity will get in force, embracing all branches and sectors of the economy.

In the new system instead of direct instructions mainly economic measures will be applied to promote the fulfillment of the objectives of central plan. The scope of market relations regulated by the socialist state will extend, the independence of economic units will grow. All these changes are advantageous to the cooperatives. What causes a problem for the cooperatives is the fact that at present, all their economic partners are better organized both vertically and even horizontally, than they are. Each farming cooperative, is an economically, financially and organizationally separated unit connected with the rest but by the fact that they all are working in agricultural production. That will not suffice in the new situation to be created by the reform of the economic mechanism. Most farming cooperatives have felt what great disadvantages may result, in this new situation, from standing alone, and how much more advantageous it will be if they bring about closer cooperation and create their representative bodies.

The first Congress took a stand that with the representation of farming cooperatives should be trusted:

- the associations of producers' cooperatives to be organized on a territorial basis, according to economic regions;
- the National Council of farming cooperatives;
- the Congress of farming cooperatives.

The associations of farming cooperatives will be representative bodies elected by the member cooperatives united in them. Their task will be to promote — in harmony with the interests of the national economy — a better

collaboration of the cooperatives and to offer them a more efficient safeguarding of their interests. The associations as elected bodies, will have a small staff of full-time employees. Their expenses will be borne by the member cooperatives and they will establish — in the statutes to be approved by the state — their tasks and operational processes themselves.

The associations of farming cooperatives will act as regional centres for the cooperative farms performing all the tasks they will be entrusted by the member cooperatives. Accordingly,

a) they decide upon the common tasks of the member cooperatives regarding agricultural development, by taking into account the requirements of the national economy; they evaluate the effect of economic incentives, discuss the proposals for the organization and remuneration of work;

b) they inform the farming cooperatives about the possibilities and conditions of marketing and purchasing; they help market relations to be created; they may serve as intermediates or trustees in sales and purchases, in disputes regarding quality, etc.;

c) they organize professional training courses, exchange of experiences, and information services, participate in giving professional advice and in training;

d) they organize the legal safeguarding of the interests of the member cooperatives, and act as legal counsellors to cooperatives; if commissioned by the cooperatives or asked by their presidium they may initiate auditing at the member-cooperatives.

e) they may undertake to control the activities of common organs created by the cooperatives (e. g. investment or trading agencies, common enterprises for processing of products, construction, sale and purchase, etc.;)

f) from the voluntary payments of the cooperatives they can establish a common fund of mutual aid and use it according to statutes, e. g. for granting credits to cooperatives in need or to bring about common economic, social or cultural institutions;

g) they organize and support socialist emulation and the brigade-movement in the farming cooperatives;

h) they may fulfil the tasks connected with the "mutual self-help" groups of the member cooperatives.

In addition to those here enumerated, the regional associations may perform any tasks they will be entrusted with by the member cooperatives or by resolution of the general assembly or the elected bodies. In connection with problems raised by the farming activity of cooperatives and with defending their rights, the associations may make proposals to the competent state, cooperative or social organizations.

The associations will be organized by economic regions rather than by administrative territorial units. Their highest organ will be the general assembly consisting of the representatives of the member cooperatives. These representatives will be elected by the cooperatives for a term of four years. Each cooperative will be represented by one person. Only members of cooperatives are eligible.

The National Council and Congress of Farming Cooperatives

The central representative body of the farming cooperatives will be the *National Council* elected by the cooperatives' Congress. The objective and task of the National Council is to contribute — in harmony with the interests of the national economy — to elaborating legal rules affecting the cooperatives, to observe the assertion of democratic principles in the life of the cooperatives and to promote all their activities. The preparation of the sessions of the National Congress which will be held in every fourth year also belongs to its tasks. It will inform the cooperatives about the needs of the national economy, safeguard their interests, give counsel in their legal disputes, supervise the cooperative enterprises operating at national scale and, in general, deals with all fundamental problems of the cooperatives.

In particular, the major tasks of the National Council are the following:

a) regularly to follow with attention and examine problems affecting all farming cooperatives, in the sphere of economic policy, organization and operation; to take a stand in them, to initiate measures or the issuing of legal rules in these and to submit, if necessary, its points of view to the government;

b) to issue proposals, recommendations and directives to the cooperatives and their regional associations;

c) to ensure wide information for the cooperatives about the requirements of the national economy, the trends of agricultural development, the local and foreign marketing possibilities;

d) to cooperate in giving professional advice for the training of skilled workers, to organize specialists' courses and an exchange of experiences on a national level;

e) to organize and evaluate socialist emulation between the farming cooperatives, to promote in the cooperatives the emulation and the development of socialist brigades;

f) to direct, at national level, the legal defence of the farming cooperatives;

g) to supervise and control its own institutions, the cooperative enterprises and institutions operating on a national scale;

h) to take a stand in fundamental questions affecting the social insurance and social benefits of the cooperative membership;

i) to issue regular publications in order to inform the cooperatives.

Apart from exceptions established by law, the National Council may pass binding resolutions only in respect of its own organs (presidium, committees, functionaries and apparatus).

The National Council of Farming Cooperatives and its Presidium, as a representative body of all farming cooperatives in the country, may take a stand in any question of economic, social or cultural policy, fundamentally affecting the farming activities and the general management of the cooperatives.

The Council renders account of its operation and business to the Congress.

The elected congress representatives examine every fourth year the situation of the cooperative movement and the activity of the National Council. The representatives are elected for the duration of the Congress session by the cooperatives through their respective regional associations.

The Congress may be convened by the National Council on its own initiative or on request of the Party or the government or the regional associations, or the cooperatives. It has a double task:

a) to discuss the actual problems of the movement, and to make proposals to the cooperatives, the regional associations and to the state organs;

b) to direct, control and evaluate the activity of the National Council, elect the members of the Council, approve the statutes of the Council and the directives for the operation of the regional associations.

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With the establishment of the democratically elected representative bodies of the farming cooperatives, a new stage has begun in the development of the Hungarian cooperative movement. This is a highly important change also from the political point of view. It organically fits into the revolutionary transformation which had begun with the socialist reorganization of agricultural production and which, by laying the foundations of up-to-date large-scale farming, initiates also the formation of socialist thinking, consciousness and morals among the Hungarian peasantry.

Zs. Mausecz

THE 127th ANNUAL MEETING OF THE HUNGARIAN ACADEMY OF SCIENCES AND THE SCIENTIFIC SESSION OF THE DEPARTMENT OF ECONOMICS AND LAW

The 127th Annual Meeting of the Hungarian Academy of Sciences opened on May 3rd, 1967, coinciding this year with the General Assembly held triannually. The opening address of I. Rusznyák President of the Academy, was followed by the report of the Presidium delivered by Secretary-General T. Erdey-Grúz. In his report he underlined the fact that the research workers of the Academy had increasingly recognized the requirements of the country's economic, social and political life and endeavoured to widen their connections with practice. Surveying the results achieved in the individual branches of science, he dealt also with the social sciences, especially with the role of economics and its importance from the point of view of the reform of economic control and management.

The necessity of cooperation between the various branches of social science was emphasized also in the debate over the annual report of the Department of Economics and Law of the Academy of Sciences. This department was established in September 1965 and comprises the Institute of Economics, the Institute of Political Science and Law, the Research Group of Industrial Economics, the Sociological Research Group and the Centre for Afro-Asian Research. At the scientific session of the Department several contributors to the debate called for a widening of the connections between the individual disciplines in the form of team-work. This is the more important as the subjects of research have become more complex in the last years and the demands on economic and social research work have also grown. It is particularly in con-

nection with the preparations of the new system of economic control and its further development that this demands manifest themselves. As a matter of fact, in this work the representatives of the various branches of science have successfully joined forces.

The *scientific session of the Department of Economics and Law* took place on May 4th, 1967. All subjects that came up for discussion were relating to problems of the reform of the economic control system. An introductory lecture with the title "*The laws of the socialist economy and its control*", was given by Academician I. FRISS Director of the Institute of Economics, Secretary of the Department. In his lecture he first outlined the functional mechanism of capitalism as described by *Marx* and based on the operation of the law of value. He pointed out that the distribution of total social working time in accordance with social needs was realized under capitalism as a tendency through the market. As regards socialism, *Marx* and *Engels* thought that the planned control and management of production would bring about the distribution of total social working time in accordance with actual needs and so they had presumed the abolition of commodity and money relationships. However, this ideal could not be achieved up to now under socialism either, though for other reasons than under capitalist conditions. Commodity and money relationships proved themselves indispensable elements of the functioning of the economy at the present stage of development of socialism. In the light of the practical experiences of socialism, Marxist economists attempted — in a more or less eclectic manner — to reconcile the concept of a planned social control of production with the existence of commodity and money relationships. But the doctrines thus elaborated, which had for a long time been accepted by the majority of Marxist economists, were not in harmony with the original Marxian concept.

Though great results have undoubtedly been achieved in the control and management of social production, Marxian concept has not yet been entirely carried into practice. At the present stage of development of the socialist economy the distribution of total social labour, does not competely correspond to the needs of society, thus not all labour is necessary labour. It would, therefore, not be correct to state that under the prevailing conditions necessary labour was equal to the labour input needed to turn out the product, i. e. to value. In his lecture I. Friss even denied that social production could be directed planfully and at the same time as being in accordance with the requirements of the law of value. These are proved by the fact that, though our plans were substantially correct, we have failed to achieve some important objectives. National income has not grown evenly and the rate of accumulation showed great fluctuations. The supply and choice of products was often inadequate and the sum total of consumption and accumulation from time to time exceeded the volume of national income. The targets of the production plans did not always harmonize with the interests of the national economy. The means invested in production increased at a quicker rate than national income, and technical progress was not satisfactory. Over-centralized control weakened the propelling force of society and economic efficiency, and pulled down the rate of growth. It may be stated that a single "centre" was incapable to direct all units with equal efficiency and in a rational manner. While it was endeavoured to direct everything from the centre, the Party's function of economic control went lost; nor was it clear, which decisions must

in the interests of society be taken by the leading political body. In the future, mainly economic tools should be used to direct the enterprises to serve the social interests and central decisions. This does, of course, not preclude the possibility of administrative instructions in case the central decision could not be enforced by other means. The prominence of economic measures demands and assumes the broadening of the commodity and money relationships; accordingly, the role of the market is to gain in importance under the new system of economic control. The instruments of central planning and management were insufficient for the most efficient control of the economy and the expansion of market relations became inevitable. At the same time, however, it is necessary to work indefatigably on improving the planning system, the social control and management of production and raising the standard of the system and methods of social decisions which mark out the direction of economic progress — concluded I. Friss his discourse.

Professor G. CSANÁDI surveyed in his contribution the new tasks the reform of the system of economic control set to the legal sciences. The role of legal regulation will increase under the new system but this does not mean that the number of decrees should also be increased. The new legal regulations express the requirements of socialist economy on a higher level and behind the new measures there is always a living material interest. Under the new system of economic control also the legal role of the enterprises is bound to change. Up to now the enterprise was regarded as a trustee of state property and the supreme authority reserved itself the unlimited right of interference. The new economic mechanism brings a fundamental change in this respect: in the possession of most of the necessary information, the enterprise will be qualified to take a decision. Accordingly, the relation between the enterprises and controlling bodies will also change and this change will have to find an exact expression in the legal rules. In his contribution, Gy. Csanádi also dealt with the regulation of labour relations which will be fundamentally modified under the new system of economic control. He advocated cooperation with other social sciences in this respect, since the creation of effective and purposeful labour legislation requires a knowledge of the prospective effects of the provisions of the law.

J. MÁRTON, head of section in the Research Institute for Agricultural Economics, spoke about the position of agricultural economics and discussed mainly the importance and difficulties of research in the field. He pointed out that the lack of factual investigations and of adequately detailed data were the main obstacles encountered by the research workers.

Professor I. HARSÁNYI spoke about the interrelations between the economic mechanism and the standard of management. The new system of economic control can become effective only if the people capable of thinking and acting in a new way are available. The speaker deplored the lack of research in industrial psychology which should have a major role in the training of executives and in the activities of the organizations. For the time being, psychological research is carried out only in respect of "small organizations" and this should be rapidly extended also to so-called major organizations.

The efficient functioning of the economy and the new system of economic control will be brought about by the activities of the individuals, and the sociological factors of these activities have not been as yet properly explored

— this was the central theme of a contribution by K. KULCSÁR, research worker at the Institute of Political Science and Law. Under the new system of control, the activities of the organizations will also depend on the success of exploring the interrelations between economic activity and sociology, the group relations and the system of communication.

I. HUSZÁR, Deputy President of the Central Statistical Office pointed out that one of the most important tasks of the economists was to work out the laws of socialism and to clarify the role of the laws already known or assumed to be known. However, the empirical observation of the phenomena of economic life, their evaluation and systematization constituted a precondition of investigations into the internal relationships of the mechanism of the socialist economy. Statistics as an empirical science had already played an important role in disclosing the interrelations of economic processes and with its tools of analysis provided also a help in working out the reform of economic control. The importance of empirical research should be stressed also in connection with the new system. Preparations should be made to observe the dynamics of the economy and statistics offered itself here as the primary tool.

Though it could not be claimed that the actual system of statistical observation did in every case fully meet scientific requirements, it must be still emphasized that statistical practice and theory with their description, analysis and evaluation of the concrete economic phenomena should be increasingly relied on in the study of the laws of the socialist economy and the related work of economic resarch. This type of growing empiricism might be useful also to Marxist theoretical research.

Dr. L. SZABÓ, research worker at the Institute for Construction Economics and Organization, Ministry of Construction, and Urban Development started ni his discourse from the fact that working out the economic laws of socialism needed cooperation between several branches of science and that serious results could be achieved only by complex, coordinated research. The realization of this type of cooperation would at the same time constitute a change in the prevailing character of research. With the old organizational principles, the new system would not become more efficient than its precursor. It was, therefore, highly important to know what should be done to improve the methods of management and organization. It was imperative to clear in every detail the organizational problems of technological progress and to organize intellectual work more efficiently, since these were also preconditions of increasing the productivity of manual labour. Research connected with organizational problems required, first of all, the organized supply of information. Nor must research work in the field of organization theory be neglected. This branch of science was rapidly developing owing to the fact that in the field of organization, theory must needs precede practice.

The 127th Annual Meeting of the Hungarian Acedemy of Sciences ended on May 5th, 1967 with a private session. In a resolution, the Annual Meeting declared that in the country's actual stage of development, besides the natural and technical sciences, the social sciences were also growing in importance and the responsibility of the Academy for the progress of these sciences was increasing accordingly. At the final session Professor Imre *Vajda*, Chairman of the Editorial Board of Acta Oeconomica, was elected a corresponding member, and *L. V. Kantorowitch*, Soviet econometrician, was made an honorary member of the Hungarian Academy of Sciences.

E. KEMENES

HUNGARIAN RESEARCH WORK RELATING TO THE PROBLEMS OF DEVELOPING COUNTRIES

Activities of the Centre for Afro-Asian Research of the Hungarian Academy of Sciences

As early as the 19th century, Hungarian research workers already took their part in the exploration of the countries known today to scientific circles as "the third world".

However, since the middle of the century, the work of the geographer and ethnographer has been increasingly taken over by the social scientist. The problems that science has to face in the developing countries have changed in character and formulation. Now the task is no longer that of exploration but the solving of the socio-economic problems raised by the economic and intellectual backwardness of the developing countries.

The solution of these problems is unthinkable without the help of research workers form the developed countries, the more so as the developing countries dispose only of some five per cent of the world's present-day scientific research capacity.

The participation of Hungarian research workers, first of all economists, in the analysis of the problems of the developing countries was given an organized form in the middle of 1963, when the Centre for Afro-Asian Research of the Hungarian Academy of Sciences was established under the direction of Professor József *Bognár*.

As regards the organization of the Centre, its activities are twofold. On the one hand, its scientific staff carries out independent research work which centres on the problems connected with *economic growth*. On the other hand, with the participation of outside workers (partly the members of the Working Group of African Studies of the Hungarian Academy of Sciences), it performs the role of initiative, organization, coordination and publishing in the field of *non-economic* researches concerning the developing countries.

The problems of economic growth in developing countries constitute a wide and intricate complex with many non-economic ramifications. In which way can a small country like Hungary contribute to the solution of these problems? The answer lies partly in the fact that Hungarian economists approach the economic problems of the developing world from a starting point that differs from the Western approach and is based on the theory and practical experiences of contemporary Marxist political economy. The analysis of the conditions of economic growth from the aspect of Marxist political economy, the theoretical investigation of the strategy of growth with a method differing from western models migth be most instructive to the economists and politicians of the developing countries. At the same time, the analysis of the problems of developing countries and their evaluation will enrich also Marxist political and economic science with new results and newly established principles.

On the other hand, the Hungarian experiences of planning and plan implementation may — owing to the dimensions of the Hungarian economy — yield often more important lessons to the developing countries than do the

analogies taken from the economic history and economic development of the advanced capitalist countries. Actually, there is a contradiction in the fact that due to historical causes and to the close connections established in colonial times a bias can often be observed in the developing countries towards the ways and methods of economic growth employed in advanced capitalist countries, although, as a consequence of their dimensions, the latter countries represent quite different magnitudes of economic phenomena. Moreover — though this aspect of the question will not be dealt with here — their economic growth was in the past based mostly on colonial exploitation.

Hungary, on the other hand, offers an analogy which, due to the economic magnitudes involved, is much closer to the dimensions of the majority of developing countries. The experiences of Hungarian economic development may, accordingly, be utilized in many developing countries without magnitudinal changes and the concomitant distortions. The interest of the developing countries has turned lately to an increasing extent to the experiences of the Hungarian planned economy. This interest has manifested itself also in the many invitations obtained by the Director of the Research Centre, Professor *J. Bognár*, from several African and Asian countries to hold lectures and consultations on the questions of economic planning.

Research work concerning the problems of the developing countries constitutes a task of international scale, where the exchange of experiences between and cooperation of research workers is highly important. The Hungarian Centre for Afro-Asian Research maintains working contacts with similar institutions in all socialist countries and has worked out a suitable division of the task of research with the latter. It has also contacts with the institutions dealing with such problems in several advanced countries. According to the practice developed, these contacts are maintained in the form of conferences, personal visits and study tours which all provide opportunities to exchange experiences. The Director of the Centre regularly participates in the most important conferences on subjects pertaining to developing countries and has lectured on the relating problems not only in the countries concerned but also in several European capitals. The research workers of the Centre have lately given lectures — partly at scientific conferences and partly on the occasion of personal visits — in Moscow, Prague, Berlin, Leipzig and Paris, presenting the results of the Centre's research activities.

The research work carried out by the Centre is backed by an extensive basis of information and documentation contained in the library and archives of the institution. The Centre has established direct connections with the statistical and economic institutions of most developing countries and obtains regularly their publications.

The rich documentation enables the Centre to offer advisory and information services to the great variety of institutions which contact it. The Centre takes part in preparing and instructing the specialists to be sent out to the developing countries on the basis of bilateral or multilateral agreements as well as in giving scientific support to the connections formed between Hungary and the developing countries.

In the few years of its existence the Research Centre has acquired considerable reputation in international scientific circles. This is testified, among others, by the fact that it was invited to join in the research projects carried out under the auspices of the United Nations Organization.

The work performed up to now by the Centre, its future program as well as the plans to extend its activities to education prove that the Hungarian economists are responsive to one of the gravest international economic and political problems of the century and that they actively participate in the scientific work aimed at its solution.

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BOOK REVIEWS

HÁY, L. *A világkapitalizmus válsága* (Кризис минового капиализма.) Budapest, 1966. Kossuth Könyvkiadó. стр. 263

В книге Ласло Хая анализируется эволюция капиталистического строя в последние десятилетия и годы. Автор, анализируя ряд обсуждаемых в широком кругу вопросов, связанных с монополистическим капитализмом и в особенности с государственно-монополистическим капитализмом, вносит свой вклад в развитие марксистской экономической науки.

Автор начинает анализ современных проблем капитализма с изучения новых явлений концентрации капитала. Настоящая степень концентрации ведет внутри монополий к разнообразию, диверсификации производства. Одна за другой создаются уже монополии «семейных групп». Возникновение семейных коалиций является новым явлением в развитии монополий. Новые черты носит, в особенности, концентрация и интеграция американского монополистического капитала. Распространяются «американские компании с заграничными интересами» и «многонациональные корпорации».

Несмотря на быстрый ход и новые явления концентрации — по данным автора — не наблюдается ускорения промышленного производства капиталистического мира. Согласно данным, приведенным в соответствующей таблице (стр. 23), среднегодовые темпы роста в 1900—1913 гг. составляли 5%, в 1938—1953 гг. — 3,2% и в 1953—64 гг. — 4,8%, то есть и в последнем конъюнктурном периоде они не превышали темпов первого десятилетия нынешнего века. Из данных видно, что в период 1870—1913 годов наиболее быстро развивавшейся страной была Швеция, а в 1870—1913 годах — Норвегия, обе страны в течение этих периодов достигли уровня развитых капиталистических стран; в 1950—60 гг. наиболее быстро развивалась ФРГ (Япония отсутствует из перечня), в развитии которой большую роль играли послевоенные конъюнктурные факторы.

Сопутствующим явлением развития является недогрузка мощностей и даже ее увеличение — как это показывается автором на подробных данных. Согласно данным американского издательства МэкГроу-Хилл, неиспользованные мощности в промышленности США значительно возросли по сравнению с 1949—52 годами, их доля в некоторых отраслях превышает 1/3. Например, в машиностроении (за исключением электромашиностроения) доля неиспользованных мощностей, по сравнению с 13,75% в 1949—52 гг., возросла в 1959—62 гг. до 41,56%. К этому можно прибавить — как на это указывает автор, — что к тому же в этот период постоянно вступали в строй новые мощности.

Анализ концентрации и роста органически связан с вопросами производительности труда, технической революции и общественно-экономического влияния последней. Автор и в этой области обращает внимание на новые явления. В изменении отраслевой структуры значительную роль играет тот факт, что рост производства и

производительности труда происходит в производственных отраслях отдельных национальных хозяйств не параллельно. Английским комитетом планирования в отношении этого приводятся замечательные примеры: медленное развитие наблюдается, например, в области угледобычи и сельскохозяйственного производства, зато быстро растет продукция в расчете на одного рабочего, что, между прочим, проливает некоторый свет на своеобразное медленное развитие английского хозяйства.

Рост производительности труда — при неудовлетворительном расширении рынка — связан с недогрузкой мощностей, а в отношении его общественного вляния — с безработицей. Ласло Хай детально излагает влияния, наблюдаемые в американской и европейской экономии. В США налицо значительная безработица, а в значительной части капиталистических стран Европы — нехватка рабочей силы. Капиталовложения в расчете на одного человека возрастают не только в США, но и в Европе: в ФРГ, например, они возросли в 1958—63 гг. приблизительно на 30%. Автор формулирует общее положение, согласно которому: «Увеличение потребностей в капитальных вложениях в расчете на одного занятого и сокращение количества основного капитала, требующегося для увеличения производства, — две различные стороны одного и того же процесса» (стр. 46).

Ряд других сторон этого вопроса, например, развитие сельского хозяйства, проблемы рабочей силы, движение общественных слоев по отношению друг к другу, также излагается автором.

В отдельной главе занимается автор вопросами планирования, экспериментами планирования, проблемами цикла в странах монополистического капитализма. По вопросу цикла в венгерской экономической литературе ведется обширная дискуссия. Ласло Хай категорически утверждает, что циклическое развитие капиталистической экономики будет продолжаться и в будущем: «Имеющийся до сих пор опыт совсем не обосновывает утверждения о том, что циклическое движение процесса капиталистического воспроизводства прекратилось» (стр. 80).

Современное, главным образом, западноевропейское развитие объясняется им известными специфическими факторами. Автор не придает решающего значения вмешательству государства в ход циклов, а считает его лишь одной из причин. Он отмечает, что с усилением концентрации и государственного вмешательства на повестку дня в развитых капиталистических странах выдвигается вопрос планирования, прогнозирования. Ласло Хай, говоря о необходимости планирования, ссылается на У. *Геллера*, бывшего консультанта президента США. Вопрос состоит в том, «чьим вкусам» должно отвечать планирование. Такой подход к вопросу освещает фундаментальное противоречие, кроющееся в капиталистическом планировании. Обобществление производства в силу необходимости ставит на повестку дня планирование, но служит ли оно интересам капиталистического рынка или же может быть использовано рабочим классом в его борьбе за улучшение материальных и общественных условий трудящегося населения? Ответ однозначен. Материалы, резолюции западноевропейских коммунистических партий говорят о такой альтернативе. Автор занимает такую же позицию. Занимающиеся этой темой экономисты могут встретиться с рядом произведений, трудов, необходимых и полезных для более основательного анализа этого вопроса.

Глава об оценке государственно-монополистического капитализма исходит из того, что «государственно-монополистический капитализм объединяет в едином механизме силу монополий с силой государства». Объединение власти государства и монополий способствовало увеличению влияния последних. Автор обобщает эти явления в следующих семи пунктах: 1. увеличились власть и прибыль монополий; 2. было оказано воздействие на процесс воспроизводства; 3. было отсрочено наступление кризисов; 4. произошла концентрация силы финансового капитала; 5. была

ограничена борьба рабочего класса; 6. была обеспечена возможность возникновения международных государственно-монополистических учреждений; 7. усилилось сотрудничество между империалистическими странами.

Тенденции государственного монополистического капитализма, направленные на увеличение военных расходов, не могут устойчиво способствовать быстрому экономическому развитию. Автор ссылается например экономического развития ФРГ и Японии, так как и экономическое развитие этих стран происходило гораздо быстрее до увеличения их военных расходов. Реально оценивая роль государственных предприятий, автор показывает их положительную роль в борьбе за ограничение власти монополий, но не говорит о том, какие изменения влечет за собой в производственных отношениях сам государственно-монополистический капитализм.

Остальные главы книги, как, например, разделы, занимающиеся международной платежной системой, мировой торговлей, крушением колониальной системы, территориальными потерями капиталистического мира, также вскрывают противоречия сегодняшнего капитализма и содержат богатую информацию.

З. ДЕНГЕ

ERDŐS., T. *A gazdasági növekedés tényezői a nyugat-európai tőkés országokban és Japánban a II. világháború után.* (Factors of economic growth in the West-European countries and Japan after World War II.) Budapest, 1966. Kossuth Könyvkiadó. pp. 318.

The author set himself the task to analyze the economic development of the countries mentioned in the title of his book over the period from 1953 to 1964. After a brief survey of the immediate post-war years, the main subject is approached from two sides. First, the growth of production is investigated from the viewpoint of resources and possibilities. In this respect, first of all, the connection between growth and investments is analysed. The author points out the importance of the pattern of investments as a factor determining the differences in the rates of growth between the countries in question. Another important factor of development was the relative technical backwardness of the West-European countries and Japan in comparison to the United States of America in the period under investigation. Among the factors promoting economic growth, the author mentions the capital exports of the United States to the countries examined, which played a considerable role especially in the second half of the forties and the first half of the fifties. The relative abundance of labour then existing in some countries — first of all in the Federal Republic of Germany, in Italy, Greece and Japan, and to a certain extent in Austria — is also considered a factor which considerably contributed to economic growth. Ample labour prompted rapid economic development also because the quick rise in employment acted towards increasing the efficiency of investments. In several countries, the extraordinary expansion of foreign trade — a generally known phenomenon of the period — also helped rapid growth by enabling large-scale production. In this connection, the economic integration which came about within the framework of the European Economic Community was, of course, an important factor. The author devotes particular attention to the problem of the factors determining the rate of accumulation in the countries examined. Of the decisive factors, he ascribes special importance to the differences in the rates of profit and surplus value and in the growth of labour productivity, to military expenditure as well as to the generally favourable market tendencies.

The problem of growth is approached and analysed in the book also from another angle, from that of market demand. The author considers the capitalist state monopolies the main factor of market expansion in the period under investigation, a factor

which enabled the market to conform to production more flexibly than under the conditions of private monopoly or classical capitalism. While emphasizing the importance of this factor, the author warns against over-estimating it and points out that the rapid and lasting economic progress can not be explained *only* with the existence of capitalist state monopolies. Among the factors which bring about the expansion of the market, investments have a great importance with their double role of increasing production on the one hand and the demand both for producer and consumer goods on the other. As regards the connection between these two effects of investments, the author finds that whenever the rate of investments is growing, their demand-increasing effect dominates over the supply-increasing effect. Among the factors of market expansion, the rapid rise of wages and salaries played a central role. As against earlier simplified concepts, a realistic picture is given here of the connection between and the dynamics of the development of real wages and the growth of national product. The author proves in this connection that a higher rate of increase in real wages than in the national product in several capitalist countries is not a transitory phenomenon but a lasting tendency. The role of exports as a factor of expansion is analysed in detail. The author finds that the volume of exports increased particularly rapidly in the countries where the rate of surplus value was high. In connection with the role of foreign trade in the expansion of the market, he points to the export-stimulating effect of the lasting undervaluation of certain currencies and proves that undervaluation can be maintained for a considerable time since the domestic price level is at present determined in the advanced capitalist countries not only by spontaneous forces but by effective measures of economic policy.

The author expects the rate of growth to diminish in the next years in the countries where economic progress was rapid up to now. Among the cause of this slowing-down, he mentions the decrease in relative technical backwardness, the exhaustion of labour reserves, and the falling rate of growth of labour productivity due to reduced investments.

The author takes a clear stand in the important question whether in the part of capitalist world examined in his book the process of capitalist reproduction was cyclical in the period since the Second World War. He is quite definite in his statement that, since in the last two decades there was no general periodical overproduction crisis in these countries, there can be no question of a cyclical reproduction process in the classical, Marxian sense. In another sense, however, some cyclical phenomena may be found, such as, e. g., the stop-go cycle in the United Kingdom.

The concluding part of the book also raises the question whether the reproduction process will retain this character in the future. In the author's opinion, it can not be stated with certainty that the process of reproduction will not be cyclical in Western Europe. He thinks that from the facts of the last two decades it would be premature to deduce unequivocal conclusions regarding the future, and that periodical overproduction crises may occur in Western Europe as a consequence of the exhaustion of the factors of growth.

Using a wide statistical and factual material, the author solved his task on a high theoretical level thanks to his considerable analytical faculties.

F. MOLNÁR

ÁDÁM, GY., *Új technika — új struktúra. A tudományos-technikai forradalom gazdasági-társadalmi vetületei négy fejlett tőkésországban: az Egyesült Államokban, Nagy-Britanniában, a Német Szövetségi Köztársaságban és Franciaországban.* (New technology — new structure. The socio-economic aspects of the scientific-technological revolution in four advanced capitalist countries: the United States, Great Britain, the German Federal Republic and France.) Budapest, 1966. Közgazdasági- és Jogi Könyvkiadó. pp. 419.

The book examines the impact of the scientific-technological revolution upon the socio-economic patterns of four highly industrialized capitalist countries: the United States of America, Great Britain, the German Federal Republic and France. The statistical data are processed up to the end of 1964; in some cases data referring to 1965 and 1966 are also included. An attempt is being made to assess the attained level of scientific and technical progress on hand of R & D expenditures and automation investments. Special consideration is being given to R & D financed by Government and to the extent to which scientific and technological advances made in space and military R & D are transferable to civilian industry, and whether rising expenditures on R & D ensure *per se* faster economic growth. The economics of research and some theoretical problems of science as a productive force are also dealt with.

A broad survey of case studies on automation and semi-automation in manufacturing, transportation and the service industries underpins the analysis of the impact of technological innovation in general and of automation in particular upon the structure of the labour force, with special emphasis on the decrease of agricultural employment and the growth — both in absolute and relative terms — of the employment of professional, technical, clerical and service workers.

Within this framework the author raises the question whether technical progress and automation upgrade or downgrade skills and arrives at the conclusion that owing to the new requirements in advanced and/or automated industries (enlargement of job contents, many jobs can longer no be performed manually and demand high technical qualification as well as intellectual effort) the old criteria do not do any more justice to the new skills of the new type of worker assigned to automatic lines. The concept of skills (unskilled, semi-skilled worker) of one epoch of technical development became obsolete, the elements of qualification fitting the new era are now being evolved, a new concept of skills is required. This all the more as "the rigid boundaries between manual work in the traditional sense and non-manual work in the traditional sense are gradually fading away".

The impact of technical progress on employment, i. e. "technological unemployment" in the U. S. is also being extensively analysed; the author believes that unemployment is not engendered by the new technology, but is the outcome of the socio-economic structure. From the pattern of American unemployment the conclusion is drawn that although doubtlessly a certain correlation exists between unemployment and skills, training and education, there is an intimate connection too between the rate of unemployment and that of economic growth. On the whole technical progress tends to raise ever higher skill requirements; in plants with advanced automation the future belongs to the polymathic worker.

Great importance is being attached in the book to "the new working class", i. e. the new strata of the labor force, to those employed in research, development, planning, as well as to the control people and maintenance workers in automated industries. These new strata — which work in the key sectors of national economy where the rate of economic growth is usually highest and from where technical progress irradiates to other, less advanced

sectors of the economy — represent both quantitatively and qualitatively an occupation group whose relevance is bound to grow. It is not yet justified to claim for them the role of the new "structural nucleus" of the labour force, but nor can their weight be assessed merely by their numerical significance. They appeared on the scene and established new patterns of militancy and are in command of such weapons which the older types of workers — still the majority — did and do not possess. This is substantiated *inter alia* by case studies (strikes in the Thomson-Houston Works in France). In England the strike of a handful of computer-people in the Linwood plant of Rootes Motors paralyzed production in quite a number of plants of this auto concern. The merger of their dynamics with the experiences and forces of the historically evolved core of the working class appears to be one the main routes of advance of the labour movement.

At several points the book transcends the area of economic theory and analysis, dealing with sociological problems as with that of alienation. So e.g. automation — according to the author — offers the chance to overcome under given conditions alienation and reconquer to a substantial extent professional and human autonomy.

A close link is also being established between sociological and political problems. Management is greatly dependent upon the new strata for the smooth operation of advanced equipment subject to quick moral obsolescence; this secures them a vantage point whenever it comes to a showdown with management. The importance of the unionization of white-collar workers — not the least of engineers, scientists and all sorts of technical workers is being given throughout great attention. Within a detailed description of the state of trade unions in the four countries dealt with in the book, enlisted among the implications of technical progress are such new trends as the fight for the extension industrial democracy, co-determination and the elaboration of alternative plans of economic to development, antagonistic the logic and interests of monopoly capital.

I. KEMÉNY

ÁCS, L., *Gazdasági növekedés és nemzetközi fizetési rendszer.* (Economic growth and the system of international payments.) Budapest, 1966. Kossuth Könyvkiadó. pp. 391.

Problems of international finances have an extensive literature throughout the world. The book by L. Ács draws attention to the international financial problems of socialist countries and discusses several ideas which are quite novel in socialist economic literature.

The book covers an extremely wide field. As a matter of fact, it touches on all fundamental problems of international financial relations from the point of view of socialist political economy.

In the first chapter the author surveys the major general features of economic growth and treats the connected important economic concepts (planning and commodity production, integration and economic independence), touching also upon the connection between cybernetics and money. In this chapter the idea of a world trade organization resting on international bases and the problem of interpretation of economic equilibrium are considered, too

In the second chapter the activities of the Bank for International Economic Cooperation are outlined and its major actual problems discussed. The author analyses the development of multilateral clearings, the international bank credits of socialist countries as well as the possibilities of and limitations to extending international financial transactions between socialist and capitalist countries.

Chapters III, IV and V of the book treat the theoretical and paractical problems connected with the balance of payments. Richly supported by data they prove that

the balance of payments may be particularly sensitive to certain factors (foreign trade, tourism, capital movements etc.), according to the economic character of the country concerned. Accordingly, various types of balance of payments may be distinguished in this respect. The author shows the connection between the commodity pattern of foreign trade and the sensitivity of the trade balance. He is opposed to the requirement of bilaterally balanced payments and takes a stand in favour of genuine multilateralism. He introduces the idea of a regional credit-chain. He outlines the rules governing the connections between the chronic balance-of-payment troubles of the developing countries and their economic growth.

Chapter VI presents the major features of the international credit mechanism connected with the balance of payments. He puts the question as to the possible position of Hungary in international credit relations with the country's given economic potential and expected economic growth. In his opinion, Hungary's general debtor position in credit relations was justified, but in respect of certain countries she may occupy the position of a creditor.

Chapter VII deals with the connection between the balance of payments and economic policy. The author surveys the changed role of gold and foreign exchange reserves in the contemporary monetary system. He analyzes in detail the factors which put limitations on the conditions of automatic compensation. He also gives an account of the various measures of foreign exchange policy applied in international finances, and their efficiency. Ample material is presented to illustrate the role of international monetary cooperation and international financial organizations in foreign-exchange policy.

The last four chapters of the book treat the theoretical and practical problems of socialist international finances. A survey is given of the monetary problems of the individual socialist countries, the development of the purchasing power of the Rouble, the economic features of a socialist currency and the position of the individual socialist currencies. The author raises the problem of the convertibility of socialist currencies, especially of the Rouble. Critical comments are offered on the parity of socialist currencies and on the role of gold in their valuation. The study analyzes in detail the development of the value of the Forint currency, and some major problems of price formation, presenting a picture of the inflationary phenomena that manifested themselves in the fifties and of the process of stabilizing the value of the currency in the sixties. The author points out that the exchange rate of the Forint does not conform any longer to economic realities and proposes some corrective measures. He also deals with the connection of the socialist currencies with the world market and the international money markets and takes a stand in respect of the relations between the international financial organizations and the socialist countries. The concluding part of the book again deals with problems of monetary theory, mainly with the commodity character of money, the connections between credit and equilibrium, and the ways in which the value categories assert themselves on the international level.

Ács's work presents to the interested reader a comprehensive picture of the financial practice of socialist countries and of the theoretical work carried out there in the field of international finances.

I. WIESEL

ERDEI, F.—ENESE, L.—KALOCSAY, F., *Üzemi szervezet és üzemvezetés a szocialista mezőgazdaságban.* (Farm organization and management in socialist agriculture.) Budapest, 1966. Közgazdasági és Jogi Kiadó. pp. 434.

A rather neglected field of the socialist organization science is the management of large-scale farms and, within that, the development of the operative organization. Farm organization is expressedly a prob-

lem of large-scale farming; its investigation and solution is in close connection with an efficient management and farming activities of socialist large-scale farms.

The book has nine chapters. Chapter One treats the principles of farm organization and such categories as plant, farm, enterprise, etc. Chapter Two reviews the farm organization and management of the old-type large holdings in Hungary. Chapter Three examines the establishment and development of socialist large-scale farms, including, in addition to the general development of state-owned farms and of agricultural cooperatives also the sharing of income in cooperatives as well as the development of household farming. Chapter Four deals with types of farming organization in socialist agriculture, analysing in detail the enterprise-like character and organization of the cooperatives.

Chapter Five reviews the operational units of socialist large-scale farms, defines and classifies the producing units according to their character and activity. Chapter Six treats the problems of work organization and their units, both in cooperatives and state-owned farms, as well as the forms of the so-called family farming. Chapter Seven deals with the general problems of farm management, its procedure and conceptual elements, the human and social factors as well as with the organization of management. Chapter Eight reviews the management in socialist large-scale farms, the state farms and the agricultural production cooperatives, the dependance and subordination relations and the utilization of the hours of work of executives. Finally, Chapter Nine discusses how socialist farms are controlled on national level, the development of the controlling organization, the organizational solutions for directing the cooperatives and the connected problems as well as the expected tendencies of development. The same chapter also deals with the higher control of state farms and with professional guidance.

In order that a big enterprise should carry out its program, organize the production and working processes, hold its economy firmly in hand, it is necessary to subdivide it to more or less independent organizational units. The book discusses mainly the creation of the organizational units of socialist agricultural enterprises, as well as certain problems of management.

The authors do not simply give the facts but analyse in detail the statements of foreign and domestic professional literature in respect of both theoretical and practical problems, they make the reader acquainted also with the controversies regarding the major issues.

The book treats at several places the primacy of management and organization concepts, the relation between farm organization and management as well as the relation between farm organization and the organization of work, in respect of which the standpoints in literature are rather divergent. In connection with the operative structure of the farm, the classification of the authors is worth attention. According to them there may be productive units, servicing units, units of work organization, administrative units and, finally, the organization of management. It is thought-provoking to read the parts of the book dealing with the dimensions, delimitation, criteria of these organizational elements and units, including their vertical and horizontal connections from the point of view of organizing production processes and from that of the organization of management.

The book by Erdei, Enese and Kalocsay is the first Hungarian handbook which comprehensively discusses the problems of the internal organization of large-scale farms and of farm management under conditions of socialist agriculture. Evidently, the authors could not undertake to answer all theoretical and practical problems which have not yet been cleared up. Still, by raising and systematizing the problems they greatly contributed to developing the theoretical and practical questions of farm management.

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INTERNATIONAL SOCIAL SCIENCE JOURNAL

A quarterly review published by the
United Nations Educational, Scientific
and Cultural Organization,
Place de Fontenoy, Paris 7ème
Just issued: Vol. XIX. No. 2, 1967

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A kiadásért felel az Akadémiai Kiadó igazgatója — Műszaki szerkesztő: Farkas Sándor

A kézirat nyomdába érkezett: 1967. VI. 23. — Terjedelem: 10,75 (A/5) ív, 6 ábra

67. 64019 Akadémiai Nyomda, Budapest — Felelős vezető: Bernát György

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Подписная цена — 165 фт за год. Заказы принимает Предприятие по внешней торговле книгами и газетами «Kultúra» (Budapest 62, P.O.B. 149) или его заграничные агентства.

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FÖLDI TAMÁS

Szerkesztőség: Budapest V., Nádor utca 7.

Megjelenik negyedévenként, évi 1 kötetben. Előfizetési díja belföldre 120,— Ft, külföldre 165,— Ft kötetenként. Megrendelhető az Akadémiai Kiadónál (Bp. V., Alkotmány u. 21), a külföld részére pedig a Kultúra Könyv és Hírlap Külkereskedelmi Vállalatnál (Budapest I., Fő u. 32).

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И. ФРИШ

ЗАКОНЫ СОЦИАЛИСТИЧЕСКОГО ХОЗЯЙСТВА И ЕГО УПРАВЛЕНИЕ*

Взгляды классиков марксизма на управление хозяйством при капитализме и социализме. — Противоречие между планомерностью и законом стоимости. — Реформа механизма и законы социалистического хозяйства.

При исследовании законов социалистического хозяйства целесообразно исходить из законов капитализма по нескольким соображениям. Во-первых: капитализм существует долгое время, мы его хорошо знаем по опыту. Во-вторых: капитализм существует и в настоящее время на значительной части земного шара, к тому же в различных качествах, в развитой, менее развитой и недоразвитой форме, так что мы можем его изучать даже сегодня на различных ступенях развития. В-третьих: относительно капитализма мы располагаем анализом Маркса. Наконец, надо иметь в виду и тот факт, что существующий в социалистических странах строй вступил на смену капиталистической системы и унаследовал от нее много родственного в отношении степени развития производительных сил, а также — как раз вследствие этого — по многим формальным аспектам производственных отношений, в частности в форме организации заработной платы, розничной торговли, различных предприятий и учреждений и, подобным же образом, в форме проявления многих других производственных отношений.

Взгляды классиков марксизма на управление хозяйством при капитализме и социализме

Маркс — как известно — раскрыл законы капиталистического хозяйства более верно, богато, многосторонне, основательно и систематически, чем все предыдущие и последующие исследователи-экономисты. Отдельный капиталист, собственник условий производства, производительных сил в капиталистическом обществе, а как таковой — командир производства —, всеми силами стремится получить как можно больше прибыли. Это — основная движущая пружина его хозяйственной деятельности. Однако его стремление наталкивается на подобное же стремление других капиталистов. Их противоречия развертываются на рынке, в конкуренции. Здесь происходит регу-

* На основе доклада, прочитанного на сессии Венгерской академии наук, 4 мая 1967 года.

лирование капиталистического хозяйства. Правда, капиталистическое производство, как и любое другое общественное производство, должно удовлетворять также и существующие общественные потребности. Это, однако, интересует отдельного капиталиста лишь постольку, поскольку может повлиять на его прибыль.

Следовательно, в этом обществе производство в основном регулируется не самим обществом, вернее каким-либо избранным или иным образом сформированным им органом, а управляется капиталистами, для которых характерно стремление не к удовлетворению потребностей общества, а к получению наибольшей прибыли. Таким образом, потребности общества удовлетворяются как бы за спиной людей, без их ведома, не отвечая, или по крайней мере, не совсем точно отвечая, ничьим устремлениям. Основные взаимосвязи, объективные законы капитализма не только независимы от воли и сознания субъектов экономики — что характерно вообще для объективных законов — но и действуют, большей частью в качестве слепой стихийной силы. Тем не менее они действуют и создают определенные состояния равновесия и пропорциональности, необходимые для общества. Это необходимо. По словам Маркса: «.....для соответствующих различным массам потребностей масс продуктов требуются различные и количественно определенные массы общественного совокупного труда. Очевидно само собой, что эта *необходимость распределения* общественного труда в определенных пропорциях никаким образом не может быть уничтожена *определенной формой* общественного производства, — измениться может лишь *форма ее проявления*. Законы природы не могут быть уничтожены. Измениться, в зависимости от исторически различных состояний общества, может лишь форма, в которой эти законы прокладывают себе путь. А форма, в которой прокладывает себе путь это пропорциональное распределение труда, при том состоянии общества, когда связь общественного труда существует в виде *частного обмена* индивидуальных продуктов труда, — эта форма и есть *меновая стоимость* этих продуктов.» [1] Следовательно, производство регулируется и направляется в русло, соответствующее общественным потребностям, проявлением в массовом обмене стоимости, т. е. общественно необходимых для производства продуктов затрат рабочего времени. Цитируя опять Маркса: «Если это разделение (общественного труда — И. Ф.) пропорционально, то продукты различных групп продаются по их стоимостям (при дальнейшем развитии по их ценам производства) или же по ценам, которые суть модификации этих стоимостей, соответственно цен производства, определяемых общими законами .... не только на каждый отдельный товар употреблено лишь необходимое рабочее время, но и из всего общественного рабочего времени на различные группы употреблено лишь необходимое пропорциональное количество ..... *Общественная потребность*, то есть потребительная стоимость в общественном масштабе, — вот что определяет здесь долю всего общест-

венного рабочего времени, которая приходится на различные особые сферы производства.» [2]*

Описанное выше положение является идеальным случаем капитализма, т. е. положением, которое не осуществляется и не может осуществиться. Ведь такое положение предполагает распределение общественного труда между различными отраслями производства и внутри них строго пропорционально общественным потребностям, а также точное соответствие продажных цен товаров стоимости или её форме, модифицированной каким-нибудь экономическим законом. Такой идеальный случай не осуществим, но законы капитализма, его тенденции, действующие как силы природы, толкают по направлению, ведущему к формированию положения, подобного идеальному случаю. Следовательно, *равновесие* осуществляется через постоянные колебания вокруг состояния равновесия, а *пропорциональность* — через непрерывное нарушение пропорциональности.

Однако конкуренция производителей, точнее: проявляющееся в конкуренции стремление производителей к получению наибольшей прибыли приводит не только к утверждению стоимости, но вместе с тем и к постоянному расширению производства, тем самым, к его удешевлению, усовершенствованию, к развитию техники, росту производительности труда, к невиданному ранее развертыванию производительных сил. Грандиозное развитие производительных сил, как показал Маркс, связано с усиливающимся обобществлением производства, что, в свою очередь, требует все большего вмешательства общества, общественного управления производством. И здесь мы имеем налицо объективный закон, императивную необходимость, приводящую, между прочим, к тому, что в наши дни как в развитых, так и в менее развитых капиталистических странах проводятся эксперименты по общественному вмешательству, плановому управлению всей экономикой. Эти эксперименты, однако, могут проводиться только в границах, определяемых частно-капиталистической собственностью на подавляющую часть средств производства.

Прежде чем пойти дальше, рассмотрим вкратце законы капиталистического хозяйства, некоторые из которых уже были упомянуты в ходе предыдущего изложения. Мы говорим о том, что стоимость проявляется через конкуренцию, что вместе с тем развивается техника, растет производительность труда, усиливается общественный характер производства. Это все — важные, всеобщие, необходимые, стало быть, закономерные процессы. Поэтому мы вправе ссылаться не только на закон стоимости, но и на закон конкуренции, закон роста производительности труда и другие законы. Мы не должны лишь никогда забывать, что эти процессы суть не явления с самостоятельным бытием, а по необходимости вытекают из определенных отно-

* Курсив мой — И. Ф.

шений, характеризующих современные общества. Важнейшие черты этих общественных отношений заключаются в том, что с одной стороны, материальные условия производства находятся в частной собственности отдельных людей, а с другой стороны, люди, превращающие своей живой деятельностью эти средства производства в предметы, необходимые и полезные для общества, лишены средств производства. Это — не единственные, но самые фундаментальные отношения буржуазного общества, больше всего влияющие на человеческую деятельность, определяющие поведение общественных классов и, таким образом, движение общества. Экономические законы таким образом, проявляются в человеческих действиях, а они, в свою очередь, вытекают из существующих общественных отношений. Где эти отношения характеризуются тем, что только меньшинство располагает средствами производства, а большинство лишено их, там не может осуществляться сознательное общественное управление хозяйством, т. е. совершенно сознательное использование, применение экономических законов на службе общества.

Только социалистическая революция создает возможность сознательного общественного управления хозяйством. Беря средства производства в свои руки, общество получает возможность сознательного учета объективных общественных взаимосвязей и закономерностей, общественных потребностей и возможностей, согласования потребностей и возможностей их удовлетворения и, тем самым, — планомерного управления экономическим развитием. Мы можем противопоставить охарактеризованному выше идеальному случаю капитализма идеальный случай социализма. Цитируя снова Маркса: «Только там, где производство находится под действительным, предопределяющим это производство контролем общества, общество создает связь между количеством общественного рабочего времени, затрачиваемым на производство определенного предмета, и размерами общественной потребности, подлежащей удовлетворению при помощи этого предмета.» [3]

Я добавляю, что *до сих пор* нам не удалось достичь идеального случая и в нашем обществе, хотя имеющиеся здесь преграды на пути осуществления идеального случая иные, чем в капиталистическом обществе. Мы можем найти и у наших классиков указания на то, что такое сознательное, планомерное управление и контроль может быть лишь результатом постепенного развития.

Энгельс писал: «Раз общество возьмет во владение средства производства, то будет устранено товарное производство, а вместе с тем и господство продукта над производителями. Анархия внутри общественного производства заменяется планомерной, сознательной организацией.... Законы их собственных общественных действий, противостоящие людям до сих пор как чуждые, господствующие над ними законы природы, будут применяться людьми с полным знанием дела и тем самым будут подчинены их господству..... только с этого момента люди начнут вполне сознательно сами

творить свою историю, только тогда приводимые ими в движение общественные причины будут иметь *в преобладающей и все возрастающей мере* и те следствия, которых они желают. Это есть скачок человечества из царства необходимости в царство свободы.»[4]*

А Ленин в начале 1918 года, ссылаясь на это высказывание Энгельса, писал: «..... «скачком» учителя социализма называли перелом под углом зрения поворотов всемирной истории .... скачки такого рода обнимают периоды лет по 10, а то и больше....»[5]

Значит, согласно этим учениям, после победы социалистической революции общество, располагающее условиями производства, средствами производства, будет учитывать общественные потребности и имеющиеся для удовлетворения потребностей ресурсы, прежде всего, рабочую силу, чтобы использовать их наиболее рационально. Из этого вытекает также, что учет, статистика, контроль приобретут гораздо большее значение, чем раньше, важнейшим же требованием следует считать учет, наиболее экономное, рациональное использование и распределение рабочей силы. Наши классики сделали из вышесказанного также и такой вывод, что после победы социалистической революции, после обобществления средств производства отпадает необходимость в доказательстве общественно полезного характера труда окольным путем — через меновую стоимость, поскольку труд будет планомерно распределяться обществом в соответствии с общественными потребностями. Классики считали — к этому вопросу я еще вернусь —, что поэтому не будет и товара, не будет денег. Общество несомненно будет стремиться к обеспечению наибольшего материального и культурного благосостояния и всестороннего развития способностей своих членов.

Из сущности марксистского подхода вытекает, что наши классики не гадали о том, что произойдет конкретнее после победы социалистической революции. Они не могли предвидеть, где и в каких условиях впервые победит пролетарская революция. На основе своих наблюдений они сделали вывод, что она произойдет, вероятно, в индустриально наиболее развитых странах мира, причем более-менее одновременно.

Однако история сложилась по-другому. Пролетарская революция впервые победила не в промышленно наиболее развитых странах и не одновременно в нескольких таких странах, а сперва в одной, в промышленном отношении крайне отсталой стране, находившейся на относительно низкой ступени капиталистического развития, со значительными феодальными пережитками. И хотя руководители этой революции, следуя марксистскому учению и своей программе, старались создать положение, в котором можно перейти к сознательному планомерному управлению и контролю над общественным производством и, в соответствии с этим, к организованному обще-

* Курсив мой — И. Ф.

ственному распределению продуктов, скоро выяснилось, что это невозможно в данных условиях. Хотя после победы пролетарской революции в России общество и взяло в свои руки средства производства в промышленности и транспорте, находящиеся на относительно высокой ступени развития, национализировало и банки и землю, однако, это не изменило того факта, что подавляющее большинство населения страны вело мелкокрестьянское хозяйство, которое и с капитализмом связывали лишь торговля и кредит, но не производство. В таких условиях оказалось невозможным установить учет и контроль над общественными потребностями и ресурсами, планомерно организовать производство и распределение.

Во время подготовки и особенно после Октябрьской революции Ленин, согласно упомянутым принципам, выдвигал на передний план и усиленно требовал организации учета, контроля и распределения. Он исходил из того, что, хотя крестьянское хозяйство мелких товаропроизводителей и составляет подавляющую часть экономики, все же благодаря влиянию и контролю пролетарского государства можно относительно быстро перейти к социалистическому распределению вместо торговли.

Но наступил 1921 год, Кронштадт, много очевидных проявлений крестьянского недовольства. Не научные размышления или дискуссии, а факты жизни, обострение противоречий между рабочим классом и крестьянством указывали на беду. Факты требовали изменений в производственных отношениях. Были проведены изменения, восстановившие права денег, товара, торговли. 14 октября 1921 года, в статье, посвященной четвертой годовщине революции, Ленин писал: «..... мы предполагали без достаточного расчета — непосредственными велениями пролетарского государства наладить государственное производство и государственное распределение продуктов по-коммунистически в мелкокрестьянской стране. Жизнь показала нашу ошибку. Потребовался ряд переходных ступеней: государственный капитализм и социализм, чтобы *подготовить* — работой долгого ряда лет подготовить — переход к коммунизму.». [6]

С тех пор никто не оспаривал, что товар, деньги и торговля имеют право на существование в определенных рамках, в определенных формах, с определенным содержанием в Советском Союзе и в социалистических странах вообще. Тем оживленнее была дискуссия с начала двадцатых годов о том, почему нужны в условиях социализма товар, деньги, торговля, каков их характер, в каком направлении будут или должны они развиваться. Дискуссия длится и сегодня, т. е. уже больше чем 40 лет. Она затухала или разгоралась, в соответствии с конкретными требованиями развития экономики. Здесь нет нужды в обзоре истории или развития этой дискуссии, достаточно упомянуть, что около 12—14 лет тому назад в её развитии начался новый этап в котором мы участвуем и сегодня. Приблизительно тогда стали вновь поднимать в различных социалистических странах вопрос о роли и

значении стоимости, товара и денег в социалистическом хозяйстве. *Я могу* ссылаться на появившиеся в то время статьи харьковского профессора Либермана, у нас Дьёрдя Петера и других о целесообразности определенного изменения нашей системы хозяйственного управления. Не трудно найти продолжение тогдашних идей в дискуссии о механизме, ставшей на повестку дня несколько лет тому назад.

Планомерность и закон стоимости

Чтобы лучше понять сущность дискуссии, я должен кое-что добавить к сказанному выше. Маркс в «Критике Готской программы» писал — и это другими словами соответствует вышесказанному —, что в обществе, основанном на общей собственности на средства производства, производители не обменивают свои продукты; труд, затраченный на продукт, *выступает не как стоимость продукта*, частный труд становится частью общественного труда не окольным путем, а непосредственно. Мы видели, однако, что товар и деньги существуют и в социалистическом обществе. Справедливо и естественно возник вопрос, как можно совместить такую практику с теорией. Но еще большей проблемой явился вопрос, каково положение со стоимостью. Существует ли, действует ли закон стоимости или нет? Разве существование товара, денег, торговли не влечет за собой проявление общественно необходимого труда, овеществленного в товаре, в цене, складывающейся в торговле, или в наличии нереализуемых запасов одних товаров и нехватки других товаров? В таком случае каким-то образом действует закон стоимости, хотя требуется дополнительно исследовать, как действует он, влияет ли и как влияет на распределение рабочей силы общества. Или не существует положение, в котором любая хозяйственная деятельность регулируется обществом или его органом, уполномоченным им каким-то образом для этой функции, каждая цена определяется планомерно, и цены не оказывают влияния на распределение рабочей силы? В таком случае закон стоимости не действует.

Планомерность постепенно распространялась в советском обществе, позднее позволила перейти к пятилетним народнохозяйственным планам, и еще в ходе первой пятилетки, по существу, осуществилась коллективизация сельского хозяйства. Советский Союз добился замечательных хозяйственных успехов, за короткое время проделал невиданный ранее путь развития. Однако господство планомерности не привело к замене торговли организованным распределением, наоборот, в ходе развития сложилась обширная государственная розничная торговля. Ни деньги, ни товар не исчезли. Следовательно, требовалось как-нибудь разъяснить указанное противоречие между марксистской теорией и повседневным опытом советской практики. Существовал, с одной стороны, общий народнохозяйственный план, охваты-

вающий все важные хозяйственные процессы и функционирующий с огромным успехом. Наряду с ним существовал и товар, и деньги, а стало быть и рынок, причем даже и свободный рынок — на продукты, оставшиеся в распоряжении колхозников после выполнения обязательных поставок. Но, если общество подчинило производство, распределение труда своему плановому контролю и организации, почему остались, как могли остаться товар, деньги, рынок? И наоборот: если они остались, не оказывали ли они влияния на производство, распределение рабочей силы через действие закона стоимости?

Ещё задолго до второй мировой войны возникла идея, что можно и в плане распределить рабочую силу, ресурсы в соответствии с законом стоимости и в этом смысле можно регулировать производство. Другими словами: посредством учета имеющихся производительных сил и на основе целей, поставленных обществом, следует определить динамические производственные пропорции, которые сложились бы при действии закона стоимости (если цены соответствовали бы стоимости), и предписать их в планах. На этой идее стоит остановиться потому, что она еще продолжает жить и поднимается даже в такой форме, что по существу, только в плановом хозяйстве и можно последовательно осуществить закон стоимости.

Однако таким образом нельзя решить вышеуказанного противоречия, просто потому, что строгое марксово понятие стоимости мы не можем применять, толковать для производства, находящегося «под действительным предопределяющим это производство контролем общества». Ведь мы видели, что при идеальном случае *капиталистического* общества, на осуществление которого направлено действие закона стоимости, «*общественная потребность*.«... определяет здесь долю общественного рабочего времени, которая приходится на различные особые сферы производства». Но эта потребность — общественная потребность капитализма, не аналогична, не может быть аналогичной с социалистической общественной потребностью. «..... «общественная потребность«..... обусловливается в основном отношением различных классов друг к другу и их относительным экономическим положением, а, следовательно, в частности, во-первых, отношением всей прибавочной стоимости к заработной плате и, во-вторых, соотношением различных частей, на которые распадается прибавочная стоимость.» [7] Далее: «чтобы товар мог быть продан .... в соответствии с содержащимся в нем общественно необходимым трудом, для этого все количество общественного труда, употребленного на производство всей массы данного вида товара, должно соответствовать величине общественной потребности в них, т. е. платежеспособной общественной потребности». [8]

Ясно, что капиталистические общественные потребности зависят от подразделения капиталистического общества на классы и слои, а также от материального и культурного уровня, потребностей, навыков, платеже-

способного спроса отдельных классов и слоев. Ясно и то, что в этом обществе лишь на рынке может выясниться относительно этих продуктов, был ли затрачен на их производство действительно общественно необходимый труд, включая и то, было ли привезено на рынок всех этих продуктов столько, вернее, было ли затрачено на них из всего рабочего времени столько, чтобы сложившаяся цена соответствовала затратам труда. Продукты должны поступить на рынок, труд, затраченный на их производство, должен стать меновой стоимостью, стоимостью; цены колеблются вокруг стоимости — или её превращенной формы; если они обеспечивают прибыль выше средней, то стимулируют увеличение производства, если не обеспечивают средней прибыли, то — сокращение производства.

Если же средства производства находятся в общественной собственности, то, очевидно, рабочая сила должна распределяться по-иному, чем при капитализме. Ведь подразделение общества на классы и слои, материальный и культурный уровень, распределение доходов иное, иные и требования, навыки, общественные потребности. Согласно Марксу, общество должно учесть эти потребности и имеющуюся совокупную рабочую силу, и продуманно, планомерно распределить рабочую силу соответственно потребностям между различными отраслями производства, а также внутри них. Ясно, если общество управляет производством таким образом, то не может быть колебаний рыночных цен, стимулирующих увеличение или сокращение производства, и труд, затраченный на продукты, не превращается в стоимость. Чтобы общественно необходимый труд выступал как стоимость, продукт должен поступать в качестве товара на рынок, регулирующий производство. Это, однако, противоречит утверждению, что раз средства производства находятся в общественной собственности, то производство планомерно управляется обществом.

Конечно, когда планомерность не совершенна, то есть распределение труда не соответствует потребностям, то закон стоимости все равно проявляет свое влияние — если и не через колебания цен, то — в наличии излишков или дефицита некоторых продуктов. Между прочим, стоит еще сослаться и на то, что в обществах с различной классовой структурой, согласно вышеуказанному, общественные потребности всегда различны, следовательно, они требуют различного распределения совокупного общественного рабочего времени даже тогда, если средства производства не находятся в общей собственности ни в одном из данных обществ. Соответственно, и сама стоимость различна в различных обществах. Маркс, отмечая, что дифференциальная земельная рента исчезла бы при социализме, заметил: «...ложно утверждение, что стоимость продуктов при замене капиталистического производства ассоциацией осталась бы прежняя.» [9]

Каким образом согласовывали экономисты-марксисты планомерность с товарным производством? После дискуссий различного накала, большин-

ство приняло, наконец, эклектический подход. Там, где сельское хозяйство стало уже коллективным, якобы в полной мере функционирует центральное социалистическое общественное управление. Стихийность несовместима с общественной собственностью на средства производства. Наше планирование строго научно. В то же время в области производства и распределения существуют товарно-денежные отношения. Это вытекает из двух форм социалистической собственности, из уровня развития, характера и различий общественного труда, из необходимости хозяйственного расчета, из неизбежности хозяйственного обособления предприятий от государства и друг от друга и т. д. и т. п. Поскольку существует товарное производство, существует и стоимость. Стоимость товаров определяется количеством общественно необходимого для их производства рабочего времени. Оно не что иное, как затраченное в среднем рабочее время на предприятиях, выпускающих подавляющую часть продукции данных отраслей промышленности. Действует также и закон стоимости. Если и не точно в соответствии со стоимостью по только что приведенному определению, но все же на её основе образуются цены, и со стоимостью связана и система хозрасчёта. Ещё большую роль играет стоимость в негосударственной торговле. Через эти каналы учитывается действие закона стоимости, как, вообще, и других экономических законов социализма в плановом управлении хозяйством, в народнохозяйственном плане.

Это воззрение не случайно сложилось и стал господствующим среди экономистов социалистических стран. Казалось, что оно верно отражает и правильно объясняет огромные успехи, достигнутые в хозяйственном строительстве этих стран. К тому же оно соответствовало духу, сложившемуся во время Сталина и лишь постепенно уходящему со сцены даже после смерти Сталина. Ведь это воззрение объясняло большие успехи тем, что центральная воля, планомерное центральное общественное управление полностью осуществляется; планирование строго научно, стихийность в хозяйственной жизни невозможна, поскольку план предписывает, что должно произойти; а что происходит, то происходит правильно; труд, затраченный в среднем на производство товаров: общественно необходим.

Очевидно, однако, что описанное выше согласование стоимости с социалистическим хозяйством, такая трактовка планомерного управления совсем не тождественна с тем, что понимали Маркс, Энгельс, Ленин под действительно плановым общественным управлением и контролем над производством. Они недвусмысленно связывали стоимость с товарным характером продукта, а регулирование совокупного производства с помощью стоимости — с общим функционированием продукта как произведенного покапиталистически товара. То, что они называли стоимостью, нельзя определить централизованно, на основе среднего затраченного рабочего времени, оно складывается лишь на рынке. Ведь, если средне-затраченное рабочее

время отождествляется со стоимостью, то этим уже считается доказанным распределение совокупного общественного рабочего времени в соответствии с общественными потребностями. Но если такое распределение осуществимо, то его опосредствование стоимостью, ценой, деньгами является излишним, не имеет смысла. Следовательно, господствующий *эклектический подход не соответствовал подходу Маркса.*

Этот господствующий взгляд также был поколеблен фактами. Экономика, жизненный уровень народов социалистических стран — за исключением незначительного числа случаев — росли из года в год, но в этом, в целом чрезвычайно успешном развитии, убедительно доказывающем преимущество социалистического хозяйства, все же наблюдались явления, заставлявшие задуматься, наводившие на мысль, что общественное управление не так уж и совершенно. Такие явления наблюдались, можно сказать, во всех социалистических странах. Но, других не суди, на себя погляди! (Оставим также без внимания годы до контрреволюции 1956 года, когда, как известно, серьезные ошибки были допущены и в экономической политике.)

Во-первых: наш национальный доход рос из года в год после контрреволюции, но этот рост далеко не был таким равномерным, каким следует ожидать его при планомерном развитии. В 1960 году прирост составил более чем десять процентов, а в 1965 году — меньше двух. Во-вторых: еще больше колебаний проявляет часть национального дохода, идущая на накопления, которая возросла в 1960 году, по сравнению с предыдущим годом, на 35 процентов, а в 1965 году сократилась на 15 процентов. В-третьих: внутри накопления, как правило, больше, иногда гораздо больше запланированного, шло на увеличение оборотных фондов, по существу, на рост запасов; например, с 1961 по 1964 год ежегодно — больше половины прироста основных фондов. В-четвертых: неоднократно случилось, что сумма потребления и накопления превышала произведенный за данный год национальный доход, разница же покрывалась за счет иностранных кредитов. В-пятых: хотя технический уровень производства и производительность труда в промышленности ежегодно росли, но наше отставание от многих более развитых, в том числе, некоторых капиталистических стран, по всей вероятности, не сокращалось, а скорее увеличивалось. В-шестых: правда, наши планы по производству в целом обычно выполнялись и даже перевыполнялись, однако внутри этого наблюдались большие неравномерности; некоторые, иногда очень важные, разделы планов не выполнялись. В-седьмых: эффективность нашей хозяйственной деятельности уменьшилась в последние годы; средства, вложенные в производство, росли быстрее, чем национальный доход.

Вот факты, характеризующие всю нашу экономику, которые, как я уже сказал, поколебали господствующее воззрение. Если рассматривать хозяйство не в целом, а в деталях, то мы сталкиваемся со многими несуразностями, расточительством, недостатками, явлениями, противоречащими нашим пла-

нам. Качество нашей продукции, как предметов потребления, так и средств производства, часто неудовлетворительно. Бывает, что важных, пользующихся спросом изделий, выпускаемых или могущих выпускаться в нашей стране, на рынке не найти, а выпускаются никому ненужные изделия. Нередко производство бывает налажено из рук вон плохо и обходится слишком дорого. Из всего этого вытекает, что, хотя у нас производство и управляется обществом на основе центрального плана, но как план, так и общественное управление далеки от совершенности.

Неудовлетворительна также и картина, сравнивающая наши результаты экономического и технического прогресса с результатами некоторых развитых капиталистических стран. Между тем, она представляет не только теоретический интерес, но имеет и большое практико-политическое значение в соревновании двух систем.

Однако факты, опыты и связанные с ними соображения и исследования обращали внимание не только на эти недостатки. Они ясно указывали на то, что сама существовавшая система планирования и хозяйственного управления — механизм — также снижает эффективность хозяйства и темпы его развития. Этот механизм сложился в таких внутренних и международных политических и экономических условиях — их изложение выходит за рамки данной темы — которые неизбежно вели к чрезмерной централизации и бюрократизму. Чрезмерная централизация подрезывала крылья местной инициативы, ослабляя одну из движущих сил общества. С этим положением, познав его, уже нельзя было мириться. У нас, как и в некоторых других социалистических странах, началось движение за реформу хозяйственного механизма. Это движение везде ставило целью уменьшение централизованности, центральных плановых предписаний и увеличение самостоятельности на местах, на предприятиях, создавая благоприятную почву для развертывания личной инициативы.

Реформа механизма и законы социалистического хозяйства

Вначале казалось, что реформа механизма не затрагивает теоретических вопросов социалистического хозяйства. Однако стало очевидным, что пересмотр практики требует пересмотра и теоретических основ практики. Как мы видели, относительно нашего общества теория отчасти принимала, отчасти отвергала положения Маркса о социалистическом обществе. Я не повторяю сказанного мною выше об этой теории, хочу только напомнить, что согласно ей под общественно необходимым временем у нас следует понимать среднее рабочее время, затраченное на производство продукта, другими словами, совокупный труд, затраченный на производство совокупной массы продуктов, суть *необходимый труд*.

Согласно этому, плановое общественное управление, короче: народнохозяйственный план распределяет совокупный труд точно в соответствии с общественными потребностями. Как и указывал Маркс, говоря о социализме.

Но, как писал уже Андерсен, скрыть, что король голый, оказалось невозможно, напрасно уверяла толпа придворных, что он одет в прекрасное платье. И недостатки наших планов тоже выяснились. Ведь, реформа механизма необходима потому, что у нас производят — чаще всего даже не противореча плану — излишние, не реализуемые, по крайней мере, по цене, покрывающей издержки производства, изделия, что и у нас встречается расточение рабочей силы, сырья или другого богатства общества, что многочисленные примеры показывают недостаточную эффективность нашего общественного управления и контроля, невыполнение многого из запланированного и осуществление многого незапланированного.

Следовательно, несостоятельно более то скрыто или открыто разделяемое до сих пор воззрение, что к нашему обществу *полностью* применима, действительна формулировка Маркса, названная мною в начале доклада идеальным случаем. Было бы абсурдом утверждать, что у нас не осуществляется плановое управление и контроль над производством, но также абсурдно было бы утверждать, что наши планы обеспечивают полное соответствие между общественными потребностями и частью совокупного рабочего времени, затраченной на их удовлетворение. Наше развитие в основном соответствовало планам и было удовлетворительным, но многих поставленных задач достичь не удалось. Мы не можем еще научно измерять, учитывать ни действительно существующие общественные потребности, ни общественный труд, действительно необходимый и обеспечиваемый для их удовлетворения, мы не можем еще научно распределить, согласовать с общественными потребностями совокупное общественное рабочее время. То есть: у нас существует плановое управление и контроль, но они не совсем тождественны тому, что подразумевал под ними Маркс.

Мы не можем отмахнуться от вывода, что плановое управление и контроль над производственными и прочими процессами, охватывающими все общество представляет собой весьма трудную, сложную задачу, правильное решение которой предполагает огромных знаний, мы же пока не располагаем в достаточной мере этими знаниями, поэтому не можем и решить еще эту задачу соответствующим образом. Следовательно, в том смысле, в каком Маркс применял этот термин, у нас производство не подвластно плановому управлению и контролю общества. Но, ведь, мы и говорим, что еще не завершили строительства социализма. Правда, мы не выяснили, что нужно еще для полного построения, но очевидно, что наше общество, включая и его управление, необходимо поднять на более высокую ступень. Маркс же, говоря о том, что будет в социалистическом обществе, как правило, имеет в виду более высокую ступень развития, чем наша. К этой высокой

ступени относится и положение о том, что в обществе, основанном на общественной собственности на средства производства, труд, затраченный на производство продуктов, выступает не как их стоимость, не как их вещественное свойство, поскольку частный труд является непосредственно частью совокупного труда. К этой более высокой ступени относятся и цитированные выше положения Энгельса и даже некоторые указания Ленина. Правда, и Маркс и Энгельс несколько раз формулировали свою мысль так, будто с обобществлением средств производства одним махом, скачкообразно осуществится полная планомерность. Но об этом скачке, как мы видели, уже и Ленин говорил, что он может продолжаться весьма долго.

Действительно, скачок продолжается, по крайней мере, несколько десятилетий. Если мы поняли это, то не должны больше наделять наше общество чертами, существующими лишь в нашем воображении. Зато, сознавая с прочным чувством удовлетворения наши действительно большие успехи, мы должны принять к сведению некоторые неприятные факты. В нашем обществе еще не всякое производство служит наиболее рациональным образом удовлетворению общественных потребностей. Еще не прекратилось полностью господство продуктов над производителями. Еще не всякая анархия и стихийность сменилась планомерной, сознательной организованностью. Еще не всякий частный труд составляет непосредственно часть совокупного общественного труда. Мы еще не умеем с полным знанием дела применять законы собственной общественной деятельности.

Означает ли это, что мы должны отвергнуть сказанное Марксом, Энгельсом, Лениным о социализме? Нет, не означает. Наши классики сформировали несколько немногочисленных, всеобщих, хорошо продуманных и научно обоснованных, выведенных из тенденций развития положений о том, что будет в относительно зрелом социалистическом обществе. Не классики ответственны в том, что раньше эти положения мы без разбора и поэтому отчасти неправильно относили к нашему обществу. Но мы должны сделать вывод, что мы, потомки, должны определить законы социалистического хозяйства на основе анализа собственного опыта. Как далеко зашли мы в познании этих законов и их применении, использовании в управлении хозяйством?

Наши учебники перечисляют значительное число законов социалистического хозяйства. Напомню только важнейшие, например, основной экономический закон социализма, далее, закон планомерного пропорционального развития, закон распределения по труду, закон непрерывного роста производительности труда. С ними положение таково же, как и с указанными законами капитализма. Не следует забывать, говорилось о них, что это — явления, не имеющие самостоятельного бытия, а по необходимости вытекающие из капиталистических общественных отношений. Законы социалистического хозяйства по необходимости вытекают из социалистических общест-

венных отношений. Они составляют взаимосвязанную систему, поскольку все произрастают из той же почвы. Они характеризуют важные, общие и необходимые процессы, значит, по праву называются законами. Этим, однако, мы указали лишь на их регулярную повторяемость, но не получили новых знаний. Мы не можем открыть каких-нибудь новых взаимосвязей, придавая отдельным законам, может быть нескольким вместе, более-менее самостоятельное бытие, например, говоря, что у нас производство регулируется законом планомерного пропорционального развития, или наделяя ролью регулятора производства систему экономических законов социализма. Ни из названия законов, ни из их формулировки мы не можем сделать никакого вывода относительно способа их применения, использования, т. е. о задачах, которые нам следует решить. Мы должны уяснить, что экономические законы и при социализме осуществляются в действиях людей, масс, а эти действия и здесь коренятся в общественно-экономических отношениях. Следовательно, мы должны глубоко, многосторонне изучать эти отношения, чтобы потом — после тщательного взвешивания и оценки — решать о намеченных задачах и средствах их выполнения. Надо считать заслугой нашей партии, что в ходе работ по реформе механизма она поступила именно так. Она проанализировала существующие отношения и из этого анализа сделала выводы. Важнейшие из этих выводов дают некоторую ориентировку относительно *законов* нашего социалистического хозяйства и его *управления* на нынешней ступени развития.

Во-первых, можно констатировать, что согласно всему нашему предшествующему опыту *из одного центра нельзя рационально регулировать* деятельность всех хозяйственных единиц. Хозяйственные решения целесообразно выносить там, где необходимое в данном случае *знание местных и специальных условий* наибольше. Следовательно, есть хозяйственные решения, которые следует принимать в цехе, и такое, которое в Центральном Комитете партии. Хозяйственное руководство было чрезмерно централизовано, теперь же мы *должны децентрализовать его*. К тому же попытка всем управлять из одного центра, хотя последовательно даже и неосуществима, не только нерациональна экономически, но нарушает также и политический принцип *демократического централизма*. Такая практика нерационально и неправильно вмешивается в самостоятельность заводских и местных органов, ограничивает развертывание их инициативы, тормозит их развитие. По праву можно ожидать, что реформа, учитывая этот закон, ускорит наше развитие.

Во-вторых, можно установить, что *некоторые же решения* необходимо принимать в *централизованном порядке*. Это соответствует также выводу, сформулированному в предыдущем пункте. С переходом подавляющей части средств производства в общественную собственность — поскольку мы не сразу взяли все средства производства в общую собственность, и в других

странах поступали так же — должен существовать орган, представляющий всеобщие интересы общества и направляющий развитие общества в соответствии с этими интересами.

Пока мы старались всем управлять централизованно, ускользнуло научное исследование важнейшего вопроса: как можно решить, чего требуют интересы всего общества, в соответствии с этим какие решения, после какой подготовки следует принимать в централизованном порядке и каким образом можно эти решения претворить в жизнь. В определенной степени потерялась и сама роль партии в хозяйственном управлении, органа, представляющего всеобщие интересы общества. Мы должны теперь исправлять нарушение этого закона. Этот закон следует использовать улучшая подготовку и принятие решений по важнейшим вопросам хозяйственного управления.

В-третьих, можно отметить, что центральные решения по управлению социалистическим хозяйством должны доводиться до предприятий и местных органов с помощью *экономических методов, мероприятий и правил,* влияющих на их деятельность, менее всего ограничивая при этом их самостоятельность и возможности инициативы. Чрезвычайно широкий круг нашего опыта свидетельствует в самых различных областях хозяйственной жизни, но наиболее ярко, пожалуй, в сельскохозяйственном производстве и обеспечении угольной промышленности рабочей силой, что с помощью экономических методов можно достичь наших целей гораздо более эффективно, чем с помощью директив или любого числа показателей, доводимых до предприятий. Общество, как известно, располагает богатым арсеналом экономического влияния. Это, конечно, не исключает реализации центрального решения с помощью директивы, если это оказывается — на основе тщательного рассмотрения — целесообразным или же единственно возможным. Работа наших государственных хозяйственных органов в связи с реформой в настоящее время в основном направлена на правильное применение этого закона.

В-четвертых, можно констатировать, что если управление с помощью центрального плана или просто центральной директивы заменяется управлением посредством экономических методов, то это предполагает и требует расширения товарно-денежных связей. Ведь, если предприятия не будут связываться плановыми директивами, то они должны вступать в связь друг с другом как покупатели и продавцы, заказчики и поставщики. Нужен рынок, где они могут реализовать свои продукты как товар и где они могут приобретать необходимые продукты в качестве товара. Центральное управление должно и может действовать на рынке с помощью различных экономических методов, например, методов политики цен, кредита, налогообложения доходов, таможенных сборов и т. п. Опубликованные до сих пор правительственные постановления по реформе механизма показывают, что

наши компетентные органы стараются правильно использовать и этот закон.

В-пятых, можно установить, что та система хозяйственного механизма в целом, деталями которой является децентрализация управления, выдвижение на передний план экономических методов управления, расширение товарно-денежных связей, купля-продажа на рынке, включает, вернее, требует образования части цен на рынке, путем соглашения между покупателем и продавцом. Отдельные цены можно и даже нужно вследствие различных обстоятельств регулировать централизованно, но центральное регулирование каждой цены, — если мы только не предполагаем такую информированность центрального органа, в невозможности которой мы уже убедились, — по существу, определяло бы спрос на отдельные продукты и в то же время, мешало бы приспособлению производства к спросу, а значит, привело бы к затруднениям. Такая практика означала бы, что — несмотря на противоположные намерения — все-таки в централизованном порядке принимались бы решения по вопросам, совершенно правильно решить которые в централизованном порядке невозможно. Если, однако, распределение совокупного общественного труда не соответствует общественным потребностям и поэтому требует некоторых поправок, то или цены, — конечно, если они складываются на рынке, — или иные явления будут стимулировать или тормозить производство. Это означает, что трудовые затраты и в нашем обществе проявляются как стоимость, и закон стоимости как тенденция действует и у нас. Таково положение на нынешней ступени нашего развития, и такая тенденция развертывается пока как один из факторов дальнейшего нашего развития. Этот закон частично можно и должно учитываться при регулировании цен в связи с реформой, его дальнейшее применение поднимает еще много нерешенных вопросов, требует изучения и работы.

Таковы важнейшие выводы, вытекающие из реформы нашего хозяйственного механизма и связанных с ней соображений, относительно законов социалистического хозяйства и его управления. Конечно, я не затронул многих важных вопросов и многих важных аспектов изложенных мною проблем, чтобы не выходить за возможные рамки моего доклада. В заключение я хотел бы сделать еще несколько выводов на основе уже сказанного выше.

Сегодня и еще долгое время мы не сможем создать полного соответствия между общественным рабочим временем, затраченным на производство определенных изделий, и объемом общественных потребностей, удовлетворяемых этими изделиями, применяя исключительно методы планового общественного управления и контроля. Не доказано и то, что развитие идет в этом направлении. Мы не можем и, насколько можно сегодня судить об этом, ещё долгое время не сможем обходиться без помощи товара, денег, рынка. Мы нуждаемся и в этих средствах для правильного распределения имеющихся ресурсов общества, поэтому мы должны *изучать и развивать*

наиболее правильное использование и применение этих методов и закона стоимости.

Вместе с тем мы должны всеми силами развивать, совершенствовать общественное управление и контроль над производством. Всесторонне используя и развивая статистику, учет, информационную систему, математические методы и другие средства науки, мы должны как можно точнее учитывать, во-первых, научный и технический прогресс и вытекающие из него возможности роста производства, национального дохода и экономики общества, во-вторых, материальное и духовное развитие членов общества, сопровождающее указанный прогресс и вытекающие из него потребности, а также развитие международных отношений в области политики, экономики, техники и культуры и вытекающие из него последствия. На основе этого надо измерять, сопоставлять и классифицировать общественные потребности и способы их удовлетворения. Для всего этого мы должны поднять систему и метод принятия общественных решений на более высокий уровень.

Наша реформа механизма открывает путь к улучшению нашего хозяйственного управления. Неустанно развивая, совершенствуя элементы и всю систему этого управления, мы будем со всё большим умением применять и, тем самым, подчинять нашей власти законы нашего общественного развития, все более становясь сознательными хозяевами собственной судьбы.

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THE LAWS OF THE SOCIALIST ECONOMY AND ITS CONTROL

I. Friss

The author first outlines the functional mechanism of capitalism as described by Marx and based on the operation of the law of value. It is pointed out that the distribution of total social working time in accordance with social needs was realized under capitalism as a tendency through the market. As regards socialism, Marx and Engels thought that the planned control and management of production would bring

about the distribution of total social working time in accordance with actual needs and so they had presumed the abolition of commodity and money relationships. However, this ideal could not be achieved up to now under socialism either, though for other reasons than under capitalist conditions. Commodity and money relationships proved themselves indispensable elements of the functioning of the economy at the present stage of development of socialism. In the light of the practical experiences of socialism, Marxist economists attempted — in more or less eclectic manner — to reconcile the concept of a planned social control of production with the existence of commodity and money relationships. But the doctrines thus elaborated, which had for a long time been accepted by the majority of Marxist economists, were not in harmony with the Marxian concept.

Though great results have undoubtedly been achieved in the control and management of social production, the Marxian concept has not yet been entirely carried into effect. At the present stage of development of the socialist economy, the distribution of total social labour does not completely correspond to the needs of society, thus not all labour is necessary labour. It would, therefore, not be correct to state that under the prevailing conditions necessary labour was equal to the labour input needed to turn out the product, i.e. to value. The author even denies that social production can be directed planfully and in the same time as being in accordance with the requirements of the law of value. These are proved by the fact that, though our plans were substantially correct, we have failed to achieve some important objectives. National income has not grown evenly and the rate of accumulation showed great fluctuations. The supply and choice of products was often inadequate and the sum total of consumption and accumulation from time to time exceeded the volume of national income. The targets of the production plans did not always harmonize with the interests of the national economy. The means invested in production increased at a quicker rate than national income, and technical progress was not satisfactory. Over-centralized control weakened the propelling force of society and economic efficiency, and pulled down the rate of growth. It may be stated that a single "centre" was incapable to direct all units with equal efficiency and in a rational manner. While it was endeavoured to direct everything from the centre, the Party's function of economic control went lost; nor was it clear, which decisions must in the interests of society be taken by the leading political body at the centre. In the future, mainly economic tools should be used to direct the enterprises to serve the social interests and central decisions. This does, of course, not preclude the possibility of administrative instructions in case the central decision cannot be enforced by other means. The prominence of economic measures demands and assumes the broadening of the commodity and money relationships; accordingly, the role of the market is to gain in importance under the new system of economic control. The instruments of central planning and management were insufficient for the most efficient control of the economy and the expansion of market relations became inevitable. At the same time however, it is necessary to work indefatigably on improving the planning system, the social control and management of production and raising the standard of the system and methods of social decisions which mark out the direction of economic progress.

I. VAJDA

EXTERNAL EQUILIBRIUM, NEO-TECHNIQUES AND ECONOMIC REFORM

The study analyses the necessity of the reform of economic management from two points of view: the equilibrium of international payments and technical progress. The methods generally suggested for restoring equilibrium, i.e. deflation and devaluation of the currency or protectionism are unsuited to cope with the problem. The main point of the author is the statement that the gap between countries at various levels of development cannot be automatically removed, only narrowed by an economic policy aimed at establishing purposeful priorities. Venturesome enterprising and individual as well as collective initiative are needed.

Much experience and the realization of many facts have led to the new concept of the Hungarian economic reform as it has emerged from lengthy debates. Though these debates have brought about the clarification of the guiding principles, the practical organizational measures are still being worked out. It will be, therefore, hardly surprising that on many a question opinions should still clash and reservations and qualifications be voiced. In other words, the debate is still in full swing, although within the limits of the already accepted principles.

In this paper I intend to analyse the necessity of the reform from the double aspect of the international (balance-of-payments) equilibrium and of the world-market bearings of technical progress. The two are closely related to one another and both are connected with the future of Hungarian foreign trade. In my work I will not review the principles adopted, which are assumed to be known. I feel, however, that in the course of my analysis new aspects will emerge which may later on obtain some role in the system and which I even deem necessary to be built into the new system and to become its constituent part.

Further, I am fully aware of the fact — and this should be known to everyone who is intensively engaged in the problems of the economic systems — that the above mentioned two aspects are not independent of other ones of the problem, nor can they be entirely isolated from them. But the same may be said of any other problem of the social economy.

It must also be admitted that, for the time being, there are no analytical tools at the disposal of economic science to assess in a clear and unequivocal manner the mutual effects of partial problems or their intensity, and to put

them thus beyond dispute. The limited character of the analytical possibilities is reflected in the extensive discussions going on throughout the world over the most important subjects of economic policy, discussions which do not stop at the frontiers of the different economic systems. Only a decade ago, the desirable rapid development of the underdeveloped countries seemed to present the only almost insuperable problem in economic discussions (although for truth's sake it must be admitted that a decade ago we felt nearer the solution than today); official wisdom was apt to consider the economic development both of the industrially advanced capitalist countries and of the socialist countries a more or less settled matter. Of course, there were differences in opinion and approach. In the West, neo-liberalism offered consistent opposition to Keynesian interventionism. Similarly, criticism of the Stalinist theses began to be raised also in the socialist countries where doubts arose about the validity of earlier established priorities such as industry *versus* agriculture, heavy industry *versus* consumer-good industries, investment *versus* consumption, centralization *versus* decentralization, autarky *versus* international division of labour. But none of the doubts went so far on either side as to touch upon the fundamental structure of the system itself or to question its suitability to secure further development.

In recent years, however, such more forcefully formulated doubts have arisen in several fields. Heated debates are going on all over the world about the inadequate degree of international liquidity, about the methods to improve the situation in this respect, about the gold standard and about the price of gold. Some well-known and influential experts, such as e.g. Professor Rueff, to make us perceive the dangers this situation involves, would even conjure up the shadows of the crisis of the 'thirties. It is still undetermined — or, at least, rather doubtful — what measures of economic policy should be proposed to fight inflation and to ensure price stability without putting a brake on economic development. To escape this dilemma, several representatives of bourgeois economics have chosen to discard the centennial dogma of price stability and to accept the slow but steady process of inflation as one not detrimental to dynamic development, rather than facing the consequences of deflation, of an unemployment which, spreading over the economy, would replace the one-sided "imported inflation", bad in itself, by a still worse "exported deflation" expanding in every direction.* Roy F. Harrod, the distinguished professor of Christ Church, Oxford, also gives expression to his doubts when writing:

"There are certain views widely, but not universally, held about maxims of behaviour for countries for their securing external equilibrium in their

* In an "imported inflation" domestic prices go up soaring under the pressure of rapidly growing foreign demand whereas in the case of an "exported deflation", the deflatory curbing of domestic purchasing power may release crisis waves in the connected external markets.

balances of payments. The doctrine of free trade has had some reinforcement since the war, although compliance has by no means been perfect, and there is a growing recognition, granted only grudgingly first, that the maxims flowing from it may not always be applicable to the less developed countries. But if equilibrium does not come about automatically in consequence of free trade or such partially free trade as may prevail, the question arises what the economic authorities ought to do about it. Even when we are on the very threshold of the subject, it is not clear that doctrines currently prevailing give a precise answer. There is the idea that countries in deficit should deflate their economies. The great majority of economists would readily concede that there are many cases when this would be an inappropriate remedy. What, then, is the appropriate remedy? I have the idea that the consequence of the inadequacy of prevailing maxims is that disorder in the world is increasing, and may even lead to a critical situation." [1]

Professor Harrod goes so far in his doubts that under the pressure of menacing "disorder" — and referring to the words of Keynes written in the 'thirties — he would accept protection of the domestic market, a "little preference" to be given to the "homespun", though he adds with unconcealed disillusion: "It is rather sad to be driven back towards protection, after all the brave hopes of 1944." [2]

It is by some curious play of the dialectics of history that at the same time when in the citadels of free trade protection is being invoked, the socialist planned economies should become more and more conscious of the fact that the current techniques of planning tend to conserve an atmosphere of protection in production. Criticism of and opposition to this situation are now growing strongly and ways are increasingly sought to secure a greater role to the international division of labour and to cooperation. Classical protectionism with its protection of the domestic producer by means of customs duties which made it difficult to foreign competition to gain a foothold in the market, may be considered today, in the era of state intervention, as outdated in many respects. Modern methods are more sophisticated, many-sided — and often concealed. Protectionism as exercised in a system of central planning — where imports can be effectively restricted through the control of foreign trade, production and investments — is, however, of an entirely different nature. The realization of the fact that the *possibility* of absolute protectionism, and even the temptation inherent in this possibility, had brought about considerable negative features in our economic development up to now, has given rise to similar doubts as to the efficiency of the planning techniques and of the methods of economic management hitherto applied as those voiced by professor Harrod in surroundings and on the basis of experiences which were fundamentally different from those he was thinking of. In this country, import substitution was regarded as highly preferable to imports and the question was never put

whether efforts of the same extent would pay off in due time or not, or whether efforts of the same extent would not pay off more quickly and with better results in *other* sectors — nor were the proper means at disposal to measure these effects.

The doubts mentioned above were particularly strengthened by the actual trends in the country's foreign trade with the securing of external equilibrium causing increasingly growing problems in spite of the undeniable efforts at import substitution. To put it more precisely: the policy aimed at import substitution as an element of centralized planning, instead of doing away with or at least mitigating the equilibrium disturbances, rather tended to *increase* the difficulties. But this situation does not lead us to the conclusion that protectionism should be strengthened; on the contrary, we are of the opinion that the measures of economic policy suited for securing equilibrium must be looked for in new ways and at a higher level. As a matter of fact, the opinion is now generally accepted all over the world that *lasting* external disequilibrium can be eliminated only by macroeconomic measures of economic policy, the market automatism being considered inadequate for the purpose. Now, it should be obvious that other measures are needed in the industrially developed countries (and even here the problem will vary from country to country, as e.g. the balance-of-payments deficit of the United States is due to factors other than an inverse trade balance) than in the countries only shortly liberated from colonial oppression and struggling with the heritage of the past, or in the moderately developed countries or in those which have reached the level of the latter recently. With this special and generally neglected problem we wish to deal later on.

Tendencies in the external trade of Hungary

In the period from 1961 to 1965 the foreign trade of this country has nearly doubled in volume as against the preceding five-year period. Imports were up by 82 per cent and exports by 88 per cent. The foreign trade turnover of the OECD countries showed a less marked increase with imports growing by 45 per cent and exports by 44 per cent in the period between 1961 and 1965 [3]. In spite of this considerable growth, the lack of external equilibrium in Hungarian foreign trade was more marked than before.

The average yearly trade deficit was higher in 1961—1965 than in the preceding five-year period, with peaks in 1963 and 1964. In 1965 it was reduced by means of vigorous import restrictions. But this highly aggregated picture does by far not reveal the essential elements of the problem and requires further analysis. Breaking down the turnover by groups of countries, the following balances are obtained for the last four years.

Table 1

Aggregate data of the Hungarian foreign trade
(million foreign-exchange Forints)

Years	Imports	Exports	Total turnover	Balance
1956—1960 (average)	8 366.2	7 752.8	16 119.0	— 613.4
1961	12 039.6	12 079.6	24 119.2	+ 40.0
1962	13 485.2	12 905.5	26 390.7	— 579.4
1963	15 326.7	14 155.5	29 482.2	—1171.2
1964	17 546.0	15 869.8	33 415.8	—1676.2
1965	17 848.5	17 721.5	35 569.8	— 127.2
1961—1965 (average)	15 249.2	14 546.3	29 795.5	— 702.9
1966	18 378.5	18 705.1	37 083.6	+ 326.6

Table 2

Countries	1963	1964	1965	1966
CMEA countries	— 584.1	— 471.6	+300.7	+739.9
Advanced capitalist countries	— 502.6	—1079.0	—657.6	—282.2
Other countries	— 84.5	— 125.6	+229.7	—131.1
Total	—1171.2	—1676.2	—127.2	+326.6

As can be seen, in respect of the CMEA countries, the unfavourable tendency could be reversed by 1965 and the favourable trend continued in 1966; in the trade with the advanced capitalist countries, on the other hand, there was a deficit in all four years, although it somewhat decreased in the years 1965 and 1966.

Thus with one group (which for the sake of convenience may be called that of the convertible-currency countries) the negative balance persisted in spite of the fact that it was always one of the plan objectives to abolish this deficit. However, this objective could not be attained and the dual trend in foreign trade — equilibrium and often trade surplus with CMEA countries and an enduring deficit with respect to convertible-currency markets — proved to be, for the time being, irreversible.

The tendency towards equilibrium with the CMEA countries is due to the bilateral character of trade and to the lack of convertibility. All countries would aim at balancing their trade with each one of their CMEA partners bilaterally and, if possible, in every year — even if these efforts should lead to a restriction

of external trade. The trade volume will be determined by the party with the lower export potential, or, more exactly, with the lower potential to deliver "hard" commodities. In the course of the years 1961 to 1965, the yearly deficit or surplus was usually between one and three per cent of the total trade volume. It surpassed 10 per cent rarely and only transitorily, and in such cases the balance was restored to equilibrium within short.

One of the harmful effects of these efforts at yearly equilibrium and of the concomitant exaggeration of the importance of the end-year trade position manifested itself in the disproportionate volume of deliveries in the last quarter, an even the last weeks of the year. This strange seasonal character of the trade is quite independent of the seasonal fluctuations in production or consumption; it is due exclusively to the techniques of planning and accounting and entirely unjustified from the economic point of view. Its harmful effects can not be questioned since the sudden increase in deliveries towards the end of the year will necessarily lead to an undesirable accumulation of stocks and to warehousing difficulties, and the stocks thus accumulated will be absorbed only in later periods of the following year. However, these phenomena, the automatic results of the efforts at equilibrium, could not be diverted from their forced path and could not be eliminated without a fundamental change in the system, and the same applies to the chronic disequilibrium with the other group, that of the convertible-currency countries.

The analysis can, however, not stop at this point. The same duplicity characterizes also the *pattern* of foreign trade and there is no sign of a change for the better in this respect either. Let us, first of all, investigate the pattern of exports. (Table 3)

The pattern of exports in 1965 invariably reflects the relative state of industrial development and its qualitative limitations. More than two thirds of Hungarian exports consists of manufactures, a fact that shows a high level of industrial development; but this high share of manufactured products may be attributed to the success achieved mainly in CMEA markets. No similar position could be attained by Hungarian industry in advanced capitalist countries (convertible-currency markets) especially in respect of engineering products. The share of machinery and transport equipment in exports to this country group was in 1965 only one tenth of their share in CMEA exports — nor was there any improvement in the situation over the last five-year period. In our western markets — which means practically Western Europe — we sell mainly agricultural and food products and raw materials; the second place is occupied by manufactures belonging to group 6 of SITC and representing low value added, and the share of groups 7—8 (machinery, vehicles, instruments, clothing, furniture etc.) — which represent the most valuable part of exports and incorporate the highest amount of domestic value, and whose trade volume could increase at the quickest rate — is the lowest.

Table 3

The pattern of Hungarian exports by commodity and country groups, 1965
(per cent)

SITC group	Commodity group	All countries	CMEA countries	Advanced capitalist countries	Other countries
0	Food and live animals	18.1	12.0	42.7	4.2
1	Beverages and tobacco	2.6	3.1	1.6	0.6
2	Crude materials (excl. fuels)	3.3	2.2	8.2	0.1
3	Mineral fuels and energy	1.5	1.1	2.9	0.2
4	Animal and vegetable oils and fats	0.5	0.3	1.4	—
5	Chemicals	6.7	7.3	4.7	6.7
6	Basic manufactures classified chiefly by materials*	18.4	15.7	21.5	41.8
7	Machinery and transport equipment	34.7	43.5	4.5	35.6
8	Miscellaneous manufactured goods**	14.2	14.8	12.5	10.8
	Total	100.0	100.0	100.0	100.0
	Groups 5—8 sub-total	74.0	81.3	43.2	94.9

According to the SITC classification used in UN statistics and other UN publications.

* Including hides, leather goods, wood, paper, yarns, fabrics, iron and steel, non-ferrous metals.

** Including sanitary appliances, heating and lighting equipment, furniture, clothing, footware, scientific and medical instruments, films, clocks, etc.

This sectoral disproportion in the development of exports is, however, not the only problematic feature which provides food for thought. The share of machinery and vehicles has shown a decreasing tendency even in the exports to socialist countries. In 1960, in our exports to these countries the engineering products still amounted to 50 per cent of the total, while in 1962 their share diminished to 46 per cent and in 1965 to 43.5 per cent. This decreasing demand for Hungarian engineering products in the CMEA markets is due mainly to the low degree of coordination in production, to the parallel and not synchronized production programs, to the lack of international vertical integration — in other words, to the efforts at import substitution in the individual CMEA countries. This tendency, which is in contradiction with the avowed objectives as well as with the planned specialization will, in my opinion, remain effective as long as the production programs are agreed upon by the state organs instead of the productive enterprises concerned, and as long as the enterprises are only mildly interested in the implementation of the agreements. Another element of the relatively diminishing demand should be the slow progress in engineering technology, a problem to which we shall revert later.

In order to ascertain the validity of the hypothesis according to which the lack of equilibrium is primarily due to existing institutions, i.e. that it is concomitant to the operation of the economic mechanism based on centralized planning, I have employed a further form of export analysis.

One of the most important advantages to be derived from the system of central planning is to be able to channel investments and to ensure the priorities of concentration, which have been analysed innumerable times from the economic point of view and insisted on in the literature for decades. Though Western authors would often accuse us of operating a "priority economy" — and we agree with them as regards their criticism aimed at exaggerated preferences — it must be emphasized that no economic policy is conceivable without priorities. Both the mercantilist and physiocrat schools had established their own system of priorities, and in the two centuries since, the realization of the theoretical and practical importance of a "priority economy" has only increased. The priority policy to be actually enforced in the Hungarian economy should be aimed at a higher degree of concentration in the commodity pattern of exports.

In an earlier study, I have demonstrated that the commodity concentration of Hungarian exports in 1961—1962 lagged considerably behind that of Austria and Italy — both more highly developed industrially than this country — and approached the degree of concentration in Dutch exports, while in the case of France, with a national income ten times that of Hungary, the degree of concentration was much lower than in this country's exports. For the purpose of comparison I intentionally chose partly smaller countries, while Italy and France were chosen because their exports, with their multi-sectoral — industrial *and* agricultural — pattern cannot be too highly concentrated. At the time, my conclusions drawn from the unfavourable comparisons were as follows: ". . . the enduring low degree of concentration in the export pattern over the past years and its unchanged level are also signs of a retardation in the necessary process of specialization and of a certain fragmentation in the pattern of production and exports" [4].

No international data are available for 1965; but as far as the statistical data series allowed, I worked up the Hungarian figures. These prove that in four *commodity groups* — pharmaceutics, clothing articles, telecommunication equipment and instruments — we have succeeded in attaining a more highly concentrated export pattern than earlier. (However, a more detailed analysis may easily result in revealing that as far as individual products are concerned not even this degree of export concentration existed.) *It is, however, beyond discussion that for exports as a whole the degree of concentration has further diminished.* Thus, as regards the economy as a whole, the principles of a "priority economy" were not enforced.

In the pattern of *imports* (see Table 4) there are two mutually contradic-

tory features which deserve attention. While about 60 per cent of our imports from CMEA countries are composed of products belonging to groups 5—8 of the SITC (manufactures), the corresponding imports from capitalist countries amount to 70 per cent of the total. These proportions cannot be deemed unrealistic in themselves, were it not for the fact that the bulk of industrial products imported from the West was composed not of machinery and vehicles representing the most advanced techniques but of semi-finished, intermediary products. Together with chemical products, the share of these two groups is twice that of machines while with the CMEA countries the situation is almost the reverse: imports of intermediary goods do not reach even half the volume of machinery imports. Here we have touched on the main factor of the disequilibrium with respect to convertible-currency markets and, at the same time, on the Achilles heel of quantitative planning without market orientation. *The intermediary goods imported from the West are absorbed in the production of finished goods which are not sufficiently competitive in Western markets.* The major factors of the lack of competitiveness are the unfavourable ratio between new rapidly growing and old slowly expanding products, limited marketing activity and publicity, poor design, i.e. primarily factors other than prices.*

The development of Hungarian foreign trade — being with its contradictory character a reflection of a relatively rapid development and of the difficult, slow and deficient process of adaptation to the requirements of the international division of labour, as well as of an automatic equilibrium in the relations with CMEA countries and a lasting disequilibrium in respect of convertible-currency markets — bears the imprints of a *dualistic market conception.* The dualistic character was brought about by the duality of the institutions: the primacy of the plan and the lack of competition in the domestic economy with the lack of planning and the fact of competition in the export markets; the seller's market at home with the buyer's market abroad. From this there followed automatically — and contrary to the intentions of the planners — the conservative anti-innovation tendencies at home, while abroad a marathon race of innovations was taking place.

In spite of its numerical importance and economic weight, Hungarian foreign trade could not cope with this dualism, although it was realized some time ago already that success in foreign markets required genuine, unlimited and competition-oriented marketing activities. Foreign-trade executives have realized long ago that beyond the country's frontiers quite different attitudes are justified than within. However, as long as the dualism survived and an antagonism existed between the internal mechanism and the orientation de-

* The concepts of design and marketing are used in a broad sense. That of design includes performance, reliability and appearance; marketing involves packing, delivery and credit terms, assembling facilities, after-sale services, advertising — and selling itself.

Table 4

The pattern of Hungarian imports by commodity and country groups, 1965
(per cent)

SITC group	Commodity group	All countries	CMEA countries	Advanced capitalist countries	Other countries
0	Food and live animals	8.2	4.8	11.9	42.7
1	Beverages and tobacco	0.3	0.3	0.3	0.2
2	Crude materials (excl. fuels)	18.0	16.6	15.8	50.0
3	Mineral fuels and energy	12.1	17.0	0.4	0.2
4	Animal and vegetable oils and fats	0.5	0.2	1.0	1.1
5	Chemicals	8.4	5.7	17.9	1.5
6	Basic manufactures classified chiefly by materials*	18.4	16.4	27.1	3.9
7	Machinery and transport equipment	29.0	33.8	20.8	—
8	Miscellaneous manufactured goods**	5.1	5.2	4.8	0.4
	Total	100.0	100.0	100.0	100.0
	Groups 5—8 sub-total	60.9	61.1	70.6	5.8

According to the SITC classification used in UN statistics and other UN publications.

* Including hides, leather goods, wood, paper, yarns, fabrics, iron and steel, non-ferrous metals.

** Including sanitary appliances, heating and lighting equipment, furniture, clothing, footware, scientific and medical instruments, films, clocks, etc.

manded by external markets, the *internal system and the position of the institutions proved stronger*. It was impracticable to maintain the one and conform at the same time to the other. Meanwhile, it became also evident that the problems which arose in the field of foreign trade were not marginal in character, that they could not be neglected and that they transcended *themselves* in importance. Although it cannot be claimed that these problems were the only force that set off the drive for economic reform, it is undeniable that they played a substantial part in the process of *reappraisal* that could not be put off any longer.

The restoration of external equilibrium

As far as the developing countries are concerned, it is usually suggested to apply for financial assistance to the countries with ample capital resources in order to restore their external balances to equilibrium. In some cases, as e.g. to fight famine in India, this becomes unavoidably necessary and may transitorily alleviate the situation. However, no lasting equilibrium can be brought

about in this way. It is for this reason that international agencies such as UNCTAD and others are seeking for long-term solutions. In these endeavours they will, however, repeatedly come up against certain world-market problems which seem, for the time being, to be unsolvable.

Whenever external equilibrium is disturbed, traditional economic theory would suggest, beyond the administrative control of imports (and a possible transitory raising of tariffs), two sets of measures. One is deflation which means the curtailing of domestic demand, the raising of interest rates and direct taxes, and possibly also restrictions of capital exports, with the ensuing shrinking of investment activity and a rise in unemployment. From the example of the United Kingdom one is inclined to draw the conclusion that these measures tend defeat their own purposes, the policy of "stop-go" has no "sex-appeal" elsewhere. True, one must not forget the issue is greatly complicated here by the special position of sterling as an international reserve currency. In fact, no analytical method exists as yet to separate the consequences of the role of a reserve currency from the effects due to internal economic developments or their world-economic interrelations.

The other measure — one to which the International Monetary Fund would in respect of its members consent only with reservations — is currency devaluation. This method has lately been resorted to by India, Yugoslavia and, more recently, by Argentina.*

The first method is meant to restrict by deflationary measures the volume of domestic consumption and consequently that of imports, while the second acts as an incentive to exports by offering a higher countervalue in foreign exchange. The underlying assumption here is that in the devaluing country there are more goods available for exports but as long as the currency was overvalued domestic sales were more attractive than exports. The assumption is undoubtedly justified in several cases, and if the countries which play an important role in world economy but struggle with equilibrium difficulties do not easily resort to devaluation, this is not so much due to the strict rules of the IMF, nor to the danger of a loss of prestige but rather to the anxiety that their rivals would immediately follow suit and thus the market advantages derived from devaluation would soon be lost.

In the case of a moderately developed economy — and such is the case of Hungary — neither method promises any results, neither can be used to restore external equilibrium. Deflation cannot be resorted to, because the disequilibrium is not due to a high consumption level. This is also shown by the commodity pattern of imports from convertible-currency countries where consumer goods play but a moderate role. Deflation may affect investments which are highly import-intensive. Curtailing investments *today* may impair the export

* The article has been written before the devaluation of the pound-sterling—*Ed. note.*

potential *of to-morrow.** And devaluation will not lead to the desired goal because it was not the poor economic achievements that put a brake on exports — under the Hungarian economic mechanism, producers were not affected by such effects — *but the lack of exportable and saleable goods*, the deficiencies of the economic structure and of the technical level of production. This is a typical feature of moderately developed economies and not specific to Hungary. Undoubtedly, one of the most important measures of the Hungarian reform now under preparation, the changing of the conversion rate of the foreign exchange Forint, will have effects similar to that of devaluation. In the short run it will, however, hardly increase the amount of goods saleable in convertible-currency markets. Its stimulating effects will make themselves felt only if economic policy — that of a reasonable "priority economy" aimed at structural changes — creates the necessary conditions. Formal devaluation will not suffice to change the relative proportions of domestic and foreign sales, nor will it increase substantially the volume of exports, mainly because the institutional duality referred to above had brought about a dualistic division in the quality of goods; to the inconvertibility of the currencies the inconvertibility of products and productive capacities was added. Now, this situation can be changed only at the cost of great efforts. It is useless to expect any automatic effects. Furthermore, a devaluation as against the present formal rate and a connected rational cost calculation will have not only stimulative but also restrictive effect on exports: as a result, the commodities which could be exported up to now only at the cost of heavy subsidizing will be eliminated from the export range.

In my opinion, the specific problems of a moderate development level — which have found their most marked expression in Hungary in a partial external disequilibrium — are rooted in the great differences in the level of development which have in recent decades emerged in the world economy. *It seems that the distance between the levels can be reduced only by a highly deliberate "priority economy", by entrepreneurial microeconomy, and by the resulting international integration* — in a world less torn by political tensions than at present. To bring about such a synthesis will be the most important economic and political task of the years to come, a task to which all domestic forces should be devoted. The realization of the objectives of international integration does not depend entirely on us; its various obstacles, the immense difficulties involved in the process of transforming and integrating the national economies have been recognized in capitalist and socialist, advanced and developing countries

* To quote Professor Gottfried Bombach of Basel University: "Und wenn wir über Wachstumspolitik auch noch wenig wissen, so zeigt die Nachkriegserfahrung zumindest eines, nämlich daß es ungleich leichter ist, sich von einem Zustand raschen Wachstums auf niedrigere Wachstumsraten herunterzumanövrieren, als das Gegenteil zu erreichen." [5] ("Deficient as our knowledge of growth policies may be, the experiences after the war point at least to one fact, namely that it is much easier to climb down from a state of rapid growth to a lower growth rate than to achieve the opposite.")

alike, but it has been realized at the same time that *integration is necessary and inevitable for Great Britain in the same way as for Hungary and — according to Aleksei Kosygin — for Europe as well.*

Our era is one of transition from paleo-techniques to neo-techniques, as L. Mumford pointed out, and this statement is borne out in all domains. It is borne out, among others, by the powerless anxiety with which the penetration of American capital, the backwardness in research and development, the brain drain, the heavy deficit in the patents balance are viewed in Western Europe — phenomena that inevitably lead to the delicate question: who is still living in the age of paleo-techniques and who not?

Under the conditions prevailing in Hungary — and this, too, is part of the syndrome of a moderate development level — economic policy need not be afraid of the spread of foreign processes and patents in the country but should rather promote the process; we need not defend ourselves against foreign influences in industry, research and development but should rather explore them and promote their application wherever possible, provided that they are compatible with our socialist ideology and scale of values. We have to live in a world of neo-techniques and this implies thinking in international dimensions and an international orientation in almost all fields of the economy. It appears to become a characteristic feature of the era that every economic activity which has a trans-national character and penetrates due to the revolutionary expansion of the communication system, all branches of life should also transcend the frontiers of the literal concept of foreign trade. Foreign trade itself becomes a secondary concept, that part of the iceberg which — though conspicuous because rising above the sea level — is but a fraction of the huge mass swimming under water.

What we call a "priority economy" (at the risk of incurring criticism because of the word's bad reputation) can in its contents be nothing else than a realization of this tendency and a deliberate conforming to it. This does not mean a fatalistic acquiescence in something that cannot be changed; neither nature nor society will accept anything as unchangeable nor does either know any automatism. Or putting, perhaps preferably, this idea in a more modest way: we, the men standing on the threshold of the last third of the twentieth century, do not yet know the automatism of nature and, within it, that of society. The maxim of La Rochefoucauld is profoundly true: "L'homme arrive novice à tous les âges". (In all ages, man arrives a beginner). But in the knowledge of being a beginner he should reflect, deliberate and act — this is how the priorities of his actions are established on the level of society.

The world-market aspects of technical progress are closely connected with the ideas expounded above. In the age of paleo-techniques, it was still possible in a small country, in a small-scale enterprise laboratory or workshop centred round some outstanding researcher or organizer, to develop on the basis of

individual inventions and innovations industries whose capacity was in proportion with their reputation and role in the world market. Several cases in point could be cited also from the history of Hungarian industry in the 19th and the early 20th century. But this belongs to past history and not to the age of neo-techniques.

Those familiar with the problems of Hungarian industry are all aware of its autarkic features and of the consequent inevitable technical backwardness. It is also known that the present organization of CMEA with its bureaucratic features, as well as the tendencies inherent in centralized planning, which would hinder even a bilateral integration, have — within the quantitative progress — been partly responsible for this situation. But similar criticism has also been voiced in Western Europe in connection with the operation of the Common Market. Research and development have not been integrated and thus a door was — although certainly not voluntarily or intentionally — opened to American superiority and penetration. As we have read: ". . . as a matter of fact, policies and the axes of research have not been integrated on a European scale; it is at best in a fraction of certain sectors of activity that some kind of cooperation can be found and even such efforts will, in concrete individual cases, owing to the lack of a common policy come to a deadlock before reaching the threshold of economic efficiency. It is not for the sake of a paradox when I say that this cooperation operates in a dispersed manner".* The same applies, in our view, to the situation in this country and it is for this reason that we are pressing for world market orientation and cooperation, for the demolition of the barriers of backwardness and for organization on an international scale.

Entrepreneurial microeconomics

To avoid any misunderstanding, let it be stated unequivocally that a consistent economic policy aimed at securing external equilibrium together with internal equilibrium and self-sustained growth can be successful only *in a climate of entrepreneurial self-movement.* Self-movement means initiative, independent decisions and the choice between alternatives as well as an adjustment to the ever changing conditions of competition. Economic theory and analysis have disclosed that in the domestic market — both under capitalism

* ". . . en fait les politiques et les axes de recherche ne sont pas intégrés sur le plan européen; il y a tout au plus une coopération qui porte sur des fractions de secteurs d'activité, sur des cas particuliers précis et qui, en l'absence d'une politique commune, trouve souvent ses limites avant même d'avoir atteint son seuil d'efficacité. Ce n'est pas vouloir cultiver le paradoxe que d'affirmer que cette coopération opère en ordre dispersé." [6] — When writing these lines, news are coming in of the failure of Krupp — which is, of course, no failure at all, as we are dealing with Krupp, but the modern variety of failure: a merger. Still it is a symptomatic phenomenon: from "Rheingold" the way has led to "Götterdämmerung".

and socialism — imperfect competition is prevailing. Under capitalism, this imperfect competition is brought about to no small extent by capital agglomeration, open or concealed cartel agreements and measures of state intervention which frequently express the interests of pressure groups as well as by the quasi-monopolistic organization of the money market. In the socialist economy, on the other hand, the limitations to competition are of an inherent character and only the future can show to what extent it will be possible to expand the scope of competition and achieve an optimum of intensity; for the time being, not even the marginal values of that optimum are precisely known. But imperfect competition in the domestic market will certainly put the outsider at a disadvantage and weaken his competitive position. In the external markets, the Darwinian rule of "survival of the fittest" unquestionably prevails. Competitiveness and competition-mindedness are fundamental requirements and only the enterprise which meets them to the maximum extent can be successful.

The question now is, whether under the Hungarian economic reform this type of enterprise is envisaged and whether it will be possible to bring it about.

Undoubtedly, the reform envisages a type of enterprise which is essentially independent in its decisions; striving to show a profit in its balance-sheet based on sound principles; able to provide from its own funds for the renewal, modernization and expansion of its productive equipment as well as the modernization and mechanization of its management and marketing and, should these funds prove insufficient, able to raise bank credits for any purpose, provided that its business projects are sound and well-founded. The enterprise should have a free hand in drawing up its production program (there will be no compulsory production targets for enterprises) and in the flexible adjustment of the range of products to market conditions; it should not be limited by rigid rules in its calculation, pricing and terms of contract, nor in chosing the most expedient form in its relations with other enterprises. As regards foreign trade, the highly important principle has been adopted by government resolution that the basic consideration must be to bring about an economic unity of production and foreign-trade activity. This should be achieved primarily by economic measures aimed at making the productive and foreign trade enterprises equally interested in economic results. It has also been decided that the productive enterprises which carry out a trading activity based on international cooperation may be granted the right of exporting. This right may also be granted to enterprises which will thereby be able to enter into more favourable direct specialization contracts, cooperation agreements with foreign enterprises.

These resolutions already take it for granted that the enterprise knows that it must do all in its power to ensure a competitive position — and that it will be able to do what should reasonably be done. It is an important novel feature that specialization contracts and cooperation with foreign enterprises

are given preference in an organized and institutional manner. As a consequence, these hitherto rather neglected activities obtain an outstanding role.

Nevertheless, we are by far not sure whether the measures designed at the moment rather with a view to a transitory situation than with a vision of the final picture, will prove satisfactory or will not shortly need correction. Still, they bear the imprint of the spirit of the reform, follow its logics and lead to a greater freedom of action and to a gradual abolition of bureaucratic institutions. Therefore, we do not think it expedient to argue now about details even if we should not approve of them.

It is, however, obvious that in addition to creating a suitable type of enterprise and the proper political and economic atmosphere, as well as an interrelated and flexible system of incentives, an important element of the reform's success will be constituted by the initiative and inventive power of management and its readiness to take risks — in other words, a subjective market orientation. It cannot be denied that up to now these abilities have played no decisive role in the choice of executives, nor — and this is particularly painful to admit for the author of this paper, a university professor — in their vocational training at the institutions of higher education.

Thus, the new system to emerge from the reform will not inherit an "entrepreneurial" type trained to think for himself, take care of costs, make efforts to turn out new products or particularly concerned with the financial liquidity and solvency of the enterprise. Nor have our executives much experience in selling in a world market dominated by competition. It may also be assumed that they would rather prefer a short-term maximization of profits and are less concerned with the more difficult problems of a longer time horizon.

But the practice of recent years with its bolder experiments, the closer and more direct contacts with foreign partners, and the climate of the impending economic reform which made all ambitious managers and success-minded technical and trade executives realize that they can no longer boast with the old-type formal "plan fulfilment" which will not be appreciated any longer — all this paved the way for new entrepreneurial concepts. The hour of the enterprise has come. The merely executive agents of the past will become independent in the world market, and it will be their turn now to awake the slumbering capacities of creative people and let them assert themselves. Venturesome spirit and the drive to change are ancient characteristics of "homo sapiens". Of course, under capitalism these characteristics were institutionalized and rewarded, and those endowed with them were raised to the status of heroes. However, capitalism has not created a new man; the creative capacities of man live in man himself. And now, collective and individual creation become united, as under our system they can become united on an equal footing.

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ВНЕШНЕЕ РАВНОВЕСИЕ, НЕОТЕХНИКА И ХОЗЯЙСТВЕННАЯ РЕФОРМА

И. ВАЙДА

Среди побудительных мотивов венгерской хозяйственной реформы значительная оль принадлежала опыту внешней торговли. Развитие последних лет свидетельствовало о том, что венгерское хозяйство было неспособно достаточно гибко приспосабливаться к изменяющимся и растущим требованиям внешних рынков, и поэтому по внешней торговле не были осуществлены наметки уже второго пятилетнего плана (1961—1965 гг.). Экспорт не поспевал за ростом импорта, и увеличивающийся дефицит платежного баланса, помимо ухудшения валютной позиции, можно было устранить лишь, отклоняясь от плана, посредством ведомственного ограничения импорта и форсирования экспорта с неблагоприятной структурой. И в этой сфере стала очевидной необходимость реформы, ведь существующая система планового хозяйства оказалась неспособной справиться с проблемами, предрешающими дальнейшее развитие.

В статье необходимость реформы анализируется в двух аспектах: один из них — равновесие международного платежного баланса, второй — технический прогресс на мировом рынке. Автор ссылается на то, что на среднем уровне развития для восстановления платежного равновесия непригодны такие рекомендуемые обычно методы, как дефляция и девальвация, и менее всего — протекционизм. Хозяйственное планирование и без того создает возможность абсолютного протекционизма и склонность к односторонней фаворизации замены импорта, однако, и эта политика не оправдала себя. Своеобразным явлением развития венгерской внешней торговли является ее двойственный характер: тенденция выравнивания в товарообмене с социалистическими странами и устойчивый дефицит в обороте с развитыми капиталистическими странами. Первое явление, однако, следует из двусторонней связанности оборота, из отсутствия обратимости, и поэтому не может считаться положительным также, как и последнее.

Автор в дальнейшем детально останавливается на структуре венгерской внешней торговли, на кроющихся в ней противоречиях, на сокращении товарной концентрации, и выявляет, что наряду с господствующей двойственной рыночной концепцией действовали тенденции, противоречащие конкуренции на мировом рынке, консервирующие прежнее положение, противодействующие новшествам. Основная мысль статьи заключается в положении, что на почве сложившейся в мировом хозяйстве дифференциации уровней развитости автоматически нельзя устранить пропасть между различными уровнями (технически передовых и располагающихся за ними на большем или меньшем расстоянии стран). Этот разрыв можно уменьшить лишь посредством совместного воздействия экономической политики, руководствующейся целенаправленными приоритетами, свободной предпринимательской микроэкономики и международной интеграции. Аспекты мирового рынка в области технического прогресса действуют в этом же направлении, а существующие интеграционные организации не отвечают наиболее существенным требованиям интеграции.

Автор в заключение анализирует характерные черты предпринимательской микроэкономики при социализме, предусматриваемый реформой тип предприятия и предпринимательскую способность, значение политико-экономической атмосферы, а также соединение коллективного творчества с индивидуальной инициативой, как предпосылку успеха реформы.

A. Bródy

DUAL CONCEPT OF THE ECONOMY IN MARX'S "CAPITAL"

Written for the 100 year anniversary of Marx's *Capital*, the article investigates the principle of duality of mathematical economics in connection with the dual character of labour. It considers the evolution of the principle of duality from Neumann's "General Equilibrium Model" to the "Theory of Optimal Processes" of Pontryagin. It shows that the philosophical and historico-economical development of the principle of duality can be found on the first 150 pages of *Capital* and that Marx consistently follows this principle in all his economic definitions as well as in the construction of the three volumes of *Capital*.

Not so long ago the view was still generally held that Marxian political economy and the mathematical approach to economics were in the best case alien to each other and that Marx's *Capital* provided but little guidance to the unsolved problems of practical management and planning under socialism.

As against such views, I should like to demonstrate here that one of the most fundamental starting points and most successful instruments of modern mathematical economics and, for that matter, of operation research and control theory — namely the principle of duality — had been formulated and elaborated as a phenomenon of philosophy and economy already a hundred years ago by Marx in his main work; moreover, that this principle had been a cardinal point of the comprehensive concept which served as a foundation of the politico-economic structure of his work.

Primarily for the lack of mathematical tools, 60 years had to elapse before the first precise mathematical formulation of the principle of economic duality became possible; as for its application in economic practice almost a hundred years had to go by, because of the backwardness of computation techniques and statistics. But now, when about a hundred years have passed, it is becoming clear that this dual concept is the general clue to the problems of controlling complicated systems (and such are especially the economic systems). Therefore and in this sense it may be stated that by carefully elaborating the concept of duality Marx has fundamentally contributed to the evolution of mathematical economics and to the solution of management and control problems with socialism. What is important is not whether these concepts were adopted with the open or tacit acknowledgement of the priority and merits of Marx or whether they were adopted consciously at all. It will be

sufficient to list the proofs of the priority of Marx in the history of theory and to render evident the important and undeniable links that connect him to modern mathematical economics and to the solution of the fundamental theoretical problems of the socialist economy.

It will hardly need proving at the present stage that Marxism and mathematical economics are compatible with each other — suffice it to mention the names of Feldman, Nyemchinov, Khantorovich, Strumilin, Kalecki, Lange, and their followers. It has also become more or less clear that certain categories of the socialist commodity production do not so fundamentally differ from the economic categories of *Capital* as we would have liked to believe. Nor is this a coincidence. "The anatomy of man is the key to the anatomy of the monkey" [1], writes Marx in elucidation of the idea that the problems of a lower, less developed economic system can be examined only from the points of view of a higher, more advanced society. He has thus — for the first time in the history of social sciences — viewed the development of the forms of society from the intellectual heights of socialism and thus stressed and clarified precisely those categories which point in the direction of socialism and the conscious control of the whole economy.

Instead of stressing here general relationships, let us turn to the actual subject of our investigations: the mathematical formulation and development of the concept of duality, its abstract-general and economic content, the formulation it has obtained in the chapters of *Capital* and, finally, the conclusions to be drawn from all this with regard both to the economico-logical structure of Marx's work and our own present-day problems.

Duality in mathematical economics

In a rather simplified manner, the economic principle of duality may perhaps be formulated as meaning (and this formulation will be supplemented later on from several aspects) that all intricate productive processes can and should be examined from two aspects: as natural processes creating use values and as processes simultaneously creating the connection between these use values, their ordering, valuation, indeed, their value.

The first conscious and precise mathematical formulation of the principle of duality may, in my opinion, be found in J. von Neumann's paper "A model of general economic equilibrium". This paper was published in the thirties and his model of growth under equilibrium is entirely built upon this principle [2].

Neumann's model has exerted a decisive influence on modern mathematical thought in spite of being for a long time half forgotten and not given much attention to by the contemporary mathematical economists preoccupied with problems of micro-economy.

As a matter of fact, from the fifties on it became more and more obvious that the extensively and successfully elaborated models of production all derived from the views formulated in the Neumann model and from the mathematical notions worked out and applied there. It has, in fact, also turned out that the majority of modern planning models, such as the linear programming model, the model of the theory of games, the model of input-output relations, and their numerous variants, indeed all linear economic models (from the purely theoretical ones to practical computations) may be considered special cases of, and can be mathematically transformed into, the Neumann model.

If, however, all these models are variants, special cases of an "arch-type", the principle of duality must play a central part in all of them. And this is actually so: all these models deduce in a similar manner from the same interrelations and proportions, on the one hand, the desired (optimal or equilibrium) structure of social production and, on the other hand, the valuations (values, prices or shadow prices) belonging to this particular desired structure.

To avoid any misunderstanding, it should be stressed here that duality is not an exclusive feature of the optimization models. True, the principle of duality became first widely known as the connection between the primal and dual solutions of linear programming, the interrelation between the program of optimum activity and the shadow prices belonging to it. However, duality may be interpreted in a similar manner also in other models. Neumann's original model was not an optimization model but one of equilibrium. Leontief's dynamic reproduction model again is of a descriptive-causal structure — and it, too, has a dual interpretation which is the model corresponding to the determination of the Marxian production prices. As a matter of fact, the individual members of this group of models may — independently of their original structure — be equally interpreted as descriptive-causal equilibrium or teleological optimization models. Between these aspects there is no contradiction whatever.*

In all these models duality means a strict symmetry of the two aspects of the economic system presented, of the two sides of the production process, its physical and value pattern, i.e. of the "use value" and the "value" aspects — and not only their symmetry but their close interrelation as well. As a matter of fact, the mathematical equation systems describing the process of reproduction, the huge metabolism of society determine, "as viewed from one aspect", the proportions of products and labour processes, the relations between useful things and the special sorts of labour creating them, while the same system of equations, "as viewed from the other aspect", leads to the proportions and relations of valuation, the flow of values or monetary transactions, of homogeneous exchange values.

* The interrelations of these model types and concepts were discussed in detail in the author's earlier paper published in the "Acta Oeconomica" [3].

This leading principle of duality holds not only for the linear models (which are best suited for practical utilization) but can be suitably worked out also for non-linear models, since non-linearity is in this case only a characteristic of the equation systems describing the internal functioning of the model. Whatever the system may be, it can always be examined from two aspects, from the heterogeneous one of use values and the homogeneous aspect of exchange values. The scientific investigations now under way can utilize the principle of duality to full extent precisely in the non-linear field.*

Thus e.g. the "mathematical theory of optimal processes" formulated by Pontryagin and associates again utilizes the laws of the dual system for the mathematical solution of rather complicated problems in the field of control techniques. The economic application of the mathematical model used here may be regarded as a non-linear generalization of the Neumann model and enables the treatment of some problems of economic control and regulation in entirely general terms and in a highly exact manner [5].

From the purely mathematical point of view, the principle of duality seems to be most simple in all these models: what we have to deal with is merely the connection between the solutions of a given system of equations and those of an adjoint (or transposed) system.**

This mathematical simplicity reflects, however, a profound intrinsic characteristic of reality and is or will be a help in numerous problems both of classical and quantum mechanics, as well as physics or biology and increasingly also in economics. The principle may be successfully applied wherever it comes to a mathematical description of the movements and laws of movement of *highly complicated systems.*

In the analysis of such complicated systems the fundamental difficulty arises that certain parts of the system (such as certain states of the system, its characteristics, its physical parameters or — as is the case with economic systems — certain activities, types of labour and of product) are not *directly* commensurable owing to their naturally heterogeneous character. However, for a clear description of the system's operation, for its understanding, for measuring the processes going on within the system and — at a higher stage of scientific knowledge — for the control of these processes, a common denominator, a homogeneous measure will be needed. This homogeneity or uniformity can be ensured only by an intrinsic uniformity of the system itself. The problems of

* For information on this research work see G. Kondor's dissertation [4].

** The principle of mathematical dualism may be formulated in still more general terms. E.g.: "A central idea of analysis . . . can be expressed in the following simple form: An element of a linear space S can often be characterized most readily and revealingly in terms of its interaction with a suitably chosen set of elements in a dual space S′. This principle rather naturally finds its source in geometry . . . permeates algebra . . . and analysis. In all likelihood it is the single most ramified concept in mathematics" [6].

arrangement, measurement and control can, accordingly, be solved only by taking into account those very interrelations and mechanisms which exist between the parts of the system, which bring about the actual connections between its parts, i.e. which form a system from the parts. Thus the system, *as a system*, provides a measuring instrument *for itself* by its own intrinsic laws and interrelations.

Therefore, whenever the mutual relations of the parts of a system lend themselves to mathematical description (this can be performed always with some neglections and with an approximative character only), the dual solution of the mathematical system of equations describing, reflecting as it were, the real system, the so-called model, will yield an instrument suitable for ordering and measurement.

With the dual solutions as "weights", "valuations" or "prices", it will become possible to order and measure the originally heterogeneous, non-commensurable parts (states, activities, products etc.). Measuring can now be used for the "optimization" of the system, i.e. for the control of its movements, of the processes themselves. This amounts to the statement that by technically disclosing and exactly describing the interrelations of the system we can already "handle" it. We know what can be expected from it, what it is able and what it is unable to perform. It follows that it will be possible to stimulate control or "direct" the system to behave, within the limits of its own possibilities and in accordance with its own laws of movement, in a way we would particularly like it. Thus, ordering, measurement and control are full brothers in these models, with the principle of duality their common father.

Duality in the economy

Obviously, the principle of duality in mathematical systems can only be a reflection of the real duality of the systems appearing in real life.

In the case of economic systems the substance of this duality can be understood without a knowledge of the mathematical equations describing the system and, indeed, without any knowledge of advanced mathematics.

What makes the economic system a real *system* is the fact that the reproductive process takes place under conditions of a more or less developed *division of labour*. The individual parts (partial processes, activities) are interdependent — e.g. because they will reciprocally use each other's products, share the same raw materials or productive factors, serve jointly the same final objectives or are subject to the same legal and social rules, etc., etc.

The individual partial operations are, as a consequence, connected with each other by innumerable technically and socially determined proportions and relations. This complicated network of interrelations defines the narrower or

broader, more flexible or more rigid possibilities of operation for the whole system, that is, for the reproduction process as a whole.

Of course, these proportions and relations are themselves not unchangeable; they are not even always defined or definable in a strictly rigorous way. They change with changes in technology, prices or the volume of production, but may also respond to changes in social relations, habits, organization or even tastes. (Attention should be called, however, to the fact that not even in the simplest linear models are these proportions assumed to be stable; all that is assumed is that under given circumstances also the proportions are given !)

But however these proportions may develop or change, the interrelations remain mutual, that is, two-sided relations. Each individual economic transaction, every exchange of labour or activities takes place between two parties, and can be thus viewed from two aspects. It can be viewed from the aspects of the "seller" and the "buyer", from the aspect of one who "gives" and one who "receives". He who gives, gives his product or labour, or some title to these, and with the person who receives, what he has received will become an "input", the cost of his own activity. Production or distribution of a finished product on the one side is, as viewed from the other side, the creation of the preconditions of production, or some type of consumption; thus all output is, at the same time, an input. One participant in the division of labour produces in order that the other (or several others) may consume and these, again, consume in order to be able to produce for others.

In conformity with this duality, together with the highly developed division of labour and with commodity production there emerged as the "dual" of the *flow of goods*, also a *flow of money*, opposite in direction to the latter. This flow of money precisely corresponds to the dual point of view and by the creation of currency the Phoenicians had brought about a practical though possibly inconsistent mechanism for the "calculation" of the dual solution. As a matter of fact, by means of the circulation of money society operates a huge analogue computer which continuously traces the dual "unknowns" of a system which is the reproduction process itself.

And all that happened at a time when mankind was still far not only from the practical computations which conform to the principle of duality but also from the theoretical formulation of the principle and even from its first realization — which proves how much social practice preceded in this field the advance of science. "Am Anfang war die That* . . . They therefore acted and transacted before they thought" [7].

Even the later precise mathematical application of the principle of duality relied rather on brilliant intuition than on scientific abstraction or a knowledge of the history of economic theory. For a proof let us cite here Neumann's

* In the beginning was the Deed.

own words, who looked in scared amazement, as it were, at his own intellectual child:

"Another feature of our theory, so far without interpretation, is the remarkable duality (symmetry) of the monetary variables (prices y_j, interest factor β), and the technical variables (intensities of production x_i, coefficient of expansion of the economy α)" [8].

Well, the reader versed in Marxist literature must have realized how naturally the principle of duality in the economy could be derived from the conceptual system of *Capital*, as the dual relation between use value and value. However, the first part of *Capital* not only gives a clear interpretation of this duality (so much missed by Neumann on the occasion of the re-discovery of the dual character of the process) but also traces the historico-logical evolution of the dual form from its beginnings to the socially established forms of money and currency.

As a matter of fact, duality as the two-sidedness of the relationships can be found not only in the fully developed money economy: it is concealed in the simple forms of random and isolated barter. It is with the "hair-splitting" analysis of these forms that the new ideas begin which Marx has contributed to the already discovered economic concepts and relationships.

Duality in Marx's Capital

That commodities incorporate the duality of use value and exchange value, had been already expounded by Adam Smith and — in a somewhat more consistent and clear form — by Ricardo. But they did not know, or at least did not show, that this dual aspect is a consequence of the dual character of the social labour, of labour itself and that these two aspects are two closely and strictly interrelated sides of the exchange of commodities or labour.

And here we reach one of the most important features of the Marxian approach and method: "In this method we proceed from the first and simplest relation that historically and in fact confronts us; here, therefore, from the first economic relation to be found. We analyse this relation. Being a *relation* already implies that it has two sides, *related to each other*" [9].

Marx's analysis shows that even in simple and random barter "*the value of a commodity . . . is expressed by . . . the use value of another one*" [10], that value and use value, the dual and the primal aspects, stand on the two sides of the relationship.

I am, however, of the opinion that there is yet another problem where Marx went farther than either Smith or Ricardo. What I mean is, that Marx does not speak of the duality of use value and *exchange* value but of that of use value and *value* in general. In addition, he demonstrates that only under

certain historical conditions, namely in the commodity producing society, does this value appear in the contradictory form of exchange value.*

Thus, Marx does not restrict the dual character of labour to *commodity producing* labour, the dual character may be found in every type of social labour, i.e. in every type of work performed under the conditions of some division of labour. Accordingly, the category of value, i.e. of abstract labour may already be found in such simple cases of labour differentiation as Robinson's "society" and also in the "association of free people" even if it does not appear in the material form of exchange value [12]. ". . . All the relations between Robinson and the objects that form this wealth of his own creation, are here. . . so simple and clear . . . And yet those relations contain all that is essential to the determination of *value*. . . ."

"Let us now picture to ourselves, . . . a community of free individuals, carrying on their work with the means of production in common . . . All the characteristics of Robinson's labour are here repeated, but with this difference, that they are *social*, instead of *individual*."

As a result of the activities of Quesnay, Smith and Ricardo, economists did already suspect that value and money relations help to solve the primal problem, i.e. the allocation of use values among members of the society. But it is the undeniable merit of Marx to have disclosed, on the one hand, that the form of the dual aspect experienced in a commodity producing society, a form which solves this task by means of the exchange value, is a *historical* phenomenon (having a beginning and thus, necessarily, an end) and, on the other hand, that it is not positively the best one (as Smith believed it to be) but may, due to its contradictions, lead to disturbances in production and commerce, and even to crises.

This clarification of the connection between the two sides — i.e. of the fact that the primal problem constitutes the *fundamental economic problem of every* social system, while the solution of the dual problem characteristic of commodity production is a historical one and, therefore, changing in form — is indeed one of the most revolutionary discoveries in economics. Marx writes about it to Kugelmann: "Daß diese Notwendigkeit der Verteilung der gesellschaftlichen Arbeit in bestimmten Proportionen durchaus nicht durch die bestimmte Form der gesellschaftlichen Produktion aufgehoben, sondern nur ihre Erscheinungsweise ändern kann, ist self-evident . . . Was sich in historisch

* "When, at the beginning of this chapter, we said, in common parlance, that a commodity is both a use-value and an exchange-value, we were, accurately speaking, wrong. A commodity is a use-value or object of utility, and a value. It manifests itself as this two-fold thing, that it is, as soon as its value assumes an independent form — viz., the form of exchange-value. It never assumes this form when isolated, but only when placed in a value or exchange relation with another commodity of a different kind. When once we know this, such a mode of expression does no harm; it simply serves as an abbreviation" [11].

verschiedenen Zuständen ändern kann, ist nur die Form, worin jene Gesetze sich durchsetzen. Und die Form worin sich diese proportionelle Verteilung der Arbeit durchsetzt in einem Gesellschaftszustand, worin der Zusammenhang der gesellschaftlichen Arbeit sich als Privataustausch der individuellen Arbeitsprodukte geltend macht, ist eben der Tauschwert dieser Produkte . . . Aber die Sache hat hier noch einen andern Hintergrund. Mit der Einsicht in den Zusammenhang, stürzt, vor dem praktischen Zusammensturz, aller theoretische Glauben in die permanente Notwendigkeit der bestehenden Zustände" [13].*

Many more passages could be quoted to prove how logically did Marx interpret the principle of duality in its philosophical, economic and sociological aspects. Almost every sentence of the first part of *Capital* could be repeated.

Marx's analysis begins here with that of the dual character of goods, with the definition of use value and value as well as of their mutual relationship. Then he proceeds to the examination of the origins and causes of this dual relationship and shows that it is due to the dual character of labour. The next point is the historical and logical elaboration of this particular form. He traces the evolution up to the self-evident but otherwise unexplainable form of money. He now examines with special care the psychological and social consequences of the division of labour and of the solution of the dual problem in the form characteristic of the commodity producing society: the phenomena of alienation and the fetish character of commodities. The next two chapters, in which the processes of exchange and trade are analysed, present that form of movement which the dual character of goods, the antagonism between the two aspects and their ceaseless interchanging will necessarily lead to.

The principle of duality is characteristic not only of the first part of the first volume; it runs through the whole work and creates a connecting link between the individual categories examined. This correspondence is worked out not only in rough outlines but often in small details as well.

It can thus be shown that the theory of value and the theory of reproduction are always corresponding pairs in strict duality with each other. For each definition, thesis or rule in the theory of value there is a strictly parallel definition, thesis or rule in the theory of reproduction. Indeed, this should be obvious, since these dual definitions, theses and rules are nothing else but special forms which the dual reflections of the economy will assume under the

*"It is self-evident that the *necessity of allocating* the labour of society in determined proportions will by far not be abolished by a *definite* form of social production, only its *form of appearance* will change . . . What can change with various historical conditions will be the *form* in which these rules assert themselves. As a matter of fact, the form in which this allocation of labour according to certain proportions asserts itself in a state of society where the interrelations of social labour are expressed as the *private exchange* of individual products of labour, is nothing else but the *exchange value* of these products . . . But there is also something else behind this fact. With an understanding of this interrelation, all theoretical faith in the eternal necessity of existing conditions will collapse — before their collapse in actual practice." (Author's italics)

conditions of simple commodity production, capitalist production, or that of "socially united producers".

Thus e.g. the theory of prices proportionate to value naturally fits the abstract category of simple reproduction since it can be proven that under conditions of simple reproduction this is the price system to be used for correct measurement. Therefore, this is the price system with the aid of which — under these conditions — management can be "rational" or "optimal".

Similarly, the theory of production prices corresponds to the category of expanded reproduction. And again, it is the dual mathematical forms which show that the difference and connection between values and production prices are the same as exist between simple and expanded reproduction. As a matter of fact, the law of value according to which under the conditions of simple commodity production goods will be exchanged in the market in proportion to the *amount of labour* necessary for their production will, under the conditions of capitalist expanded reproduction, be modified in the sense that the exchange of commodities in the market will be regulated by the *amount of capital* necessary for their production. In the words of Marx: "The whole difficulty arises from the fact that commodities are not exchanged simply as '*commodities*'; but as '*products of capitals*' . . ." [14].

Undoubtedly, the points of view of duality are clearly and consistently elaborated in the first volume of *Capital*. Suffice it here to point to such clearly dualistic pairs of concepts as the labour process and the realization process, the surplus product and the surplus value or the technical and value composition of capital.

In my opinion, however, this point of view can be traced also in the other volumes. Let us only remember that the purpose of the second volume is to establish connecting links between the actual course of the economic process over time i.e. the circulation of the use values: means of production, tools, material stocks and so on and the ensuing circulation process of social capital as well as its respective forms. It should be noted that the profound and meticulous clarification of all the concepts performed here by Marx is of utmost importance for our whole management of the economy. Without the categories of fixed capital, circulating capital, return, income, etc., etc., our whole system of economic management and planning would be inconceivable. And all these categories are only consistently expounded dual reflections of all the differences and shades arising in the course of the circulation of use values in the economic process.

Finally, the third part, dealing with production prices, money capital and land rent — the part whose preparation for the press caused Engels so much trouble owing to its "chaotic" structure — is actually based again on dual pairs. The theory of production prices is nothing else but the exposition of the dual aspect of expanded reproduction examined in the second volume (where

the natural pair of fluctuations of the production level is the fluctuation of prices and that of the average expansion rate of production is the average rate of profits). The theory of capitalist money circulation is an elaboration of the forms of movement and of the categories to which the growing relative independence of the dual side gives rise. A sharply distinct part is that dealing with the theory of rent which can, however, not be discussed without a previous knowledge of the categories of the average rates of profit and interest, and is thus necessarily left to the end of the exposition. This is the field where capitalist production, based on and assuming the free and unlimited reproduction of goods, reaches its natural and social limits. And here we have again the duality: the theory of rents and monopoly prices clearly corresponds to the problem of goods with a limited possibility of reproduction.

Marx himself had no doubt that this analysis, the consistent disclosing of this dual character was the clue not only to his book and his work of scientific research but, indeed, to the understanding of political economy in general. In addition to the letter written to Kugelmann and quoted above, two further letters addressed to Engels point to this fact. In the first of these, summing up, as it were, his own opinion about the first volume, Marx declares: "Das beste an meinem Buch ist 1. (darauf beruht alles Verständnis der Facts) der gleich im Ersten Kapitel hervorgehobene Doppelcharacter der Arbeit, je nachdem sie sich in Gebrauchswert oder Tauschwert ausdrückt . . ." [15]*

And in the second letter: ". . . den Ökonomen ohne Ausnahme das Einfache entging, daß wenn die Ware das Doppelte von Gebrauchswert und Tauschwert, auch die in der Ware dargestellte Arbeit Doppelcharacter besitzen muß, . . . es ist in der Tat das ganze Geheimnis der kritischen Auffassung." [16]**

The distortion of the dual approach

It is both remarkable and regrettable that this fundamental approach called by Marx at several places and with heavy emphasis the main result of his research work, the basis of understanding and the secret of the critical conception and which — as we have seen — is, indeed, one of the basic principles and major tools of modern quantitative economics, should have left so little impression on our general concept of *Capital*, his principal work.

True, one of the important intermediary theses leading to this fundamental approach, the disclosure of the dual character of labour, is mentioned in all

* ". . . The best thing in my book is: 1. the emphasis on the *dual character of labour, right in the first chapter*, according to whether labour is expressed in use value or exchange value (this is the basis of the *whole* understanding of facts)." (Author's italics)

** "It has escaped the attention of all economists, without exception, that if the commodity is something dual — use value and exchange value — then the labour embodied in the commodity must also be of dual character . . . In fact, this is the whole secret of the critical conception."

Marxist textbooks. The discussion is, however, generally confined to the definition of the concepts of "abstract" and "concrete" labour and makes no progress towards clarifying the symmetry, the internal connection, the continuous interchanging of the two aspects, towards clarifying the principle of duality. As a consequence, the special features of the revolutionary approach and the principles of classification which follow from it are not expounded.

According to the usual treatment of the subject, abstract labour still holds its place to some extent in economics since it constitutes the "substance of value". Concrete labour has, however, lost its interest to the economist and became relegated to the field of engineering as a practical, technical problem. Therefore, it is not merely incidental that there should appear in "Marxist" theory (also in Hungary) certain views according to which problems of use value, the quality of goods, their appropriateness and durability, the concrete labour creating use value, etc. have no place in pure economic thinking.

To support these views, reference is made to a single Marxian sentence, taken out of context, in the Critique of Political Economy, where we read: ". . . der Gebrauchswert als Gebrauchswert, liegt jenseits des Betrachtungskreises der politischen Ökonomie". [17]* It will be immediately clear that this is a misunderstanding and negligent quotation when we read also the first part of the sentence: "Der Gebrauchswert in dieser Gleichgültigkeit gegen die ökonomische Formbestimmung, . . ."** — i.e. only when the use value has no effect on the development of dual forms. At this point Marx probably thought only of the determination of the properties which may affect the circulation of this use value (durability, storability, suitability for consumption or accumulation purposes, etc.).

In my opinion, Marx's views in this respect did somewhat change at a later date. Though he had already elaborated the category of the dual character of labour at the time of writing the *Critique*, he realized the general force of the use value in determining the dual forms only later, at the beginning of the sixties. Then, his attention simultaneously turned to the tables of Quesnay and to bookkeeping by double entry [18]. Both are based on a continuous connection between use value and value. Analysing the conditions of reproduction, it became clear to him that the use value of products *always* determines the economic form, since the suitable physical composition of the social product is a fundamental condition of its realization. This is why he did not think it necessary to repeat in the text of *Capital* the qualification quoted above from the *Critique*.

Neglection of one aspect of the Marxian approach, the failure to understand the two-sided character of duality has necessarily led to the relegation to

* ". . . use value as such falls outside the scope of political economic investigation."

** "In this indifference to the determination of economic forms, use value . . ."

the background of the primal problem, that of the allocation of social labour, of the use value aspect. As a consequence, political economy was narrowed down to the investigation of the prevailing dual system and its subject became almost exclusively confined to the problems of distribution, ownership relations and the "mechanism".

This resulted in the anomalous view according to which economic control itself, the categories of distribution, planning, i.e. those of the solution of the primal problem (and the mathematical methods which serve them) did, in fact, not belong to the domain of economics at all. To quote the words of J. V. Stalin: "The rational organization of the productive forces, economic planning etc. are not problems of political economy but problems of the economic policy, of the directing bodies." [19] This sentence, this view subordinates the science of economic control to everyday politics, which does not seem appropriate. Moreover, once the science of economic control is eliminated from political economy, the latter will tend to become exclusively the study of political relations, where production relations are, in the name of the "compulsory harmony", again subordinated to the momentary political will. Just as an exaggerated emphasis on the use value aspect of the dual approach will lead to narrow technical practicism (Western mathematical economics is actually characterized by political naivety) the "independence" of the dual aspect will result in political and economic voluntarism.

It was not accidental that into political economics arbitrarily crippled by Stalin, the principles of "rational management" and "rational activity", i.e. those of "praxeology" had to be brought in seemingly from outside, as was done e.g. by Lange [19]. Indeed, if the problems of economic control, i.e. the primary and primal problems, are from the outset eliminated from political economy; if the investigations are not centred on the question how these very problems had been solved up to now by mankind and how they could be solved in a better way in the future, then these very central problems and the principles of their solution must be smuggled back on a roundabout way. However, what has been said above may, in my opinion, sufficiently prove that with Marx, in *Capital*, these problems form clearly the subject of political economy, constituting as they do one aspect, one component of the two-sided relationship so extensively described there. The fundamental economico-social problem, that of the allocation of the labour available to society, went lost only in the course of the work's later vicissitudes, and on the hand of its later interpreters.

However great its indirect effects, the fate of *Capital* as a scientific work is, on the whole, not enviable. Were it less praised and less decried but more widely read, there would be fewer false and absurd ideas about it in circulation and Marxian economics, too, would have made greater progress.

After an initial silence, the theoreticians of the Second International were the first to study, interpret and propagate his work. These theoreticians,

mainly men of politics, would emphasize the political aspects of the work, anything that could be changed to political "cash" (often counterfeit), and neglect the substance of economic discoveries and economic structure. In the hands of these theoreticians the work fell to loosely connected parts held together only by a common and much simplified terminology. These loose parts were the theories of value, reproduction, rent and crisis, and as a "development" such further "theories" were shoved into it as the "theory of breakdown" or the "theory of immiseration" adopted from Lasalle.

These last two theories caused an immense damage even from the political point of view. The theory of breakdown is a forced Hegelian construction according to which the contradiction between use value and value unavoidably becomes so much accentuated that capitalism will collapse by itself. This "theory" was sufficiently refuted by Lenin who pointed out that Marx, too, was of the opinion that nothing will automatically collapse, that capitalism must be overthrown.

The other theory, the theory of absolute immiseration, came into being when Bernstein — under the pretext of reviewing Marx in the 1890 volume of Neue Zeit — smuggled into it Lassalle's "iron law of wages" and summed up the tendency of capitalist accumulation as follows: "Under these conditions, the expression 'iron law of wages' can only mislead. The law of wages in modern capitalist production is worse than iron." From this line of reasoning was derived later — after the death of Engels — the dogma of "absolute immiseration". The expression cannot be found anywhere in Marx.

But the achievements or failures of one or the other of these "theories" did not affect each other at all: it was possible to accept one and reject the other or even to discover contradictions or a gulf between them. A further factor was that being political rather than economic in character, these theories would respond sensitively to the vibrations of political life and strife. All this did not bring much glory to economics and was one of the reasons why the textbooks of political economy could never be given any definite form and why both the curriculum and the methods of teaching were so often subject to major changes, a fact that caused much anxiety and doubt to teachers and students alike.

Such distortions of the basic concept rendered wholly justified the ideas mentioned in the introduction as hindrances to the progress of science, namely that mathematical economics, with its nature bent on axioms and firm definitions was foreign to the "ever rejuvenating" spirit of Marxism or that *Capital* cannot provide any orientation in respect of the basic categories and interrelations of economic activities under socialism since only the "directing bodies" were called upon to provide such orientation.

In order to bring out the really revolutionary and progressive contents of Marx's principal work, to clear it from the misconceptions and distortions,

further scientific work will be needed. It is obvious, e.g. that the problems which are dealt with in *Capital* only cursorily or not at all (such as those of competition, short-term fluctuations or foreign trade) will also have to be worked out. It must not be forgotten that we have here the first work representing the revolutionary approach and one at that which, owing to the illness of its author, has remained unfinished. It is thus the *beginning* and not the end in Marxist economics.

However, in spite of the fact that there is still much left to do, it must be admitted that the foundations have proved firm and that however great progress may have been made in statistics, mathematics and computation techniques over the past hundred years, as regards the fundamental theoretical problems connected with the control and quantification of macroeconomic phenomena, Marx is, in a certain sense, still ahead of us and determines the direction of our research work and experiments. He perceived and disclosed such problems and interrelations which we only begin to realize today.

His theory, the guiding principle of duality, encourages to action and cautions to circumspection at the same time. It encourages to action because it underlines the fact that the dual forms of organizing the social labour process, the prices, market relations, economic mechanisms, money relations, etc. are historical categories, and as such not eternal or unchangeable. Nothing prevents us from focussing our efforts in theoretical research on the relatively most expedient, rapid and exact control mechanism. Modern mathematics, computation techniques, research in the field of the control theory of large systems (of which Pontryagin's theory of optimal processes is an example), though still in their infancy, offer vigorous scientific tools by means of which we may hope to be able to organize one day in the era of fully socialized production the social division of labour as thoroughly and efficiently as the individual processes of production. The organization of the social division of labour will, however, certainly require the consideration of other, broader interrelations than the management of a single plant.

With the attainment of socialism — which was predicted by Marx and to which he provided the decisive theoretical tools — it will become possible actually to create a scientifically conceived mechanism of control.

The era has thus come to an end when the social sciences were lagging behind practice, which they only tried to explain. Similarly as in the natural sciences, the time has now come for scientific intervention, for "changing the world".

At the same time, the principle of duality cautions to circumspection since it shows that these dual relationships can be only reflections of the primal relations. They may promote and stimulate the harmony and development of the primal side, but only if they take into account and reflect correctly the interrelations, connections and rules which characterize the primal side.

The technical and social proportions and relations which manifest themselves in production (the primal side) determine the solution methods and possibilities of the dual side. There is no such thing as the "best mechanism", nor can it be conceived of, because the mechanism must by all means and always conform to the actual development and results achieved on the other side.

Similarly as e.g. a self-sufficient small-scale economy will discard the forms of commodity production, a technically backward economy, with but a few means of production really social in scale, will not lend itself to control by "modern" means of control techniques which in the case of fully socialized production would prove most efficient. Not even the best mechanism will enable to achieve a quicker growth rate than that allowed by the technical interrelations, the productivity of labour prevailing at the given moment. But a suitable mechanism may enable us to reach that maximum and may create an economic atmosphere favourable to technical progress and the growth of productivity. To be able to solve this task in a suitable way we must, however, make an essential progress also in the study of the interrelations and laws of the primal aspect. And this is the field where, owing to the mistakes in approach outlined above, we are most backward at the present moment.

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ДВОЙСТВЕННЫЙ ПОДХОД К ЭКОНОМИКЕ В «КАПИТАЛЕ» МАРКСА

А. БРОДИ

Один из основных исходных пунктов и одно из наиболее успешных орудий современной математической экономии и, тем самым, рационального ведения хозяйства — *принцип двойственности* был сформулирован философски, разработан экономически Марксом уже сто лет тому назад и как раз в его главном труде, причем именно этот принцип служил краеугольным камнем всеохватывающего подхода, на котором строилось специфически экономическое содержание произведения.

Двойственность является общей чертой математических моделей, относящихся к экономике. В этих моделях двойственность означает строгую симметрию и тесную внутреннюю взаимосвязь двух сторон процесса производства, т. е. «потребительной стоимости» и «стоимости». Принцип двойственности, математически четко примененный впервые Яношем (Джоном фон) Нейманом, в своей полной красоте и силе проявляется особенно в нелинейных моделях. На использовании принципа двойственности строится также и «теория оптимальных процессов», созданная Понтрягиным и его соавторами, дающая нам принципиальные и практические средства управления весьма сложными процессами, в частности, экономическими системами.

Однако Я. Нейман, первым использовавший математическую двойственность, лишь несознательно *вновь открыл* то (конечно, на более высокой ступени математического развития), что было уже философски и экономически очень четко описано Марксом. Подход, метод Маркса заведомо исходил из экономических отношений, из анализа *двойственного характера* этих отношений.

То, что товар является чем-то двойственным — потребительной стоимостью и меновой стоимостью, знала уже классическая политическая экономика. Но последовательно двойственность объяснил только Маркс, указав, что эти две стороны являются следствиями двойственного характера (двойственности) процесса общественного труда. Его анализ вскрыл также и то, что первичная задача — распределение потребительных стоимостей и конкретного труда — является основной задачей *каждой* общественно-экономической формации, способ же решения этой задачи обществом товарных производителей посредством вторичной стороны — меновой стоимости — носит *исторический*, то есть преходящий характер.

Маркс осознавал и часто подчеркивал, что принцип двойственности, открытие двойственного характера труда является главным результатом его исследований, основой понимания, секретом критического подхода. В структуре его основного труда можно ясно проследить, как раскрывал Маркс соответствующие взаимосвязи и закономерности вторичной стороны на основе исследования взаимосвязей и закономерностей первичной стороны. Так, например, и теория стоимости и теория воспроизводства являются отражением двух сторон одного и того же единого процесса общественного труда, и между стоимостью и ценой производства связь такова же, как и между простым и расширенным воспроизводством.

К сожалению, этот правильный и единый подход оставил мало следа в понимании политической экономии. Чрезмерное выпячивание первичной стороны привело к узкому техницизму и (особенно, в современной математической экономии) к политической наивности. Противоположное этому искажение — чрезмерное выделение вторичной стороны, вторичного подхода, которое, изгоняя из политической экономики как раз основную задачу хозяйствования, превращает политическую экономию в политику и оторвавшись таким образом от основной задачи, скатилось до политического и экономического волюнтаризма.

J. KORNAI—MRS. L. ÚJLAKI

APPLICATION OF AN AGGREGATE PROGRAMMING MODEL IN FIVE-YEAR PLANNING

The article expounds a linear programming model by means of which calculations have been worked out in order to establish the 1970 plan targets. The model, broken down to 18 sectors, surveys the national economy in a very aggregated form. The aim was to produce a great number of plan variants, each of them embodying a real plan concept differing from one another though, from the aspect of general politico-economic aims and some fundamental foreign trade suppositions. The purpose of the series of calculations was to compare and analyse the different variants and to hit upon the sensitive and relatively stable points of the programmes.

In Hungary, as in most socialist countries, the two methods of constructing planning models — i.e. input-output analysis and mathematical programming — have developed in recent years more or less independently of one another. The idea of joining the two methods has repeatedly been put forward in the literature on the subject. In Hungary, too, some efforts were made to this end.* The present article gives an account of an experiment of this type, the construction of a relatively aggregate economy-wide programming model based on some 80 equations, the data material of which had been taken over from the input-output table of the National Planning Office.

The relationship between the model in question and that of "two-level planning", with its detailed and highly disaggregate mathematical programming, will be dealt with at the end of this article. This will be preceded by the description of the aggregate model itself and the analysis of some experiences gained in the course of the calculations. It is beyond the scope of this article to analyse the inferences that may be drawn from our calculations for economic policy and practical planning. The main purpose is to expound the economic and planning-methodological conclusions which lend themselves to generalization.**

* See e.g. [1].

** The numerical results of the research work and the conclusions to be derived from it for economic policy are presented in detail in a paper prepared by the authors [2].

Description of the model

In constructing the model we started from the given endowments of the country. The Hungarian economy is highly "extrovert". On the one hand, for a great number of basic raw materials we have to fall back on imports. On the other hand, as a small country we cannot undertake to develop every branch of manufacturing industry and have to aim at a reasonable division of labour with other countries. As a consequence, every investment problem in Hungary is inseparably connected with questions of foreign trade: the development projects of a sector always "compete" with the alternative of meeting the additional requirements by imports and it will always be expedient to take into account the export aspects when planning the extent of development. How to enter most advantageously into the international division of labour, is a question underlying almost every planning problem. Moreover, the country is now faced with considerable difficulties in its foreign trade and these bring the foreign-trading aspects of plan decisions even more to the fore. It was our endeavour to construct the model in a manner that the results of the computations provide an answer to questions of this type.

As regards its mathematical form, the model represents a standard problem of linear programming. The program yields the production and foreign-trade estimates for 1970, the last year of the five-year plan period.

The national economy was divided into 18 productive sectors and the majority of the model's variables is linked with this division.

The variables are of the following types:

1. Production of the i-th sector, with the capacities existing already at the beginning of the plan period;

2. Production of the i-th sector, with the additional capacities brought into being in the course of the plan period;

3. Exports of products of the i-th sector to socialist markets;

4. Exports of products of the i-th sector to capitalist markets;

5. Competitive imports from socialist markets to replace the products of the i-th sector;

6. Competitive imports from capitalist markets to replace the products of the i-th sector.*

In addition to the above, a further seventh type of variables also figured in the model, that of the so-called indicator variables.

7.1. The volume of additional consumption attainable in 1970, over and above the private consumption compulsorily prescribed in the model. The pattern of this additional private consumption has been fixed in a breakdown

* In actual practice, not all of the six types of variables could be interpreted for each sector. The number of the variables representing the economic activities is therefore less than 6 times 18.

by 18 sectors, i.e. it has been prescribed that out of 1 million forints of additional private consumption 141 thousand forints should be supplied by the food industry, 219 thousand forints by the textile industry, and so forth.

7.2. The 1970 balance of commodity trade with socialist countries.

7.3. The 1970 balance of commodity trade with capitalist countries.

As can be seen, each of the three indicator variables represents a synthetic index of the economy. From the methodological point of view, there would have been no obstacle to building into the model further indicator variables. Such could have been e.g. total domestic final demand in 1970, or additional investments over and above a compulsory minimum level, etc.

Before proceeding to describe the constraints of the model, a preliminary remark must be made on the treatment of imports. The imports of the national economy have been divided into two main classes, those of competitive and non-competitive imports. Non-competitive imports are those for which no domestically produced substitute will be available by 1970. (E.g. for the lack of certain physical factors, or for technical reasons, or because of obligations under definitely concluded trade agreements, etc.) The non-competitive import requirements of final demand were considered as constants and disregarded in the computations. The non-competitive import requirements of production were treated as a function of the production variables; for each production variable, the coefficients of non-competitive import requirements were determined both for imports from socialist and from capitalist markets. By deducting from the material requirement coefficients (i.e. from the standard technological coefficients of the input-output tables) the coefficients of non-competitive import requirements, we obtain the competitive input coefficients (which will be denoted in a later equation g_{ij}). These represent the material requirements which may be met either out of domestic production or out of imports — the program has a free choice in this respect. The competitive imports themselves, which serve to meet competitive requirements, are represented in the model by separate variables, as will be clear from the list of variables above.

After these preliminary remarks on imports, let us proceed to describe the constraints of the model.

I. Product balances. Their constants differ from the usual ones in the special treatment of imports. The structure of the product balance referring to the i-th sector will be as follows:

$$x_{i1} + x_{i2} + y_i^{(S)} + y_i^{(K)} - z_i^{(S)} - z_i^{(K)} - \\ - \sum_{j=1}^{18} g_{ij} \, (x_{j1} + x_{j2}) - h_i w_l \geqq d_i, \tag{1}$$

where

x_{i1}, x_{i2} = production of the i-th sector with (1) the capacities existing

already before the plan period and (2) with the additional capacities brought into being in the course of the plan period,

$y_i^{(S)}$, $y_i^{(K)}$ = competitive imports to replace the products of the i-th sector, from socialist and capitalist markets, respectively,

$z_i^{(S)}$, $z_i^{(K)}$ = exports of the products of the i-th sector, to socialist and capitalist markets, respectively,

g_{ij} = competitive input coefficient (for its interpretation see the explanations concerning the treatment of imports above),

h_i = contribution of the i-th sector to one unit of additional consumption,

w_l = the indicator variable of additional consumption,

d_i = domestic final demand in 1970: private and public consumption, the increase in stocks, and the investment and renewal activities in 1970.

As can be seen, constraint (1) allocates only the products whose sources are domestic production and competitive imports, in competition with one another.

II. Resource bounds. These comprise the following constraints:

II.1. The fixed capital requirements of productive activities in 1970 must not exceed the total fixed capital available for 1970.

II.2. The total manpower requirements of productive activities in 1970 must not exceed the available manpower. Within the bounds of total manpower separate constraints are set to bound agricultural and non-agricultural labour requirements as well as the demand for male labour which constitutes at present one of the principal bottlenecks in domestic labour supply.

II.3. The import machine requirements needed to bring into being the new capacities to be created in the five-year plan period must not exceed the import machine quotas available in that period.

II.4. In the sectors which require natural resources, an upper bound is set by the limited quantity of the necessary natural resource.

III. Capacity constraints. These are the upper bounds of the variables representing production carried out with old capacities which were already in existence at the beginning of the plan period.

IV. Export and import constraints.

IV.1. Upper bounds were set to all export activities in order to express the foreign buyers' limited propensity to buy.

IV.2. Upper bounds were set to all imports from socialist markets, generally in order to express the sellers' limited propensity to sell. In some cases this constraint represents the upper bound of our own propensity to buy, as in some branches the demand can — because of definite technical, qualitative and other requirements — only partially be met by imports from socialist markets. Imports from capitalist markets are not bounded from above because

purchases are generally not limited on the part of the sellers. It is only on the part of ourselves, the buyers, that upper bounds exist for foreign-exchange reasons; these, however, should be expressed not in the form of import bounds but in the form of commodity trade balances securing a definite surplus (or deficit).

IV.3. The export transactions already contracted are compulsorily prescribed in the form of lower bounds. As will be explained in detail below, the model was used to carry out not a single computation but a whole series of calculations. In some calculations the lower bounds of the type IV.3. were prescribed, in others not.*

V. Foreign exchange balances. Separate foreign exchange balances (or, to put it more precisely, balances of foreign exchange returns from and outlays on trade) have been prescribed for the socialist markets in terms of roubles and for the capitalist markets in terms of dollars. These balances contain the items originating in exports as positive ones and the outlays originating in the competitive import variables as well as in the non-competitive import requirements of the production variables as negative items.

After the survey of the system of constraints, let us briefly examine also the objective functions. Our calculations employed mainly parametric objective functions, in the following form:

$$\lambda w_i + (1-\lambda)\, w_j \rightarrow \max ! \qquad 0 \leqq \lambda \leqq 1, \tag{2}$$

where

λ = the parameter
w_i, w_j = two of the three indicator variables.

Let us take, for example, the following case: let w_i denote the additional consumption and w_i the balance of capitalist foreign exchange. If now the value of parameter λ is 1, the objective is "solely" to maximize consumption; if the value of the parameter is 0, the objective is "solely" to maximize the positive foreign exchange balance. With intermediate parameter values the two objectives can be combined with varying weights. In the calculations we let the parameter run over the whole interval [0, 1]. In addition, separate calculations were carried out by combining the optimization of consumption and the balance of socialist foreign exchange as well as by combining the optimization of both kinds of foreign exchange balances.

* In actual practice it was not necessary to fix the lower bounds of exports as separate constraints; they could be built into product balance (1). It contained in these cases, in addition to final domestice use, also the "compulsory" exports, with the export variables representing not the total exports but only the additional exports above the compulsory level.

The sources of the data

In working out the plan for 1970, the main source of data for the model was the input-output table constructed by the Department for Long-term Plans in the National Planning Office.

The drawing up of the plan started on the basis of traditional, non-mathematical, methods. In the first draft plan thus drawn up it was, however, not possible fully to coordinate the individual estimates; there appeared in it disproportions and potential future equilibrium disturbances. Construction of the input-output table and its discussion with practical planners helped to reveal the disproportions and potential equilibrium disturbances, and to improve the plan coordination. Finally, an input-output table was obtained which, based on the ideas of practical planners, approximately reflected the main estimates of the 1970 plan worked out in the National Planning Office.*

It is from the National Planning Office's input-output table for 1970 that the basic data of our aggregate programming model were taken, first of all the technological coefficients which served as a starting point for the estimation of the g_{ij} coefficients figuring in equation [1].

In connection with the construction of the input-output tables, the Department for Long-term Plans has also prepared so-called chessboard-type import tables which present the import structure of the individual sectors broken down into imports from socialist and capitalist markets. Here, the import requirement coefficients figured globally; later — with the help of planners in the individual sectors — they were disintegrated, in accordance with the structure of our modell into competitive and non-competitive ones.

The estimates of final domestic use were taken over from the 1970 input-output table mentioned above, which corresponded to the official plan estimates worked out on the basis of the traditional methods. The resource constraints were taken over from the official plan, whereas the demands on fixed-capital, imported machinery and manpower were derived from the plan indices based on the traditional methods considering them, as it were, as complementary data to the 1970 input-output table.

The material and import coefficients as well as the fixed-capital and manpower coefficients have been compared with the corresponding data of statistical input-output tables of a similar breakdown and where necessary, corrections were made.

The foreign trade prices were based on the Hungarian foreign trade statistics reflecting the actual transactions. It would have been expedient, instead of making direct use of the statistical figures, to work out estimates for the expected 1970 prices. However, this exceeded the possibilities of this first

* The work in the Planning Office aimed at drawing up the input-output table for 1970 was directed by Mrs. L. Újlaki, co-author of this article.

experimental calculation. The estimates of the export and import bounds were worked out in cooperation with the foreign trade experts of the National Planning Office.

From what has been said it should be clear that our data — as far as they are not based on the mere adaptation of statistical figures — were either taken over from the documents of traditional, non-mathematical, planning or based on the estimates of the practical planners in the National Planning Office. The computations carried out by means of the mathematical programming model can thus not be considered a research project independent of the work in the National Planning Office. If the calculations carried out by means of the model do differ from certain targets of the plan compiled on the basis of the traditional method, this should not be taken as a criticism of the Planning Office's work from outside but rather as a kind of "self-criticism". It is a well-known fact that the numerical results yielded by a mathematical model will depend to a high degree on the initial data fed into the electronic computer. In our case, the source of the initial data was without an exception, in one form or another, the practical planning apparatus. This close interrelation between the work carried out by means of the mathematical model and the traditional planning activities is all the more remarkable since — according to our knowledge — in a number of countries the mathematical economists can hardly come into contact with practical planning work and get little assistance from the planners.

To avoid any misunderstanding, it should be pointed out that the close connections with the Planning Office's work do not mean that the targets of the 1966/70 plan, as they were finally adopted, were based on the computations carried out by means of the aggregate model. Due to the low number of the research workers taking part in the project and to computation-technical difficulties, it was not before a rather late stage of planning that the work of aggregate programming reached completion, too late for the results obtained to have a decisive influence on the plan. Moreover, in view of the experimental character of the work and the numerous uncertainties contained in the data, we accepted the numerical results with due reservations ourselves. Under the circumstances, the mathematical programs provide rather a basis for minor partial modifications of the plan and for corrections to be carried out later on, in the course of its implementation. In the future, when drawing up the subsequent five-year plans, it should be endeavoured to be able to draw on the results of aggregate programming projects of this type already at the beginning of the planning work, when working out the initial figures.

The computation series carried out with the model

Before the introduction of the mathematical methods no simultaneous plan variants were generally prepared in Hungary. The aim of the planners was to produce a single acceptable plan proposal. With the traditional "handicraft" techniques even the compilation of this single plan proposal required such enormous efforts that there was no capacity left to work out parallelly further variants. What is more, the planners usually did not succeed to ensure coordination in all details or the complete equilibrium even of this single plan.

In the past this situation was rarely recognized as a regrettable but inevitable consequence of the use of "handicraft" techniques in planning; instead, it was tried to give it an "ideological" foundation. Among the planners and the theoretical economists engaged in planning the idea was prevailing that there existed but one "true" plan which would "express the objective laws of the economy". Occasionally, when working out their proposals and giving them a definite form, the planners would even make themselves believe that they succeeded in finding this only "true and inevitable" plan.

With the appearance of the mathematical techniques of planning it became clear that in each given concrete objective situation it is possible to work out several plans, all realistic and realizable in themselves, which differ from each other only in the extent to which they serve the various possible objectives of economic policy and in their efficiency. It is from among these that the plan to be actually carried out will have to be selected. Even the simple input-output models enable to draw up simultaneous plan variants of this type.

However, with the appearance of the mathematical programming and optimization models, the idea of the only "true" plan obtained new "ideological" foundations. True, those versed in mathematical programming will know only too well that if there is at all a feasible program satisfying all constraints, then there is usually an infinity of such programs. But with an extremely wide category of programming models — a category which includes also the linear programming models — there is (if one disregards some exceptional cases of degeneration) only one program where the objective function to be maximized will actually assume its maximum value. An only "true" optimum plan would thus exist and it is the task of the mathematical planners to find it.

This could even be true if there existed some unique objective function expressing the interests of society in a synthetic manner. We do, however, not believe in the existence of such an objective function, and consider therefore the optimality of each "optimum" program (optimum in the sense that it ensures the extreme value of the objective function) to be only relative. This program will be the relatively most advantageous — with the given numerical value of the constraints and the optimality criterion inevitably selected with a certain degree of arbitrariness. However, both the numerical values of the

constraints and the selection of the objective function express not only the objective potentialities and inevitable tendencies of the economy but also the decisions of economic policy as well as the inevitably inaccurate estimates and assumptions concerning uncertain future phenomena.

In our view it is not a single „optimum" plan that should be worked out with the aid of a mathematical programming model but a whole series of plan variants. For example, on the basis of our aggregate model 43 variants have been calculated. Each of them describes a complete five-year plan and satisfies some basic proportions in production, foreign trade and consumption. The differences between the variants may be summed up as follows.

1. What are the main endeavours on which the efforts of the economy should be centred, the maximization of consumption or the improvement of the country's foreign trading position? We are aware of the fact that in long-term — 15- or 20-year — planning the improvement of any of the foreign exchange balances could not figure as an objective function as this is, in fact, not an objective but a means to serve economic progress. But here we are dealing with a medium-term, five-year plan, and in Hungary's given situation, described above in the introductory part of this article, it has proven useful to let the two foreign exchange balances to be alternatively maximized.

From the mathematical point of view, the construction of plan variants means in this case the alternative application of different objective functions and the alternative weighting of the various objectives by means of parametric programming. There is, of course, no obstacle from the methodological point of view to using also other objective functions in similar calculations and to represent thus other endeavours of economic policy as well when working out the plan variants.

2. The plan variants differ from each other in the extent to which the export targets were considered in the program to have been determined beforehand. In some calculations the export targets already set on the basis of the traditional methods were simply taken over and prescribed as lower bounds. It was only in respect of the additional exports over and above the lower bounds that the model was given freedom of choice. In some other calculations the lower bounds were prescribed only for one of the two market types. Finally, in a third group of the calculations it was assumed that we were free to re-plan the whole volume of exports, with no regard to already existing international obligations. This latter assumption is, of course, not realistic; the investigations may, nonetheless, be useful in providing a basis for the formulation of a Hungarian standpoint in the preliminary negotiations on future international agreements.

3. In the case of a part of the estimates — e.g. some export constraints — we were uncertain. These estimates were therefore given, instead of one, two

values, a more optimistic and a more pessimistic one, with the calculations carried out for both assumptions.

From the methodological point of view, the calculations of the types 2 and 3 meant the numerical modification of the right-side constraints, i.e. the repetition of the calculations with the constraint system

$$\mathbf{Ax} = \mathbf{b}_k \tag{3}$$

with a constant **A** coefficient matrix but with varying constraint vectors $\mathbf{b}_1$, $\mathbf{b}_2$, etc.

Utilization of the computation series

It must be frankly admitted that according to some opinions a computation series of this type would cause only trouble and uncertainty. What is the use for the economic administration of this great number of simultaneous variants? Would it not be simpler if the electronic computer produced but one proposal whose acceptance the mathematical economists could unequivocally recommend? Yet, it is precisely here, in the possibility of choice, that lies the greatest importance of mathematical programming. This does, of course, not mean that without any comment and weighting, 43 plan variants should be submitted to the higher authorities as alternatives of equal rank. Preliminary selection of a kind will be required and a comparative evaluation from the economic point of view of the really significant alternatives. This working method, with its simultaneous consideration of various alternatives, may at first seem unusual; we are, however, convinced that it will be worth while to undertake the additional work it involves.

Let us now survey the additional advantages provided by the computation series carried out with the mathematical programming model, as against the methods of traditional planning.

1. It ensures, first of all, that *all plan variants should be realistic from the point of view of the basic proportions*, which in the terms of mathematical programming means that the programs should be feasible and satisfy the system of constraints. This requirement, evident as it may be, cannot be easily ensured by means of the traditional methods. As mentioned above, the traditional methods used in working out the third five-year plan did not lead to a fully consistent plan. The last official plan proposal, preceding the computations carried out on the basis of the model, was originally not a feasible program. There appeared unsold surpluses in some sectors and shortages in others.

The feasibility of a plan obtained by means of programming will, of course, be closely connected with the degree of aggregation in the model. The feasibility of a program obtained by means of a highly aggregate model will not exclude the possibility of potential equilibrium disturbances in the partial

relationships neglected in the model. If for no other reason, also less aggregate models are needed. We shall revert to this question below.

2. *By means of our mathematical programming model, so-called efficient programs can also be constructed.* A program will be called efficient if it cannot be confronted with another program which is more advantageous from several points of view, only with another program which is more favourable from one point of view and less favourable from another. For example, program $\mathbf{x}_1$ may be efficient if there can be found another program $\mathbf{x}_2$ which is more favourable as regards the balance of socialist foreign exchange but less favourable as regards that of capitalist foreign exchange. But program $\mathbf{x}_3$ will not be considered efficient if either program $\mathbf{x}_1$ or program $\mathbf{x}_2$ are more favourable from the point of view both of the socialist and the capitalist balances of foreign exchange.*

To produce efficient programs is a more modest and more realistic requirement than to find the "optimum" program. In the above sense, all of the 43 plan variants produced by us were efficient programs.

3. *The computation series will help to find the comparatively stable points in the national economic plan, those which are relatively less sensitive to the various endeavours of economic policy and to alternative assumptions,* and also the non-stable points which are sensitive to modifications in the said factors. It is for this reason that the calculations of this type are called *sensitivity analysis.*

In our computations, the sensitivity of the programs has been analysed in several ways. The minimum and maximum values of the production and foreigntrade forecasts were worked out for the different variants and the stability of the forecasts was characterized by the interval between the two values. The analysis revealed e.g. that in coal mining or the building industry the production forecasts were comparatively stable; the difference between the maximum and the minimum values was 2.2 per cent for the former and 0.1 per cent for the latter industry. On the other hand, the forecasts of the engineering or the textile industry were comparatively unstable.

In another type of analysis, we calculated the standard deviation and the variation coefficients (standard deviation as a percentage of the mean) of the forecasts referring to identical activities in the various plan variants. It appeared that the forecast of the total production of the national economy was comparatively stable, with a variation coefficient of 0.4 per cent. The foreigntrade forecasts, on the other hand, were considerably more sensitive, the variation coefficient being 6.6 per cent for socialist imports, 12.3 per cent for capitalist imports, 7.4 per cent for socialist exports and 10.2 per cent for capitalist

* With the given constraints $\mathbf{A}\,\mathbf{x} = \mathbf{b}$, $\mathbf{x} \geqq \mathbf{0}$, all programs belonging to the vertices of the set of feasible programs as well as their convex combinations will be considered efficient programs.

exports. Going more thoroughly into the question and analysing the forecasts in the 18-sector breakdown, we will find the deviations even more marked. For example, the exports of the food industry to capitalist markets represent a comparatively stable activity with a 5 per cent variation coefficient, whereas the capitalist exports of the chemical industry are highly sensitive to the choice of both the aims of economic policy and the foreign-trade forecasts, and the variation coefficient is here 166.3 per cent.

The sensitivity analysis of the programs helps the planners to separate the problems needing a more thorough investigation from those which can be relatively easily clarified. It will not be worth while to discuss at great length the comparatively stable forecasts; the mental energies of the planners can be concentrated on the investigation of sensitive points.

4. By means of the computation series it will be possible to demonstrate the consequences of the alternatives concerning the basic decision problems of economic policy. This point should be illustrated by an example.

Let the objective function be the combined optimization of consumption and the balance of capitalist foreign exchange. Let the lower bounds both on consumption and on the positive balance of capitalist foreign exchange be set at the level prescribed in the official plan proposals. The mathematical programming model will be able to reveal some surplus as against this level; the surplus will materialize either in additional private consumption or in a dollar surplus of the foreignexchange balance or in a combination of the two. It is thus possible to work out the "opportunity cost" of additional consumption, i.e. the amount of the balance in Dollar terms, to be renounced in order to maximize consumption. Or, conversely, the amount of additional consumption, in Forint terms, to be renounced when the whole surplus is used to improve the balance of capitalist foreign exchange. With the export targets of the official plan proposals prescribed as lower bounds, the calculations have shown this index to be 61 Forints per Dollar. This is the "price" of improving the Dollar balance as expressed in Forints of additional consumption lost.

The mathematical programming model does not take a stand on the question in what proportion should the surplus attainable over and above the official plan proposals be allocated to consumption, to the improvement of the balance of capitalist or socialist foreign exchange, or to some other purposes (e.g. investments etc.). But it reveals instead what will be the consequences if a decision were taken on the question by the economic administration; what is more, it reveals the consequences for the case when the decision is supported by the most efficient plan, by the comparatively most favourable program from the point of view of the basic decision. Accordingly, the top organs need not discuss such questions as e.g. the desirable production volume of the engineering or the food industry. These details will be worked out by means of the mathematical model. Instead, they will have to decide on the final and funda-

mental questions of economic policy. *The computation series will thus raise the decision problems of economic administration to a higher level, to that of the fundamental questions.*

On the shadow prices

Each of the calculated plan variants represents the primal program of a linear programming problem. Together with these we have, naturally, calculated also the dual programs, i.e. the system of shadow prices belonging to each individual plan variant.

Since the absolute magnitude of the shadow prices depends also on the economic contents and measurement unit of the objective function, for the purposes of comparison we have also computed the shadow price ratios, the relative shadow price systems. The shadow price of the final domestic demand in the food industry was taken throughout as numeraire and the relative shadow prices of all other constraints were computed.

As an important inference drawn from the computation it may be stated that the relative shadow price systems are unstable. We must not believe we are dealing here with some "objectively determined" valuations. *The relative shadow prices will to a great extent depend on the aims set by economic policy under the given economic conditions and on the assumptions concerning the uncertainties of the future.*

Let us give an example. We have examined the rate of substitution of fixed capital and labour in our model. The shadow price of the fixed capital quota expresses the increase in the value of the objective function brought about by a unit increase in the fixed capital quota. This will thus show the marginal efficiency of fixed capital. The shadow price of the manpower quota expresses the increase in the value of the objective function brought about by a unit increase in the manpower quota. This will, accordingly, give the marginal productivity of manpower, of live labour. The quotient of the two shadow prices, which we denoted R, expresses the marginal rate of substitution between manpower and fixed capital manpower:

$$R = \frac{\frac{\partial C}{\partial K}}{\frac{\partial C}{\partial L}} \tag{4}$$

where K is the fixed capital quota and L the manpower quota.

This index has a great economic importance. An analogous one can usually be derived from the various aggregate macroeconomic production functions. The view is widely held that it will be determined exclusively by technological factors: the technological possibilities of combining fixed capital with live la-

bour. Should the shadow prices be used for the purpose of price calculations, it is this index that would have to determine the ratios between the rental on capital and the charges based on and proportionate to labour (wages and pay-roll taxes).

In the course of our serial computations the quotient R has been worked out for all programs obtained from one of the parametric programmings. In these calculations it was assumed that exports were not bound by previously planned export transactions. With parameter $\lambda = 0$, optimizing "purely" the balance of capitalist foreign exchange, the marginal rate of substitution, R was 4800 forints per head, which means that 4800 forints of additional fixed capital can substitute an additional unit of manpower. With parameter $\lambda = 1$, maximizing "purely" consumption, the marginal rate of substitution R was 12 400 forints per head. With intermediary values of the parameter the value of R will fall between the two figures.

It has thus turned out that *the marginal rate of substitution depends not only on technological factors but also on those of economic policy*, on the objectives for the attainment of which we wish to mobilize the reserves of the national economy. If the surplus obtained over and above securing a minimum level of consumption and of the balance of foreign exchange is used for increased consumption, then labour will become comparatively more scarce. If, on the other hand, we concentrate on improving the foreign-trading position, then fixed capital will become a relatively narrower bottleneck. Nor is the difference insignificant; the rate of substitution is highly sensitive to this choice. In the case of maximizing consumption its value is more than double that obtained in the case the balance of foreign exchange is maximized. In terms of price formation this means that (provided that wages and pay-roll taxes are identical in the case of both economic policies), the plan optimizing the balance of foreign exchange will have to be supported by a rental on capital more than double that required in the case the plan maximizes consumption.

The experiences in connection with the sensitivity of the system of shadow prices are most thought-provoking. The proposals suggesting the direct use of shadow prices in price formation are generally known. Some would imagine this was a simple way. They think that because it is easy to find the only optimum plan, it will be simple to calculate the corresponding and equally unique optimum system of shadow prices. From what has been said above, it will be clear that this is by far not so simple. Precisely because there exists no evident, given and solely possible optimum primal plan, there can be no evident and given dual shadow price system either. The system of shadow prices is highly sensitive to the choice of economico-political aims. It is, therefore, certain that it will be possible to use the shadow prices obtained by programming in the calculation of actual prices only if (and this is but one of several qualifications) the economic administration has a clearly defined economic

policy which may be expected to remain fairly stable over a longer period, and if this economic policy finds an adequate expression in the structure and the numerical data of the mathematical model.

The connection between aggregate and "two-level" programming

Parallelly with the calculations of the aggregate programming model, a numerous research team was engaged in work on the so-called "two-level planning" model of the 1966/70 plan.* In the two cases we were dealing with models of a related type, both from the economic and the mathematical points of view. In both bases the program determined the targets of production and foreign trade for 1970, the terminal year of the plan period, and, indirectly, the pattern of investment activities for the period 1966 to 1970. The economic contents of the objective functions and of the constraints in the two models were also related. There are, however, also essential differences between the two models.

In the aggregate model production is broken down into 18 sectors, i.e. 18 large product aggregates. The two-level model, on the other hand, has 505 much less aggregate product groups. Accordingly, the aggregate model has some 80 and the two-level model some 2500 variables; the former contains some 80 and the latter some 2000 equations. One important difference lies thus in the degree of aggregation.

In the aggregate model there are no technological alternatives or technical variants, whereas the two-level model enables the choice also between these types of variants. The latter model thus lends itself not only for the planning of sectoral proportions and the product pattern but also for that of technical development.

The aggregate model — similarly to the input-output table on which it is based — embraces, if only in an aggregate form, the whole domain of social production. The two-level program, though much more detailed, is more restricted in scope, planning as it does only the production of 505 priority products allocated on the basis of the balances of the National Planning Office, and the related investment and foreign trading activities.

In the aggregate model — as in the input-output table on which it is based — social production is accounted for in value terms, at current prices. In the construction of the two-level model, however, it was endeavoured to eliminate the measurements at current prices, in order to avoid the well-known distortions of the price system in force. Wherever physical units could be used

* The research team engaged in two-level planning is headed by J. Kornai, one of the co-authors of this article. For details on the research work see [3], [4] and [5]. The methodology and the numerical results of the national economic programming project were described in hectographed publications, of which 22 volumes have appeared so far.

and are also used by the National Planning Office, the model employed such units. Current prices were used only for the product groups which could not be measured in physical units.

These comparisons will make it clear that we are dealing here not with two competing models but with research projects which complement each other. It will not be worth while to put the question, which of the two model types is "better", because each of them has its own advantages which must be paid for by certain disadvantages. The advantage of a high degree of aggregation lies in easier manageability; it is thus simpler to work out a great number of plan variants and to carry out a great variety of sensitivity analyses. The large model is more cumbersome, but will be less distorted by the simplifications due to aggregation. With the other differences, the case is similar. Completeness is most important, but an accentuation of the major product flows and the most important investment activities has also its justification. It is one of the rational traits of traditional planning that it aims simultaneously at full-range planning and the detailed planning of priority products and the major investment activities. As regards the units of measurement, the avoidance of current prices and the elimination of their distorting effects has much to recommend it. However, by the exclusive use of physical measurements, a simple summarization of the various targets becomes impossible.

Owing to its manageability, the aggregate model has increased importance in the early stages of planning, it the initial calculations. In that stage it is of utmost importance to work out a great number of variants and to analyse their characteristics and consequences. With the progress of the planning work we will have to choose from among the great number of variants and work out the details for the few basic ones only. In this later phase, the disaggregate two-level model will come to the fore, which enables us to obtain a plan feasible also in its details and taking into account the special potentialities of the individual sectors.*

On the basis of what has been said, we believe that both model types have a place in working out the foundations of the five-year plans. (Not to mention the fact that there is ample justification for the use of further model types, such as the even more highly aggregate non-linear growth models with few variables, the multi-period programming models, and others.)

The analysis of the similarities and divergencies between the aggregate and the detailed, two-level linear programming models suggests the idea to

* Utilization of the aggregate model in the early stages of planning will be the more possible as its construction does — contrary to the practice followed up to now — not indispensably require a plan proposal worked out on the basis of traditional methods, nor an input-output table derived from the latter. In the course of the present research work we have already attempted to give a forecast of the 1970 planned table on the basis of another source, the statistical table for 1961, at least for the sake of comparison. It will be worth while to continue the research work in this direction.

make an attempt at the combination of the two model types. From the mathematical point of view this should be entirely possible, as both contain linear equations. From the economic point of view, the linking of the two models would mean that within the framework of a large equation system one part of the equations would ensure the assertion of the main aggregate proportions and the other part of the equations a harmonious development of the detailed disaggregate relationships. The equations describing the aggregate and disaggregate relationships could be linked together by means of various aggregate and disaggregate variables and equations.

The real difficulties of the combination may be expected to arise in connection with the quantification of these aggregate and disaggregate variables and equations. We will have to attempt, e.g., to describe in the form of linear relationships the connection between a sector's total production value and the production volume of its major products as measured in physical units. This difficulty, now brought to the fore by the problem of linking together the two model types, was actually concealed already in the practice followed by traditional, non-mathematical planning up to now. This practice has, at least in Hungary, never really penetrated into the question, whether the necessary proportions are ensured between the aggregate production indices (expressed usually in value terms) and the more detailed indices (measured frequently in physical units). These interrelations need further detailed investigation.

In conclusion, one more remark concerning the combination of the two models. From our endeavours to link the aggregate model based on the input-output table and the detailed two-level model we expect, among other things, also to bring about an approach between the representatives of the two "schools" of mathematical planning, who have up to now gone somewhat separate ways, the "input-output economists" and the "programming economists". The linking of the two model types will provide a basis for closer cooperation between the two groups in improving the methods of planning.

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ПРИМЕНЕНИЕ СВОДНОЙ МОДЕЛИ ПРОГРАММИРОВАНИЯ В ПЛАНИРОВАНИИ ПЯТИЛЕТОК

Я. КОРНАИ — Л. УЙЛАКИ

В статье представляется очень укрупненная 18-секторная модель программирования, которая была использована при исчислении наметок пятилетнего плана в области капитальных вложений, производства и внешней торговли. При составлении модели исходили из таблицы «затраты — выпуск», в которой отображались потоки продукции между секторами. Эта таблица была расширена дальнейшими столбцами и строками и преобразована в модель математического программирования.

Переменные модели представляют собой производственную и внешнеторговую деятельность последнего года плана. Системой условий помимо баланса «затраты — выпуск» по продуктам ограничивается использование капитальных ресурсов, живого труда и природных ресурсов, а также — на основании рыночных соображений — определяется верхний предел некоторым внешнеторговым деятельностям. Было применено несколько альтернативных целевых функций, как максимизация потребления населения и оптимизация сальдо внешнеторгового баланса. Эти цели применялись и комбинированно — в рамках параметрических программирований.

В статье оспаривается точка зрения, согласно которой целью математического программирования является определение единственной «оптимальной» программы.

Вместо этого следует производить расчет большого числа плановых вариантов и представить их для принятия политического решения.

Затем в статье анализируются полученные в рамках серии расчетов теневые цены, и констатируется, что система теневых цен оказалось весьма чувствительной к принятой в модели за основу экономической политике, а также к предположениям о неопределенных данных.

Наконец, авторами излагается взаимосвязь сводного программирования и детализированного «планирования на двух уровнях», их взаимоотношение.

F. Fekete—Gy. Varga

HOUSEHOLD PLOT FARMING OF CO-OPERATIVE PEASANTS IN HUNGARY

The household plot of co-operative peasants is now and remains for a relatively long period of development of socialist agriculture an essential element of the co-operative sector. The authors examine the emergence, economic objectives of household plots as well as their relations to the co-operative large-scale farming (the co-operation in forage supply and stock-breeding and the interdependence of sources of income). The perspectives of household farming and its socio-economic character are pointed out, too.

Development of household farming and its economic purposes

In Hungary, traditionally, almost every peasant family keeps some poultry and pigs, and every second peasant family also keeps cattle. However, today the new dwelling houses are usually constructed without any outbuildings for cattle raising. Thus cattle raising is being given up, but one still finds pigsties and poultry houses. On the other hand, kitchen gardens and orchards can be found almost everywhere around the houses, whether in rural or urban areas. Town population use their gardens as a source of enjoyment and relaxation. Inhabitants of villages insist on having larger plots for the purpose of self-support and — in many cases — also commodity production.

Farming on the peasant farmsteads, that is vegetable and fruit growing as well as stock-raising, will not soon cease to exist. It is even likely to have a role — if decreasing in importance and volume — in supplying the peasants with vegetable, fruit and animal products for several decades to come.

Farming in household plots of the co-operative peasantry* serves primarily to meet the needs of the family; commodity production is only a secondary purpose. This theoretic program, however, has suffered some changes especially concerning consumption requirements. The Hungarian household plots have been practising a significant role in commodity production encouraged by the

* This paper deals only with household plots of the members of those co-operatives which represent the majority of the agricultural producers' co-operatives and does not include the household farming of non-agricultural workers, of state farm workers, individual peasants and members of so-called simpler co-operatives functioning in certain sections of agricultural production.

State. This is so, partly because commodity relations developed to some degree historically and thus the individual small peasant farms united in co-operatives had not previously practised subsistence farming; and partly because during the early co-operative period, income distribution hardly allowed the peasants any cash before the end of the year. This kind of commodity production is, however, aimed indirectly to meet the personal needs and does not and cannot, owing to its extent, serve the co-operative farmer to accumulate wealth which would make possible his hiring labour.

Because it directly provided the co-operative peasantry with agricultural products, a certain division of labour came into being between the collective farm and the household plot. Along with the sometimes insufficient and irregular cash payments of the collective farm the household plot became — by its commodity production — a source of money income. This situation may be considered acceptable from both the economic and the political points of view, but these functions of the household plot arise, to some extent, from pure necessity and will cease or change spontaneously when this necessity will no longer exist.

The development and expansion of co-operative large-scale farms took place by the economic progress of individual peasant farms and their rising to a higher technical, cultural and organizational level, not by engulfing, ruining, and fighting them. The collective large-scale farms did not confront the individual peasant farms as a hostile power, but supported them and became a living example of large-scale farming. They organized, helped and encouraged the gradual union of peasant farms into large-scale farms. By this structural transformation the small peasant farms did not exploit all the available resource-possibilities but *changed them within the framework of the co-operative large-scale farms, for much more favourable resource-possibilities of higher qualities.*

When the co-operative farms were established, only a part of the means of production — land, animals, farm buildings and equipment — of the peasants joining the co-operatives were taken into collective use; the rest remained under the private management of the owner-peasant — within the frames of the small-scale farms. The united, collectively used means of production (which are also collectively to be increased in the future) constitute the frame-work of the collective farming of the co-operative. The means of production remaining in individual use serve as a foundation for the household plots of the co-operatives and come into existence simultaneously — a peculiar separation of possessing the means of production earlier held in individual ownership.

When the early co-operatives were established, one of the most important questions, either from an economic or from a political point of view, was to decide which were the means of production necessary, worthy, and possible to be taken into the collective large-scale farm. From a purely technical point of view, scattered buildings suitable only for a few animals and their fodder, or

certain simpler working tools, useless for large-scale farms, could not be taken into the collective farm. At the same time, in the newly established collective farms there were no buildings even for the livestock at hand; therefore, a part of the livestock was temporarily left out of the largescale farms. Also when the land was to be united a number of technical problems arose — e.g. scattered vineyards and orchards, gardens round the houses, dispersed dwelling houses in "tanya"* areas hammed in between ploughlands — all inhibited the development and the rapid formation of the collective farm.

However, economic and technical factors constituted only a part of the difficulties, another part is of a subjective and political character. The peasants who were given land after fighting so many centuries for it or having acquired small holdings by hard work and having been able to keep them, clung to their properties — and cling to them to some extent even to-day — and still consider them to be partly their basis of existence and a security of their personal freedom. A complete elimination of private ownership would have meant a disregarding of all these factors and could have led to disastrous results, a conclusion which appears now to be confirmed. Thus, the establishment of household plots and their maintenance at present and in the future is justified by various factors and reasons.

In the course of developing and putting into practice the principles of the new system of economic control and management, the role and importance of household farming in Hungary attract great attention. The scope of systematic investigations and analyses has been extended, opposing conceptions have clashed and a new approach is developing. At the First National Congress of the Hungarian Co-operatives** in April 1967, elected representatives of more than 1 million members of 3500 agricultural co-operatives discussed thoroughly the social, economic and political role of household farming in the present as well as the next stage of socialist agricultural development.

In Hungarian economic literature and in the practice of certain economic authorities both an underestimation and an overestimation of household farming exist. Abroad are also ignorance and misunderstanding, moreover a definite misjudgement can be observed concerning the position, character and perspectives of the household plots.

* Isolated farmsteads. (Editor's note.)

** A brief survey of the Congress see in No. 3. Vol. 2. 1967 of the "Acta Oeconomica". (Editor's note.)

Relations between the household plots and the co-operative large-scale farm

Collective farms and household plots of co-operatives came into being simultaneously, parallel to and completing each other; there is an appropriate division of labour and co-operation between them. Mutual relations between collective farms and household plots are of a different character and degree in different branches. Most of the branches having extreme "small-farm" characteristics were left out of the framework of large-scale farming in the early years and remained in the household plots. These are branches which were rarely included in Hungary within the technology of large farms and are suited for it only after considerable investments such as most branches of stock-raising; or the more intensive branches of crop production which require much manual labour like small-scale vine and fruit growing. In the scope of large-scale farming are mostly found the various branches of field crops which are easy to mechanize and organize quickly without any investments. On the other hand, since the establishment of co-operatives a great many investments were made in the collective farms; as a result, the collective farms have a great number of modern machines and buildings and up-to-date vine and fruit growing areas of considerable dimensions. But in some regions the participation of household farming is still equal to that of the collective farms or even exceeds it.

Divison of labour between branches

The production lines of the collective farms differ considerably from those of the household plots.

Table 1 shows the distribution of gross production between the collective farms and household plots of co-operatives and the structure of production of household plots in 1964.

Comparing the data of the acreage and livestock and the structure of production we find that household plots carry on a very intensive production: in comparison to their acreage (as shown by the following data) they produce a high production value. Table 2 shows the production values per *ha* of the different sectors in 1964.

When one compares the household plots in the above way, attention must always be called to the fact that livestock raising in the household plots depends partly on the fodder production of collective farms. From the data it is clear too that crop production is also more intensive in the household plots than either in state farms or in co-operative collective farms. This is due not only to the higher proportion of branches more intensive in themselves (vine and fruit growing) but partly to the higher yield of each of them. In state and co-operative large-scale farms, the new vineyards and orchards are not yet bear-

Table 1

Distribution of gross production and structure of household plots
(per cent)

	Distribution of gross production (Combined production = 100)		Production pattern of household plots
	collective farms	household plots	
Field crops	83.8	16.2	20.0
Of which: Maize	52.6	47.4	14.2
Vegetables	76.8	23.2	2.5
Fruits	40.4	59.6	5.6
Grapes	42.5	57.5	12.8
Other crops	97.1	2.9	0.1
Plant cultivation, total	74.7	25.3	41.0
Cattle	51.3	48.7	17.9
Pig	48.6	51.4	20.1
Poultry	22.9	77.1	20.0
Other animals	78.3	21.7	1.0
Animal husbandry, total	44.9	55.1	59.0
Sum total	62.8	37.2	100.0

Table 2

Value of production
(Ft/ha)

Branches of cultivation	Sectors			National average
	State farms	Co-op. coll. farms	Household plots	
Cropland area	5 257	5 027	6 714	5 173
Garden and fruit growing area	12 305	11 674	14 930	13 608
Vinegrowing area	32 200	23 139	31 857	28 139
Total plant growing area	5 403	5 247	10 153	5 985
Animal husbandry	4 287	1 827	14 603	4 441
Agriculture, total	9 690	7 074	24 756	10 426

ing, but they occupy a high proportion of the area. In livestock raising there are no such differences concerning the level of yields. Milk production of cows is about 2140 liter/year in the household farms; it is 100 liter higher than the

national average. On the other hand, the egg yield per hen is much higher in state farms and co-operative collective farms than in household plots.

If co-operatives wanted to take over the entire livestock of household plots into the collective large farms, stables worth Ft 18 thousand million would have to be built for the animals. This sum is about twenty times as much as is spent yearly — from credits and their own sources — on buildings for animals by the co-operative farms. The expenses of a supposed concentration of household plot livestock into the collective large farms approach the value of the total agricultural investments made in the period between 1961 and 1965.

Co-operation in the field of fodder production and livestock raising

The exceedingly high share of livestock raising points to the processing character of the household farms. At present one of the direct functions of the collective farm is to provide the household farms of its members with the necessary "raw material". The fodder demand of household livestock raising is met to a considerable extent by the production of the collective farm. Thus collective farms leave the completion of certain final phases of the production process to the household plots. In this way they help to attain an extremely high production value and relatively high personal incomes in household plots of small acreage.

To provide the livestock of household farms with fodder produced by the collective farm is the key issue of economic co-operation between the co-operative large-scale farm and the household plots. The fodder supply for pigs and poultry is generally furnished by the household plot itself since the greatest part of its sown area — 80—90 per cent — is occupied by maize. Besides, co-operative members are also given a considerable amount of maize as payment in kind.

On the other hand, the fodder supply of the cattle in the household plots is a more complicated problem and at many places it cannot be considered as settled. Rough fodder is usually not grown on household plots. The yields of the pastures of collective large farms, the amount of rough and succulent fodder are not always enough to supply both the collective and the household cattle stocks. Under these conditions a co-ordination of the different interests requires great circumspection and a democratic approach.

Transportation of rough and succulent fodder produced by the collective farm to the household plots is an important element of co-operation and a task to be organized separately.

Provision with valuable breeding animals and a highly productive livestock is an important part of the co-operation between the collective farm and its household plots. Many collective farms help the household plots — beside the fodder supply — by directly selling them young breeding animals: cows,

sows, ewes. On the other hand, the household plots sell a certain proportion of their young animals to the collective farm for breeding or fattening purposes. These connections are often based on bilateral contracts and are coupled with credits on favourable terms.

Co-operative farms often organize even the commodity production of the household plots and give substantial aid in extending it as well. This aid ranges from a collective marketing of goods to the organization of production. As for the latter, we can mention some interesting examples from the field of poultry raising. In South-Transdanubia household plots of the co-operative in Baksa carry out an extensive contracted egg-production. This activity is coordinated by the co-operative large farm and a specialist is employed to give expert advice. As a result, 4 million eggs are now produced annually in the household plots of the four co-operative villages, i.e. ten times as much as in 1962. No considerable investments were needed in the household plots to attain this result but in order to produce 3 million eggs the large-scale collective farm needed an investment of fixed assets worth nearly Ft 5 million.

The role of household plots in the personal income of co-operative peasants

The sources of income of the peasantry can be divided into two groups. One of them includes the agricultural production of collective farm and the household plots; the other the pensions, sick-pay, other benefits and incomes derived from work outside agriculture (13 per cent). Table 3 shows the agricultural income of co-operative families from collective farm and from household plots between 1958 and 1965.

Table 3

Agricultural income of co-operative families

Year	Income per family from				Together (= 100) Ft
	collective farm		household plots		
	Ft	per cent	Ft	per cent	
1958	11 870	56.9	9 000	43.1	20 870
1959	11 400	55.3	9 200	44.7	20 600
1960	8 400	49.4	8 600	50.6	17 000
1961	7 800	45.5	9 300	54.5	17 100
1962	9 000	48.3	9 600	51.7	18 600
1963	10 000	49.8	10 100	50.2	20 100
1964	10 400	47.6	11 400	52.4	21 800
1965	10 600	50.7	10 300	49.3	20 900

The data need some comments. In 1958 and 1959 the number of co-operative farms was relatively low and, in accordance with official policies, the role of household plots in forming the income of the co-operative families was at that time much smaller than that of the collective farm. In addition, the majority of the co-operative peasants had once been poor landless peasants. Many of them did not claim any small farms as private property and usually did not possess the appropriate means of production. In the first two years after the mass formation of co-operatives (in 1960 and 1961) the income derived from the collective farming of co-operative families decreased in comparison to the former period, but the income derived from household plots remained unchanged; thus its relative importance grew. This trend of incomes — a continuous increase of family incomes derived from both collective and household farming and a constant ratio between the two sources of income — is caused to a great extent by the continuous decrease in the number of co-operative labourers within the families. This is most important in connection with the income derived from collective farming since the increase of this income could be much higher if the number of co-operative labourers did not decrease within the families. Changes in family size have not yet caused fundamental changes in the production of household farms, though the results will undoubtedly show up in the future.

The personal income derived from household farming — and the volume of agricultural production underlying it — varied much less per family than the income derived from other sources. Thus the household plot, apart from its role as a source of income, compensates and moderates considerably the differences between incomes. An exaggeration of this source of income and of the conflict between the household plot and the collective farm resulted in the opinion that in co-operatives where household farming is prosperous collective farming is of necessity weaker, implying that members take greater care of their household plots than of the collective farm — as well as the opposite implication — where collective farming is strong and the income of the members derived from it is high, the size of the household plots is small. Reality, however, shows a different picture.

When a collective farm is prosperous and offers a good living to its workers, an economically optimum division of labour comes into being in the co-operative between the household plot and the collective farm. Of course, household plot production, being of a small-scale character, cannot be expanded beyond certain limits, i.e., income per head derived from the household plot has a maximum — or, more correctly, an optimum — where personal income derived from collective farming can be increased more easily than that derived from household farming. These correlations are shown in Table 4.

Collective farming and household farming have an approximately equal role in the agricultural income of co-operative families. But it is worthwhile to

Table 4

Relationship between the level of agricultural income of the co-operative families and the sources of income

(1960)

Agricultural income per family	Income per family from		Average size of co-op. families	Income per head from	
	collective farm, Ft	household plot, Ft		collective farm, Ft	household plot, Ft
Below Ft 6000	681	3 542	1.89	360	1874
Ft 6 000—10 000	2 044	6 093	2.55	802	2389
Ft 10 000—15 000	4 386	8 135	3.00	1462	2712
Ft 15 000—20 000	7 594	9 850	3.26	2329	3021
Ft 20 000—25 000	11 037	11 349	3.54	3118	3206
Ft 25 000—35 000	16 140	13 052	3.83	4214	3408
Ft 35 000—45 000	23 723	15 333	3.40	6977	4510
Over Ft 45 000	36 074	17 641	4.88	7392	3615
Average	8 220	9 340	3.16	2601	2956

have a look at how the household farm is able to meet the demand of the family on agricultural products, i.e. to what extent it achieves one of its aims: to provide the members directly with agricultural products. The official Hungarian statistics of 1961 (based on a sample survey) give information on the subject.

Percentage of household plot production in comparison to the consumption needs of families plus the productive utilization in household plots:

Bread grain	3.1
Potatoes	90.4
Fruits and vegetables	119.3
Wine	170.3
Beans, poppy-seed	65.8
Fodder grain	65.6
Rough fodder	26.0
Fuel, straw	28.9
All plant products	57.2
All animal products	160.9
All agr. products	99.8

The nature of economic relations

The economic function of household farming — as we have pointed out — is closely attached to the large collective farm. The 1962 members'meeting of the Hunyadi Co-operative at Szentgál appointed a household-plot committee

and since 1964 this example has been followed by a great many co-operatives — partly as a result of the extension work of the Ministry of Agriculture. The activity of household-plot committees — a mere listing of which summarizes and complements what has been shown about the connections between the collective farm and the household plots — includes the following:

a) *to make proposals* on the size of land (between the limits of 800 and 1600 square fathom per family) to be given to or withheld by individual families; to co-operate in the determination and registration of the size of courtyards and gardens which are parts of the household plots; to mark off and hand over the household plots to co-operative families on the basis of the decision taken by the members' meeting;

b) *to collaborate in developing* the livestock of household farms according to the fundamental rules set up and supplying them with straw for fodder and litter; to make proposals on the utilization of the grass crop of available sources of fodder: roads, embankments, occasional pastures, etc.; to determine pasture rents and wages of shepherds; to collaborate in registering the household animals put to pasture and in keeping the sanitary rules;

c) *to organize the marketing* of products, breeding and fattened animals of household livestocks possibly through the collective farm; to aid the utilization of manure accumulated in household farms in both the households and the collective farm with the least possible losses;

d) *to give substantial aid in organizing* the care for and the planting with trees of the grazing area of household livestock by voluntary labour;

e) *to promote the soil work* on household lands, the transportation of crops, the exchange of seed material — if necessary, taking into consideration the most economical utilization of mechanical power and draught animals;

f) *to assist in organizing plant protection* in household gardens and vineyards, in marketing the produced vegetables, fruits and other products, through co-operative purchasing agencies and at market places or in stores of the co-operatives.

The collective farm contributes to the reasonable and profitable utilization of the productive capacity of household plots by mechanical soil cultivation, by machine transportation; by organizing and consulting and, last but not least, by supplying fodder. The larger the household plot, the more commodities it usually produces, the more regularly it requires the co-operation and the various services of the large-scale collective farm.

An organic connection, a peculiar economic union has developed between the collective farm and the household plots of the co-operative members. In this system of mutual relations the collective farm has the leading role by primarily determining the production relations of the co-operative, by being the main source of a steady rise in the living standards of co-operative families

and also by lending effective help and a secure base for successful household farming.

Just as at many places the household lands are involved in the crop rotation of the co-operative, in the same way the household farming is everywhere included into the "co-operative entirety". The food supply of the family and many other commodities are produced on household plots but all these are based mostly on the fodder supply and cornfield utilization furnished by the collective large-scale farm.

Keeping animals on household farms partly creates requirements "competing" with the demands of collective large-scale animal raising. Partly it stirs up a direct and strong interest in the co-operative members in the development of the large-scale farm, first of all large-scale fodder production and animal breeding. When developing and modifying the production structure, determining the wages and the distribution of profits as well as the forms of work organization the leading organs of the collective large farm (first of all the members' meeting and the board of directors) take into consideration the effects of all these on the household plot.

Members and leaders of co-operatives are increasingly influenced in their economic decisions by the recognition of the common needs of collective and household farming and by a desire for an optimum co-operation of interests.

The collective farm and the household plot are thus not separate or antagonistic units but essential parts of a single economic entirety: the co-operative farming system.

Several features of our official economic policies concerning household-plot production should cast a new light upon what has been stated above.

Actual economic policies and household farming

When discussing the principles of official economic policies concerning household production and evaluating the future of household farming, we encounter a wide range of opinions. These differences in opinion are derived from the different position of those expressing them.

Some of the co-operative peasants — recognizing the great and increasing demand on agricultural products — would gladly increase the household plots and, therefore, find the present scope of household farming to be too narrow. First of all this concerns the problem of fodder since the household plots are unable to produce the necessary amount of fodder for their livestock on their own lands.

On the other hand, some leaders of collective farms and another part of the co-operative membership often try to force back the household plots, arguing that the members neglect work in the collective farm if they have some work to do in their household plots. This individual work is nearly always less

useful from a social point of view and sometimes even from an individual one. Still other leaders of co-operatives, however, recognize the possibilities given by household plots and make efforts to create a division of labour and a relationship favourable for both the collective and the household farming.

The last two official measures of Hungarian economic policy are worthy of mention.

The first decision, made at the end of 1965, offered state credits for the development of household plots at a relatively high interest (8 per cent) but with a moderate (2—5 years) time limit. At the same time it made arrangements for selling small machines to household farms. However, the main purpose of the production credits is not help the household plots in buying machines but to stimulate the planting of new orchards and vineyards.

The second decision was the raising of state purchase prices of wheat and animal products, in 1966 and in 1967. The most significant rise was in the purchase prices of milk, beaf and pork.

Perhaps the most remarkable feature of the price modifications is that they give more support to the household plots than to the collective farms. Namely, simultaneously with raising the product prices, the prices of fodder mixes also were increased to such an extent that, for example, in the case of pig fattening with purchased nutriments the additional expenses generally absorb the income surplus yielded by the increased meat prices. However, since household plots generally do not feed animals with such nutriments, this price adjustment does not affect the household plots and thus the rise in the price of pork means a net increase in income. The rise of milk prices means an increase of income of about 20 per cent in household farms but only half of that in collective farms, as the earlier, so-called large-scale extra price has been stopped and thus the rise of prices results in a 10 per cent increase of income in all. The rise of beef prices has nearly the same effect on collective farms as it has on household farms. On the other hand, the rise of breadgrain prices increases only the income of collective farms.

Thus, the price adjustment is more favourable for the household plots than for the collective farms, especially when we take into consideration that simultaneously with the rise of prices the co-operative farms had to establish an amortization fund for machinery and in 1967 they had to create one for buildings. The income of household plots increases in linear proportion to the rise in the prices of products. At the same time in the collective farms of co-operatives only about 10—25 per cent of the additional income can be distributed as personal income.

Thus, in the coming years the household plots will play an important role in the commodity production of agriculture as a whole, apart from directly supplying the owners. This situation is deliberately supported by the most recent economic measures of the state.

At the same time, one must take into consideration that household farming will some day become extinct. More specifically, the household farms have to lose their economic importance both in supplying the country with agricultural products and as a source of personal income. The main preconditions are, on the one hand, a significant increase in the technical level and amount of large-scale production and, on the other hand, the raising of the peasants' personal incomes derived from collective farming up to the general wage level of industrial workers. As these conditions come into being the "problem of household farming" will become less important, and the living conditions of peasants will approach those of the workers.

The extinction of household farms — mostly as a result of technical progress — will not take place against the peasants' will. Moreover, it might even be said that if an appropriate personal income is attained, the peasantry itself will put an end to the household plots as commodity producing small farms more quickly than is objectively necessary or possible. Such phenomena can often be found even to-day, particularly in the case of peasants' ceasing to keep cows. On the other hand, small gardens around the houses, some poultry and occasionally a porker — these go together with living in the countryside, independently from labour conditions and spheres of activity and this will remain for a long time. This cannot, however, be considered identical with the household plots of to-day. These often only replace sport and recreation; production itself is always of secondary importance and commodity production is entirely lacking.

The economic and political "environment" of the household plot production as well as the main direction of development of its inner economic relations are characterized by Academician *F. Erdei* as follows:

"Our economic conditions have a peculiar feature. Our economic policy has recognized in due time that socialist large-scale agriculture cannot be raised in a few years to a level to cover all production and realize the necessary increase of production by itself. Therefore, simultaneously with socialist reorganization and the development of co-operatives our economic policy takes special care of household-plot farming, in other words, along with the up-to-date large-scale farm, it takes care of the auxiliary small-scale production too. This is highly justified and reasonable. Even at a much higher stage of industrial development and with a much higher national income it would be impossible to carry out in a few years all the investments necessary and supply the equipment to our socialist large-scale farms which are needed for a complete modernization of production and its raising to a level similar to that of industry.

But history is stimulating us. The household plot — the small-scale production — is based on the fact that the older peasants are gladly occupied with it, partly because it means a supplementary income and partly because they are used to it. But as a new generation replaces the old one, the social condi-

tions of such small-scale household production gradually decrease. In other words, we have to make maximum efforts to modernize, extend and generally develop our large-scale production" [1].

The household farm as a special part of the co-operative sector

The present level of the forces of agricultural production is, after all, the main reason why household plots are now necessary and indispensable in Hungary, and why they will be indispensable at least for the next two or three five-year periods.

The characteristic forms of agricultural co-operatives so far developed postulate that a proportion (but not a fundamental one) of the means of production be personal property in the household plots of the members. The existence of household farming does not affect the socialist character of agricultural co-operatives, moreover, at present it is a conspicuous feature — though not indispensable from an academic point of view —of the socialist co-operative character. The somewhat separated position of household farming and the possession of a relatively small proportion of the means of production as personal property do not present difficulties of principle when one evaluates the socio-economic character of agricultural co-operatives.

As regards ownership relations, household farms are built on a double fundamental: 1. on the extending socialist co-operative fund of increasing importance; on the partial use of modern large-scale forces of production in common property; 2. on the private possession and use of means of production (of decreasing importance, except for the livestock) left behind from former peasant farms. This double fundamental is antagonistic in itself, still, it does not cause conflicts between collective and household farms nor between the different groups of co-operative members. Contradictions and conflicting economic interests discussed above in detail arise and are solved as differences and conflicts existing within the socialist co-operative farm — within the co-operative sector.

Household farming is based characteristically on the labour of the owner (co-operative member) and his family as well as on a co-operation with the collective farm. At the same time, household farming involves the possession of minor means of production as personal property.

The property of the commodity producing individually farming peasant is *private* property, i.e. it is of the same type as the much larger *capitalist* private property that hires labour and, at the same time, it is the breeding ground of the latter. However, under the conditions of the socialist economic system, the household plot in the co-operative sector is characterized by the relationships of social ownership rather than by those of private property, and therefore,

the *household property of co-operative members is a peculiar transitory form of social ownership.*

The household plot is essentially a socialist economic formation but, at the same time, it is more detached and much smaller than the other sectors of the economy. Household-plot production is a small-scale production based on a special kind of social ownership. Its close co-operation with the collective large-scale farm and the favourable conditions created by planned economy may moderate but cannot entirely eliminate the various inner economic limitations of the small farm size production unit. The limitations mainly concern the raising of productivity, the application of scientific results and modern technology, the development of collective mentality and of skills, and, last but not least, the considerable extension and modernization of the forces of production.

The relatively small household plot is a more detached economic unit than the socialist large-scale enterprise; its function is determined simultaneously by the household, the points of view of consumption and the interests of commodity production.

The enterprise character of the commodity producing household farms is beyond doubt. The state economic policy and central planning take all these into consideration when they size up the possibilities of influencing the household-plot production systematically and choose the means to promote an economically optimum utilization of these possibilities.

Evaluation of the social character of household plots

When estimating the role and social character of household plots, one finds that highly disputable and even definitely incorrect opinions and approaches are not scarce.

Some overestimate the possibilities and capacities of household plot farming and forget the small-scale character of the method of production. Then there are people who erroneously think that household farming is the "main obstacle" to a more rapid development of the collective farm and would willingly put strong restrictions on household-plot farming. According to certain economists, the existence of household farming is merely a remainder of private property.

Still others consider — in a highly disputable way — the household farm to be complementary to and an auxiliary of the large collective farm with independent and separate functions which are very restricted. According to this opinion, household farming of the members is a part and a complementary function of collective farming. On the other hand, some co-operative leaders and state officials consider household farming to be alien, and what is

more, antagonistic to socialism and co-operatives — an economic formation hindering healthy development.*

As a loud echo of some domestic views denying the social character of household farming, in Western literature we can meet more than once the opinion that household farming belongs to the private sector or is simply a manifestation of peasant individuality, merely a compromise with the peasants' psychology. These opinions reflect a great misjudgement of the socio-economic character of household plots.

When estimating the social character of household plots, we have to start from the point that household farming *does not* constitute the determining financial basis of a separate social class nor does it represent a separate method of production, a separate economic sector. Moreover, this somewhat detached position of household farming, in connection with its possessing minor means of production as personal property, and the definitely high level of its production of certain commodities does not contradict socialism either.

At the present time and during a relatively long period of socialist agricultural development to come, the household plots of co-operative members will form together with the collective large-scale farms of a primary and increasing importance an essential part of a higher and larger unit: the socialist co-operative sector. The relation of the household plot to the collective farm is — in a philosophical sense — not identical with that of the part to the whole. The whole is the socialist co-operative farm. Its essential, perspective principal part is the collective large-scale farm and for the time being its organic, highly important components are the household plots of co-operative members.

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ПРИУСАДЕБНЫЕ ХОЗЯЙСТВА КРЕСТЬЯН — ЧЛЕНОВ ПРОИЗВОДСТВЕННЫХ КООПЕРАТИВОВ В ВЕНГРИИ

Ф. ФЕКЕТЕ—ДЬ. ВАРГА

Приусадебные хозяйства членов производственных кооперативов служат, в первую очередь, удовлетворению продовольственных потребностей крестьянских семей и лишь наряду с этим, второстепенно являются производящими товарную продукцию. Эта отвлеченно сформулированная цель претерпела некоторое изменение, главным образом, в отношении удовлетворения потребностей личного потребления. Приусадебные хозяйства в Венгрии осуществляли и осуществляют значительное и поощряемое государством товарное производство. Это товарное производство, однако, не служит (а в силу своих масштабов и не может служить) накоплению капитала, позволяющего применение наемного труда.

* In the recent economic literature of socialist countries the statement can still be read that "household farming carries the germs of the revival of capitalism".

Крупные кооперативные хозяйства в Венгрии сложились и получили широкое распространение не путем поглощения и разорения индивидуальных крестьянских хозяйств. Крестьянские мелкие хозяйства ещё далеко не исчерпали своих возможностей, *а заменили их в рамках кооперативных хозяйств качественно иными и более благоприятными возможностями.* Кооперативные общественные и приусадебные хозяйства возникли одновременно, рядом друг с другом и дополняя друг друга, и между ними сложились соответствующее разделение труда и кооперация. Характер и прочность взаимосвязей между общественными и приусадебными хозяйствами различна в отдельных отраслях.

В формировании дохода кооперативных семей, происходящего из сельского хозяйства, общественное и приусадебные хозяйства играют приблизительно равную роль. Наряду с ролью приусадебного хозяйства как источника дохода значительно также и его влияние на выравнивание или смягчение различий в доходах, а кроме того, оно имеет фундаментальное значение и в непосредственном снабжении членов производственных кооперативов сельскохозяйственными продуктами.

Между общественным крупным хозяйством и приусадебными хозяйствами кооперативных членов сложилась органическая связь, своеобразное экономическое единство. В системе взаимосвязей ведущая роль принадлежит кооперативному общественному хозяйству, с одной стороны, как первичному определяющему фактору кооперативных производственных отношений, с другой стороны, как основному источнику систематического повышения жизненного уровня кооперативной семьи, и помимо всего этого — как эффективной опоре и надежной базе успешной деятельности приусадебных хозяйств. Вообще, чем больше размеры приусадебного хозяйства, чем более современен их уровень, и чем больше товаров ими производится, тем, как правило, бóльшие и более систематические требования предъявляют они к кооперации с кооперативным крупным хозяйством, к предоставляемым последним различным услугам.

В последующие несколько лет приусадебные хозяйства ещё будут играть большую роль в Венгрии не только в непосредственном снабжении их собственников, но и в общем товарном производстве сельского хозяйства: и это осознанно поддерживается последними экономическими мерами государства. При всем этом необходимо ясно видеть и дальнюю перспективу, что в отношении приусадебных хозяйств означает не что иное, как их прекращение, точнее говоря: приусадебные хозяйства должны потерять свое экономическое значение равным образом как в снабжении страны продуктами, так и в качестве индивидуального источника дохода кооперативного крестьянства. Самое главное условие этого заключается в значительном повышении технического уровня и объема производства в крупных хозяйствах, а с другой стороны, в достижении личным доходом крестьянства, получаемым от общественного хозяйства, уровня индивидуальных доходов рабочих как по величине, так и по гарантированности и распределению во времени. Как только эти условия будут созданы, постепенно будет убывать значение «приусадебной проблемы», будут приближаться жизненные условия крестьянства к жизненным условиям рабочих.

Ведение приусадебных хозяйств характерным образом основывается на труде собственника: члена кооператива и его семьи, а также на кооперации с общественным крупным хозяйством. Приусадебное хозяйство одновременно означает личную собственность на относительно мелкие средства производства и на продукты приусадебного хозяйства. В условиях социалистической хозяйственной системы для приусадебных хозяйств производственно-кооперативного сектора характерны уже не отношения частной собственности, а гораздо более — общественной собственности, поэтому *приусадебная собственность членов производственных кооперативов является одной из своеобразных, переходных форм общественной собственности.*

В последующем, относительно длительном периоде социалистического аграрного развития приусадебные хозяйства членов производственных кооперативов вместе с первичным, имеющим растущее значение крупным хозяйством производственного кооператива представляют собой существенную часть более широкой единицы: более высокого порядка социалистического производственно-кооперативного сектора. Взаимоотношение приусадебного хозяйства и общественного крупного хозяйства — в философском смысле — не тождественно отношению части и целого. Целое есть социалистическое производственно-кооперативное хозяйство; его существенная часть, имеющая в перспективе определяющее значение, суть кооперативное крупное хозяйство, и органически связанная с ним, очень важная — в Венгрии ещё относительно долгое время объективно необходимая — составная часть: приусадебные хозяйства кооперативных членов.

F. MOLNÁR

CONTEMPORARY CAPITALIST REPRODUCTION: CYCLICAL OR NOT

The author investigates the changes having taken place in the material base of cyclical reproduction after World War II. The growth of state investments, rapid moral obsolescence, the growing weight of consumer's durables, of non-productive and military expenditure all tend to mitigate cyclical development. On the strength of all this evidence the author concludes that cyclical development in the classical sense does not take place in contemporary capitalism and is highly improbable in the near future as well, because the conditions for a cycle to start, the "first impetus", and the conditions needed for it are equally missing.

Emergence of the problem and its approach

Of all the changes and transformations which have taken place in the capitalist economy in the more than two decades since World War II, the most important ones and the most interesting from the theoretical point of view, are the new phenomena connected with the cyclical character of capitalist reproduction. The most conspicuous new features of this development were that

— crises in the United States were mild;

— no general periodical overproduction crises have taken place in Western Europe and Japan nor in the developing countries liberated from colonial rule; in the major part of the capitalist world the course of reproduction was thus not cyclical;

— the unity of the capitalist world cycle has disappeared and the reproduction process in the capitalist world as a whole was not cyclical.

A scientific explanation of the new phenomena which often contradicted the earlier generally accepted views of Marxist economists, the study of their nature was rendered almost impossible by the rule of dogmatism which dominated in our discipline in the 10 to 12 years after the War. Moreover, there was the objective difficulty that on the evidence offered by relatively so short a period, it could not be validly decided whether we were not facing a temporary process primarily in consequence of the Second World War, whether it was justified to deduce on their basis any general conclusion. In recent years, however, these obstacles mentioned have largely disappeared;

Marxist economics has increasingly liberated itself from the bonds of dogmatism and the facts and experiences which accumulated over the period have furnished an ever greater volume of evidence increasing also in force.

Thus, under the new and more favourable conditions it has become possible both objectively and subjectively to disclose step by step, on the basis of Marxist methods of economic research, the laws governing the functioning of contemporary capitalism. An analysis of this undoubtedly intricate complex of problems is possible from two aspects.

Either we start from the fact that, though the changes having taken place have brought about some modifications in the functional mechanism of the capitalist economy, these are not of an extent that would have changed the *character* of its functioning. When speaking of a change in the character of the system, I do not mean that the *capitalist* character of the economy had changed, but that as a consequence of the changes *some important laws* of its functional mechanism do not assert themselves any more, that they have been replaced by other ones which, given the capitalist character of the economy, are also capitalistic economic laws. This approach starts, therefore, from the fact that the cyclical character of capitalist reproduction has remained and that the changes affect but the functional mechanism of the cycle, the way in which it asserts itself. The fundamental thesis of this approach has been most succinctly formulated by the Soviet economist Menshikov in his introduction to a lengthy article published recently [1]: "The picture of the cyclical movement and its mechanism have changed, but the law of cyclical development continues to prevail."*

The starting point of the other way of approach is this: since the structural changes which have taken place are rather significant and since on the basis of the facts it can be established that in the greater part of the capitalist world the reproduction process was not cyclical over a relatively long period, it should be above all examined — taking, as it were, a step backwards — whether the process of reproduction must still be necessarily cyclical in contemporary capitalism. I use the term "a step backwards" because a question is being raised or, rather re-raised here to which — at least this is what was thought earlier and what many people still believe — Marxian political economy and in particular the classical representatives of Marxism, have given the correct and final answer long ago. In my opinion, however, this is only a step backwards in time since *this approach is a precondition* to being able to make any progress in solving the problems raised by the new facts of contemporary capitalism. As a matter of fact, with the first approach the essence of the question, that which causes the problem and should therefore primarily be examined, is taken for granted beforehand and the possibility

* This view is advocated also by several Hungarian economists.

of a convincing analysis excluded thus already at the beginning. Actually, even if it were true that "the law of cyclical development" remains, this *should be proven* on the basis of an analysis because, in view of several contradictory facts, many people have doubts as to the correctness of this statement. Only when these doubts are dissolved on the basis of convincing proofs, can new ways be opened to the successful examination of the assertion of the old law in new forms or through a new mechanism.

In my opinion, however, we are dealing here with something more important, namely with the fact that *under present conditions the cyclical development of capitalist reproduction is no longer an unconditional law.* And this is what I am trying to prove in the following, mainly by disclosing the causes of this important change.

The concept of cyclical development

It often occurs that a concept used by many is not used in the same sense by all. This is the case with cyclical development. I think, therefore, that the concept whose non-existence I intend to prove in the following, should be made unequivocally clear right at the start. By cyclical development I mean the characteristic feature of capitalist reproduction due to which production, though showing an undoubtedly upward tendency in the long run, *is interrupted by general overproduction crises which repeat themselves essentially at regular intervals and are carried by the same mechanism.* I deem this definition to be generally satisfactory, though too abstract. It may justly be asked: *what kind* of mechanism? The answer is: a *mechanism* under which, *on the basis of the reproduction of fixed capital, the cumulative process released by the discrepancy between productive capacities (production) and effective demand* (with the latter lagging considerably behind the former in growth rate) *results in a large-scale reduction of investments, incomes, demand, production and the economic activity as a whole.*

Thus, by cyclical development I essentially mean the same what is called by T. Erdős "cyclical in the classical sense of the word" [2].

For a natural or social process, to be cyclical, there are two conditions necessary: first, some event of great effect, a *first impetus* which may be accidental, to start the process and, second, a "*medium*" to carry the process, a medium whose *structure* and features make *the repetition* of the single occurrence mentioned *necessary* at regular intervals and maintain and reproduce cyclicality itself. I should like to stress that both conditions are *equally* important, both are a *sine qua non* of cyclical development. In respect of the cyclical development of capitalist reproduction this first impetus is a given economic crisis, a production setback of a force that involves a great shock for the economy as a whole. Historically, this role was filled by the economic

crisis which occurred in 1825 in England. And the structural conditions making the repetition necessary are what we usually call in the words of Marx, "material basis of the periodicity of crises".

We know it well that to start the cyclical movement of a clock we have to push the pendulum; yet we are inclined to forget that the cyclical movements of the economy must be also started by a first push. Marx was much aware of the importance of both underlying conditions when he wrote: "As the heavenly bodies, once thrown into a certain definite motion, always repeat this, so is it with social production as soon as it is once thrown into this movement of alternate expansion and contraction. Effects, in their turn, become causes, and the varying accidents of the whole process, which always reproduces its own conditions, take on the form of periodicity." [3]

It does, I believe, need no proof that periodicity expresses here the same meaning as what was called above cyclicality, since the cyclicality of reproduction and the periodicity of crises are terms denoting two aspects of the same thing.

Interpretation of the material basis of cyclicality

It is known that Marx held the special cyclical character of the reproduction of fixed capital to be the material basis of the *cyclical development* of reproduction, of the *periodicity* of crises. Should one, however, not intend to apply Marx's thesis mechanically to contemporary conditions — which would invariably lead to false conclusions because of the great change in circumstances — it will have to be made clear under what conditions this important thesis was established and what it actually means.

First of all, let be stated that the cyclical development of reproduction was not considered by Marx to be a law which must assert itself throughout the whole existence of the capitalist mode of production. Marx made it clear that this law was not a concomitant of capitalism but appeared only at a defined stage of the system. As a matter of fact, to the statement quoted above he added in the French edition of Capital, published in 1873, the following remark: "Mais c'est seulement de l'époque où l'industrie mécanique, ayant jeté des racines assez profondes, exerça une influence prépondérante sur toute la production nationale . . ." [4].

Thus Marx defines here the point where the cyclical development of reproduction began to assert itself as a law in economic history, while making at the same time an important reference to the structure of the economy to which we shall revert later. If the law appeared some time in the course of the existence of capitalism, logically nothing can be said against a statement according to which it may leave the stage of economic history earlier than capitalism itself, since *it is not a necessary concomitant of the capitalist relations of production.* It should have to exist as long as capitalism itself only

if the conditions which brought it about at a definite stage of development of capitalism remained unchanged throughout the existence of this system, or rather, if these conditions developed in a direction which would make its prevalence even more rigorously inevitable.

No doubt, when Marx formulated this thesis on the determinative role of the reproduction of fixed capital in the cyclical development, he had in mind an economy (primarily that of the most developed "model country" of the period, England) whose relations of production were characterized by the almost unlimited rule of *private capital*, in the framework of free competition and embracing the whole society. In other words, he thought of an economy where *investment decisions* were *entirely*, or almost entirely, but by all means in their decisive majority, *governed* by the effort to make profits, *by the profits expected.*

On the other hand, it is obvious that his statement referred generally to fixed capital *functioning in production*, and particularly to capital invested in industry, i.e. to the investments into fixed capital which will, when completed and entering into operation, supply material goods to the market and increase there the supply. This should be only natural, since such capital, namely *productive fixed capital consisting of mechanical equipment* did operate at the time mainly, one may say predominantly, in industry. The mechanization of agriculture was at that time still in its childhood or, much more, in its infancy. The only field outside industry where mechanical equipment played an important part were the railways (at sea the sailing vessels were still dominating). That Marx considered the role of industry to be decisive in this respect may be clearly seen from his remark quoted above and also from the fact that whenever he wrote about cycles in his works, he often — and obviously not by chance — used the term industrial cycle in the sense of reproduction cycle.

And, last but not least, in the capitalist society of the time of Marx it was characteristic of the relation between basis and superstructure that the central institution of the superstructure, the capitalist state, played hardly any direct role in the economy, or none at all. Its investing, producing and purchasing activities were insignificant, and may be considered negligible from the point of view of the assertion of economic laws.

Changes in the factors determining the material basis of cyclical development

From what has been said it emerges that the basis of cyclical reproduction is essentially determined by two factors. One of these factors is *social*, namely the fact that fixed capital investment decisions are motivated by the efforts of capitalists aimed at profit-making. This causes fixed capital

nvestment (including renewals) to be concentrated to certain relatively shorter periods, the period of the cycle which is considered by capitalists to be most favourable from the point of view of future profits. The second, no less important factor may be termed *technical.* It relates to the characteristic of the elements of fixed capital that due to their natural form and to the way in which they are used their wear and tear is a continuous process while their replacement constitutes a single act. These determining factors did not remain unchanged in the course of the development of capitalism but underwent certain modifications due to various circumstances. Moreover, the directions and also the effects of these modifications were different over time.

In the decades which followed the formulation of Marx's thesis, as a result of several processes working in the same direction, the material basis of cyclical development was extended and became consolidated. This was the result of the further expansion of capitalism in England, the leading capitalist country, as well as on a world scale, thus increasingly displacing small-scale commodity production. At the same time, investment decisions were also increasingly taken on profit grounds. In addition to industry, mechanical fixed capital and mechanization were gaining ground also in other fields, among them in the field most important after industry, i.e. agriculture, though for a long time the latter remained the last stronghold of small commodity production and physical work. Accordingly, the cyclical development of reproduction became more and more pronounced in the 6 to 7 decades following 1867 (the year of publication of the first volume of Capital). What is more, there was a tendency for the amplitudes to grow, for the periodical crises to become ever deeper.

Later, however, and to an increasing extent after World War II, factors came to prevail which act markedly in the direction of weakening and disintegrating the material basis of cyclical development and, in the final analysis, eliminating the cyclicality of the reproduction process.

The changes affect above all the social factors of cyclicality in an essential manner but, in a sense, also the technical ones.

Let us examine one by one the new factors which work against cyclical development and the ways in which they exert their effects.

In this connection it is first of all the qualitative change in the role of the capitalist state, or, more exactly of the monopol-capitalist state, which should be analysed. The relations of production in contemporary capitalism differ from those of a hundred years ago mainly in that *contemporary capitalism is state-monopoly capitalism.* In many advanced capitalist countries the monopol-capitalist state is the owner of a considerable part of the productive apparatus. It has an important role in the distribution of income, redistributing as it does about 25—30 per cent of national income by means of the budget.

The state is the greatest single investor and the greatest purchaser of goods and services. How does all this affect the cyclical character of reproduction?

Before answering this question, two interrelated problems should be clearly separated from each other. Firstly, what and how efficient are the means available to the contemporary monopol-capitalist state to mitigate or shorten an actual crisis, a production setback which has already begun. A discussion of this problem is beyond the scope of this study.

The second problem is, which of the structural changes summed up in the expression "the qualitative change in the economic role of the state" will act and with what intensity towards eliminating the *periodicity* — if not the occurrence itself — of crises and, preventing the effects to become in turn causes. In other words, what are the changes in the system due to which a crisis will not generate another crisis after a definite period of time and the reproduction process will cease to be necessarily cyclical.

Before going into the details of the question, a few general remarks should be made on the interrelations of these two problems mentioned above. In the context which interests us here, the substance of the question is that anything that successfully mitigates or shortens a given crisis, i.e., reduces the amplitude of the fluctuations of fixed capital investments and mitigates their bunching over time, will necessarily weaken the process of an effect becoming a cause, and tend to eliminate the cyclical development. This is similar to the phenomenon when someone, standing in a great hall or in a canyon surrounded by walls of rock where there are favourable conditions for an echo to develop shouts weakly or at too great a distance from the wall with the result that the echo will be weak or will not repeat itself.

From among the structural changes, the most important from the point of view of the problem under examination is, in my opinion, the great role *state investments* have come to play in many developed capitalist countries. Their share sometimes reaches and even surpasses one third of all fixed capital investments. This, however, implies an important deviation from the principle that the general determining motives of investment decisions were the profits expected. In state-owned enterprises the profit motive, though, of course, not entirely neglected is undoubtedly pushed into the background and thus it will happen that investments in such enterprises will continue to be made or probably even increased when the rate of profits or their volume is reduced. There are also — and their volume is not negligible — state projects where profits play no role whatever in the decision whether and when the investment in question should be made; such are, before all others, the investments of a military character.

State investments should be divided into productive and non-productive investments since the limitation of profits does not apply to both types in the same manner, nor is their effect after completion the same on the business

cycle. Obviously, in the case of a productive investment, although the state-owned enterprise may content itself with smaller profits, it can — apart from the purely military projects — not quite neglect the absorbtive capacity of the market, cannot disregard whether after the completion of the investment the products released by the new productive equipment can be absorbed by the market, be it but at a small profit. As regards, however, the non-productive investments of the state, after their completion they mostly render some kind of free service to the population. With these, therefore, not only the profit motive can be entirely dropped but a situation emerges in which an increase in such investments will not lead to a growing discrepancy between production (or productive capacities) and *effective demand* since in this case consumption is free and will, in fact, be limited only by the absolute capacity of society to consume and not by the income barriers set by the capitalist relations of production. The latter become virtually non-existent. A case in point is the huge highway construction program in the United States with the use of motorways generally free.

Due to all these reasons, state investments are not bunched within the period of upswing, their distribution over time may be said to be on the whole even. This does not mean that there are no fluctuations in the investment activities of the state. Fluctuations will arise but they will basically not be motivated by profit considerations and many times — primarily in case of military investment projects — they are not *economically* motivated at all. As a result, such fluctuations do not coincide with the fluctuations in the volume of investment activity due to economic causes; they often even counterbalance them. A typical example is shown in the following table:

Annual percentage changes in investments made by enterprises in France

Denomination	1961	1962	1963	1964	1965
State enterprises	+ 5.4	+3.1	+7.5	+13.0	+10.1
Private enterprises	+14.8	+9.8	+5.6	+ 4.3	— 1.2

Source: Экономическое положение капиталистических и развивающихся стран. Supplement to Мировая экономика и международные отношения. 1966. № 9. p. 109.

In the past, primarily under classical capitalism, but essentially also under monopoly capitalism, the date of renewing fixed assets was determined by their life-span and that again by physical tear and wear. The role of what is called moral obsolescence was but small. At present, this situation is not so unequivocal. The change can be again traced back partly to the role of the state and partly to the rapid technological development. The state determines, by force of law the percentages the capitalist enterprises are allowed

to use in their depreciation allowances. This regulation is of a differentiating character and enables different rates to be applied in various industries. It creates above all favourable conditions for the great monopolistic war industries which can thus amortize their fixed capital long before it would be actually worn down in the physical sense. This partly increases the net profits of these enterprises, as by making part of their profits appear among the costs they can avoid taxation on this part. On the other hand — and this is more important from the point of view of our problem — it creates, in the form of rapidly accumulating depreciation funds, the financial means with which these favourably placed enterprises will be able to renew their fixed capital long before it is physically worn down. The monopolists, intent on achieving modernization and a reduction of costs resulting in greater competitiveness will, of course, take the arising opportunity.

As regards the effect of the rapid technical progress of our era on the cyclical development of fixed capital, the following may be established. Rapid technological progress decidedly increases the importance of moral obsolescence, especially as regards producers' durable equipment. Capitalist enterprises — even the largest ones — can hold their ground in the keen monopolistic competition only if they incessantly strive to modernize their productive equipment. To achieve this, they will replace their equipment at shorter periods, at a date determined by moral rather than by physical obsolescence. With technological progress and the application of innovations taking place unevenly — technical progress may gain in speed now in this now in that industry or even create an entirely new one — this shortening of the replacement period is also varying from industry to industry and taking place in an asynchronous manner. All this is obviously leading to a situation where the investment requirements due to moral obsolescence are not bunching throughout the national economy in a way as they did when renewals were necessitated only by the physical wear and tear of fixed capital.

Another important structural change which capitalism underwent in the last two decades is the *increase in the weight of the non-productive sphere.* This has, of course, become manifest also in the field of fixed capital investment, with the share of the branches producing material goods (such as industry or agriculture) in total investments steadily diminishing. The fact that industrial fixed capital (which occupies a central position from the point of view of cyclical development) is loosing in relative importance, reveals itself also in that, e.g. in the United States over the years 1961 to 1965 the fixed-capital investments in manufacturing amounted to $ 85.2 thousand million dollars, while for the trade and service branches the corresponding figure was 100.2 thousand million and for public construction 94 thousand million dollars [5]. This also goes to show that the role of industry can be considered no longer decisive in this field. This is a remarkable change as regards the

cyclical character of the reproduction process as a whole, since demand for the output of the non-productive servicing branches does not show the same marked cyclical development as that for material goods, nor does, as a consequence, the profitability of the capital here invested. For instance, the amount spent on various services by consumers did not diminish in the United States even in the recession year 1958. If, however, the profitability of capital fluctuates hardly or not at all, then the fluctuations and bunching in the volume of investments directed to the branch in question will obviously be smaller.

A hundred years ago there was, apart from dwellings, only one group of goods playing any part in social production that had the technically determined feature of becoming gradually obsolete while its renewal constituted the result of a single act, and this was productive capital (or, rather, its part consisting of machinery and equipment). Under the given social conditions, it was only necessary that its movements should provide the material basis of cyclical reproduction.

In our age, however, a group of commodities has emerged and grown in importance that has formally the same technical qualities, namely the group called *consumers' durables*. As a matter of fact, these are used and worn down gradually, but their purchase and replacement is a single act. These qualities carry in themselves the possibility of their reproduction becoming cyclical. But for this actually to happen, certain social conditions must also be present. In this connection it should be pointed out that since the goods in question do not perform the function of capital but that of consumer goods, their purchase is influenced not by profit expectations but by considerations of income (derived partly from labour and partly from surplus value) and by credit conditions (consumers' durables being bought mainly on a hire-purchase basis). The latter, however, depend partly on current business conditions and partly on measures of economic policy. Of course, the established pattern of consumption, i.e. consumption habits, play also a role. It is an empirically established fact that in the U.S., the country where the role of consumers' durables in social production is the greatest, their sales volume shows over the period since World War II markedly observable five-year cycles. Thus, since the purchase of consumers' durables with its strong secondary effects throughout the economy plays an important part in the development of general business conditions, a *second material basis, as it were, of cyclical development has emerged.*

It is easy to understand that once the two movements which show a cyclical development, i.e. fixed capital investment and the sales of consumers' durables, are taking place asynchronously, with a time lag, the whole process of cyclical reproduction will be curtailed. And there is nothing to enforce the coincident occurrence of the two cycles; moreover, their non-coincidence

is an empirical fact observed in some countries and in certain periods. And the weight of this "second material basis" can be judged if one considers the fact that e.g. in the United States the sum total of purchases of consumers' durables was in the last decades generally much higher than that of producers' durable equipment.

There is another group of products which, similarly to the elements of fixed capital and to consumers' durables, has strong secondary effects acting towards increasing demand and this consists of military equipment. Though their purchase and use do not show the characteristics peculiar to the former two commodity groups and serving as a basis of cyclical development, as a result of their strong indirect demand-increasing effects they may have considerable influence on business and thus on the development of the cycle, provided that government purchases of this character amount to substantial sums. This is the situation today in more than one of the advanced capitalist countries, above all in the United States where in 1963 $ 17.6 thousand million were spent on military equipment. (For the sake of comparison: the sum spent on producers' durable equipment amounted in the same year to 34.8 thousand million and that spent on consumers' durables to 53.4 thousand million dollars [6].) Purchases of military equipment depend on decisions of military policy. Accordingly, the profit expectations influencing investment decisions of monopolies turning out such products will be affected by those policies rather than by the general cyclical movements. Investments of this type will, therefore, be made not cyclically but entirely independently of the cycle, and even — but not necessarily — anti-cyclically, more often than not with great fluctuations.

It is well known that the effects of increases in consumption or demand on the increase of the volume of investments, the quantitative relationship between the two increases is expressed by the *accelerator or acceleration coefficient*. The essential feature of this relationship is that a given growth rate of demand (as expressed in percentages) should generate a higher rate of growth of the volume of investments in the field of production where the demand happened to increase. The acceleration coefficient expresses by how much, or *more exactly, how many times the increase of the one is greater than that of the other*. The magnitude of the acceleration coefficient — the percentage increase in investments due to a one per cent increase in demand — has, however, a strong influence on the amplitude of fluctuations in the volume of investments, on the distribution of investments over time, on their bunching. And this applies both ways; what has been said about increases is also valid for decreases.

The magnitude of the accelerator depends, first of all, on the lifetime of the elements of fixed capital. Should the average life-span of fixed capital be e.g. 20 years, then, in order to maintain an unchanged level of production,

investments of a replacement character will have to be made each year at a rate of 5 per cent of the value of the fixed-capital stock. Should the average life-span be 10 years, the rate will become 10 per cent. Now, if, in order to achieve a 10 per cent increase of production, we wish to enlarge the stock of fixed capital by 10 per cent, this means in the first case a threefold, in the second case only a twofold increase of the investment volume as against the preceding year (from 5 to 15 and from 10 to 20). Thus, the shorter the life-span of the elements of fixed capital, the earlier they will be replaced — because of their material properties or obsolescence or the possibilities offered by higher rates of depreciation allowance — this will in each case result in a diminishing acceleration coefficient. Under such conditions net investment represents only a relatively small part of gross investments and even strong fluctuations in the former will but slightly affect the latter.

All this is, however, fully valid only in the case when production had been carried out at full capacity before the rise in demand set in. It is easy to see that, in case there had been an unused capacity of 5 per cent, the above 10 per cent increase of production could be realized by putting into operation the unused capacity and increasing investments at half the rate as above (from 5 to 10 in the first, and from 10 to 15 in the second case mentioned). The acceleration effect will thus be lower. In general, the acceleration effect is directly proportional to the degree of capacity utilization. And since nowadays there are considerable unused capacities in several capitalist countries and especially in the United States, this will tend to reduce the investment-raising effect of the increases in demand.

Finally, it is worth mentioning that the acceleration is influenced by the higher effectivity of newly installed, as against that of older, machinery. In this situation, which will prevail especially in periods of rapid technological progress, it will not be necessary to invest 10 per cent of the total fixed capital in order to replace machinery yielding 10 per cent of total production but a lower rate of investment should suffice (calculated, of course, at constant prices). Rapid technical progress will thus act towards reducing the acceleration effect — with the consequences outlined above.

The consequences of the changes

As mentioned above, the changes which have in recent decades and especially after World War II taken place in the material basis of cyclical development, had the effect that the life-span of fixed capital was reduced and their period of renewal correspondingly shortened. This obvious relationship as well as the empirical fact that in the United States there were four recessions at the short intervals of 4 to 5 years, further the remark of Marx that he had thought it likely that the industrial cycle would shorten, suggested

to more than one Marxist economist to look for an explanation or at least for an important element of an explanation of changes in the reproduction cycle after the Second World War to the shortening of the cycle. This view was held by J. Varga. A weakness of this explanation lies, first of all, in that it does not take into account the differences in the mechanism of the individual American recessions nor the fact that no similar phenomena could be observed outside the United States.

Starting from the factors which determine the material basis of cyclical development, it may be stated in principle that this shortening of the period of a cycle would be possible and true *periodical* crises would possibly follow each other every 4 or 5 years if the changes mentioned and exerting their effect from the side of technical factors had taken place in an unchanged social medium, i.e., if the profit principle had remained the main social motive of fixed capital investment decisions and if industry had preserved its leading role. As we have pointed out, this is not the situation, and the *result is not a shortening of the cycle but a strong tendency towards the elimination of the cycle itself as understood in the classical sense.* A striking proof is given by the trends in reproduction in the last two decades in Western Europe and Japan. If, however, we intend to define the changes which have taken place in the reproduction cycle, we must be able to give also their theoretical interrelation in order to ascertain that what we are dealing with are not special phenomena, characteristic of a certain period of capitalism only and thus on the whole incidental, but tendencies arising from the substance of capitalist development.

A question may, however, justifiably arise. How can a strong tendency towards the elimination of the cycle be reconciled with the trends in reproduction in the United States, the leading capitalist country?

Since 1947, there were four more or less important recessions in the United States. *As regards the mechanism of these recessions*, the deepest of them, that of 1957—58, where the decrease in industrial production amounted to 14 per cent, actually showed features similar to those of the periodical cycles. Is this important criterion, however, sufficient in itself to prove that the process of reproduction was cyclical throughout the period after the War? Is it sufficient proof that within 20 years there was one crisis whose mechanism was of this type? I do not think so, though earlier — on the basis of its character and of the fact that in 1947 a new industrial cycle began in the United States — I, too, was inclined to consider the 1957—58 crisis a periodical one, closing a cycle.

In his article quoted above, T. Erdős has pointed out that in order to be able to state "whether there is any regularity as regards time in the occurrence of economic disturbances, *at least three* recession periods are necessary but not even then is it entirely excluded that we become victims of a

deceptive play of random events" [7]. I think this qualification to be entirely justified, but would thus complete it: "three recession periods *with the same mechanism.*" Now, if we accepted it as a fact that *after the break* caused by the Second World War the — assumedly cyclical — reproduction began in the United States in 1947, we would up to now have had only one such recession. And even if the opinion of some economists who believe the 1948—49 crisis to have been of the same character as the one of 1957—58, were accepted, even in this case there would have been only two recessions with the same mechanism and not three. *We have, therefore no sufficient grounds to judge the reproduction process to have been cyclical.* Therefore, considering the fact that the changes which have affected the material basis of cyclical development in an anti-cyclical sense could be registered also in the United States and, further, since neither the recession of 1948—49 nor that of 1957—58 were deep enough — and particularly not in a medium which had become unfavourable — to start the chain of causes and effects that could bring about a cyclical development, I am inclined towards the opinion that reproduction in the United States is at present not cyclical.

Thus the statement that *at present the process of capitalist reproduction need not necessarily be cyclical and is, in fact, not cyclical* can be supported both by theoretical considerations and by the facts of actual economic development.

About the perspectives

Granted that the present capitalist reproduction process is not necessarily cyclical, what should be expected in the future? Will this situation continue or should we expect new changes in this field, changes which might bring back the cyclical phenomena in the classical sense of the term? This question should be scientifically examined, primarily by those in whose opinion reproduction is no longer cyclical in the capitalist world, or at least in part of it.

This is what T. Erdős does in the article quoted above. With Western Europe and Japan in view, he answers the question as follows: ". . . *we will have to reckon also with the occurrence of similar* (i.e. periodical — F. M.) *crises and with the concomitant cyclical development of capitalist reproduction in the classical sense* . . . Certain unforeseeable events . . . may cause extremely grave problems in international trade. And on this soil . . . a possible periodical overproduction crisis may reach relatively greater dimensions." And his final conclusion: ". . . in the same manner as the theses concerning the capitalist reproduction process of the fundamentally private-monopoly capitalism prevailing prior to World War II (i.e. before the transformation into state-monopoly capitalism took place) cannot be mechanically applied to the reproduction process going on under the conditions of state-monopoly capital-

ism after the Second World War, *it would not be correct to apply unconditionally the theses valid for the last twenty years to the prospective development of the capitalist economy.* The development of state-monopoly capitalism into a system offers a chance for capitalist reproduction to unfold, at least this is what could be experienced in many advanced capitalist countries. It is not certain that the conditions characteristic of this period will remain so once state-monopoly capitalism will have fully emerged as a system, and will no longer constitute a change in the capitalist relations of production as against the preceding period." [7]

The possibility of a crisis more acute than those experienced since the Second World War can, undoubtedly, not be excluded either in some individual capitalist countries or in the capitalist world as a whole. This should, indeed, be reckoned with. But does this necessarily imply that such a crisis will be cyclical, that the cyclical development of the reproduction process in the classical sense will reappear? In my opinion it does not, and this for the following reasons.

First of all, on what basis will it be possible to state about the next crisis that it is periodical? This can be done neither now, *ex ante*, nor after *one* crisis, precisely because of the restricting qualification made by T. Erdős, relating to "three recession periods". On the other hand, since in Germany, Japan and Italy there has been no general periodical overproduction crisis for more than 30 years and in several other countries there has been none since the Second World War, it must be declared that to re-establish cyclical development *both its preconditions must come about again.* This means above all that a "first impetus" is again needed in the form of a deep crisis releasing a serious shock. (Of course, it need not necessarily reach the dimensions of the 1929—33 crisis, a catastrophe unparallelled in the history of capitalism.) Such a crisis may occur. But if we keep in view the efficient measures at the disposal of the monopoly capitalist state for the mitigation of a crisis and also the structural changes which are working in the same direction, the occurrence of a really deep crisis with its "first impetus" must be judged *rather improbable.*

Moreover, will capitalism in the near future be a suitable medium for a crisis of this type to start the chain of causes and effects which create the cyclical development? According to T. Erdős, it will, since the theses valid for the development of capitalist economy over the last 20 years cannot be unconditionally extended to the future for the reason that this development was determined not by factors exerting their effect constantly and asserting themselves in the long run *but by the change itself* — as a single short-term process — which resulted in the emergence of the production relations of state-monopoly capitalism. It would undoubtedly be wrong to project mechanically the relations of today into the future. But is there anything to cause

these relations to change in the near future, and if so, in a sense to restore cyclical development? Let us, *per analogiam*, refer only to the fact that the relations which emerged towards the middle of the past century had determined the cyclical development of reproduction for hundred years. The decisive question, however, is not this but whether it was as a *temporary effect of the emergence of state-monopoly capitalism, of the change itself*, that reproduction has not been necessarily cyclical for two decades. This is, in my opinion, not the case, since the changes described above, which modify the material basis of cyclical development, are in their majority *not temporary*. They follow from the development of the productive forces, from the structural changes which accompany state-monopoly capitalism and will, therefore, remain effective after the stabilization of the latter, after its growing into a system; in other words, they *are of a permanent character*.

Since the occurrence of a forceful new "first impetus" is improbable and since the capitalist economy as a medium of cyclical development has undergone structural modifications of a permanent character, I think it highly unlikely that *the cyclical development of capitalist reproduction in the classical sense should reappear* in the next few decades.

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ЦИКЛИЧНО ЛИ СОВРЕМЕННОЕ КАПИТАЛИСТИЧЕСКОЕ ВОСПРОИЗВОДСТВО?

Ф. МОЛЬНАР

Статья занимается изменениями, происшедшими за последние два десятилетия в материальной основе цикличности воспроизводства. Из их числа в качестве важнейших рассматривается рост государственных капиталовложений; увеличение роли морального износа вследствие быстрого технического прогресса; увеличение доли непроизводственных капиталовложений, проявляющих меньшие колебания; влияние т. н. потребительских капиталовложений; ослабление акселерационного эффекта потребительского спроса вследствие изменения определенных факторов.

Перечисленные изменения приводят к тому, что уменьшается концентрация капиталовложений на короткие периоды, и сокращается амплитуда их колебаний. На основании всего этого автор приходит к заключению, что при современном капитализме ход

воспроизводства не является цикличным. Этот вывод действителен не только для экономики быстро развивающихся западноевропейских стран и Японии, но и для Соединенных Штатов, где хотя и были экономические спады, однако нельзя доказать их циклический характер в классической марксовой трактовке.

Что касается будущего хода капиталистического воспроизводства, то согласно автору, восстановление цикличности воспроизводства в классическом смысле является весьма маловероятным, ибо изменения, противодействующие цикличности воспроизводства, носят постоянный характер, и реально — вследствие антициклического вмешательства государства — нельзя ожидать кризиса такой глубины, который послужил бы как бы первичным толчком к восстановлению цикличности.

Gy. Erős

A SPECIFIC ASPECT OF THE MONETARY RESERVES HELD BY DEVELOPING COUNTRIES AND A PROPOSAL THEREON

The article analyzes the components of monetary reserves in the develop ing countries. The author reaches the conclusion that simultaneously with their being gravely indebted, the developing countries have claims of about 8—13 billion dollars on the most advanced capitalist countries in the form of a stock of foreign exchange held in the key currencies. The losses due to the higher interest paid on the existing stock of debts and the lower interest received on the claims held in the form of foreign exchange is estimated by the author at $ 350—600 millions annualy. In the second part of the article the author advances a practical proposal to convert the stock of the most burdensome debts of the developing countries into debts to IMF by using the reserves existing in convertible foreign exchange and to save thereby about $ 320—600 millions annually for the develop ing countries at the expenses of the profits of the most burdensome creditors. This conversion would serve both the reduction of the stock of debts and an improvement of creditability.

The "monetary issue" is one of the most debated problems of modern international economic life. One is tempted to ask, whether the weight of books, protocols, reports, pamphlets etc., discussing this issue reached the weight of gold in monetary reserves, but it is quite certain that the publications concerned could not be piled up in Fort Knox, though I suppose there is a lot of empty room recently.

Therefore, I cannot undertake in the following to give a general survey of the entire issue, I can seize only one corner of the whole problem. In doing so I will follow the line taken up in the framework of UNCTAD (United Nations Conference on Trade and Development) while discussing this theme. May I begin, therefore, with the question raised by the Expert Group convened by the General Secretary of UNCTAD in 1965.

I

1. Are the monetary reserves of the developing countries inadequate?

A report entitled "International Monetary Issues and the Developing Countries" [1] has been advanced by the Expert Group convened by the Secretary General of the UNCTAD in November 1965. This Report, analysing the general economic position of the developing countries, states that these

countries „have not been able to increase their reserves in proportion to their payments". The study points out that in all member states of the International Monetary Fund the ratio of reserves to world imports has fallen from a little over 80 per cent in 1948 to slightly under 50 per cent in 1964. It proves also that — within this general environment — in the developing countries the ratio of liquid reserves to imports should be relatively higher than in the developed ones. Although it is very hard to define the point at which reserves could be considered adequate, the Report in its further analysis and in its proposals expressed the view that "there appears to be a *prima facie* case that the general level of reserves is inadequate, or in imminent prospect of becoming so". Furthermore, it states: "The developing countries have a legitimate and pressing need for additional liquidity".

The Report of the Expert Group does not back up its statements with figures. This stands to reason because, prior to the Report, the Secretariat of the UNCTAD prepared and distributed a compiled review of data, based on manifold resources, for the use of the Expert Group [2].

Without repeating the analysis and data of the latter study, attention should be drawn to the fact that the reserve ratio of the developing countries decreased from 70.1 per cent to 39.2 per cent from 1948 to 1964. This illustrates (comparing it with the world average ratio of 80 per cent in 1948 and 50 in 1964) that the level of reserves is lower and its decline was steeper in the developing countries than in all advanced member states of the IMF. Therefore, if the world average of liquidity might be considered as inadequate, the liquidity position of the developing countries is far more inadequate indeed.

It seems necessary to quote some data shown in the study referred to above. According to these, reserves of the developing countries amounted to US $ 12 535 million at the end of 1963. This sum tallies almost precisely with the amount of $ 12 430 million shown in the "International Financial Statistics" of the IMF up to the April edition of 1965.

In the July copy of 1965 of the same bulletin the IMF has changed retroactively the table relating to the developing countries' reserves. In this copy the combined reserves of the developing countries were stated as $ 9 790 million for the end of 1963. The reason given by the IMF for this change was that the foreign exchange items which did not belong to stocks of monetary authorities had been left out. Thus a difference of approximately $ 2 700 million turned up between the data of the Secretariat and the new data of the IMF due to the change carried out later in the system of the tables.

It should be mentioned, however, that the stocks of Greece, Spain, Turkey and Yugoslavia are not included in the figures of the study of the Secretariat as stocks of developing countries. The combined reserves of these countries amount to almost 2 000 million dollars.

Taking into account these two controversial corrections, the combined reserves of the developing countries may be put to $ 12 000 million for the end of 1963.

According to the study of the Secretariat, the total reserves of all countries amounted to $ 69 245 million at the end of 1963. This amount is equal to the sum ($ 69 200 million) appearing under the same heading in the IMF Statistics until the April copy of 1965. In the July copy of 1965 the same aggregate was shown with $ 66 510 million (of course, here too, the difference of about $ 2 700 million plays its part).

If both corrected sums were taken into consideration, i.e. the $ 12 000 million reserves held by the developing countries and the total reserves with $ 66 510 million, then an 18% share of the developing countries in the total reserves of the IMF member

states could be stated. This share of 18 per cent to the 20 per cent quota of the developing countries in world trade supports in another way the statements of the Expert Group and of the Secretariat, namely: *the reserve ratios of the developing countries are less favourable than the average of the IMF member states.*

2. Is, moreover, also the composition of the aggregate reserves inadequate?

Both studies cited above analyse the reserves as a whole. Neither of them mentions the fact that the official reserves combine three elements i.e. gold, foreign exchange and IMF gold tranches.

We wish to analyse below the components of reserves on ground of the stocks on September 30, 1964. The turning point of September 30, 1964 has seemed convenient because this is the last date for which the reserves were published in the IMF Statistics according to both methods (showing the difference of about $ 2 700 million mentioned above).

In the April Statistics of the IMF 1965 the "total reserves" amount to $ 70 035 million at the end of the third quarter of 1964. Within this total the components of the reserves and the share of the developing countries were as follows (according to the UNCTAD grading):

($ million)

	Gold	Foreign exchange	IMF gold tranche	Total
All member states of the IMF	40 495	25 615	3 925	70 035
From these:				
Developing countries	3 580	10 446	381	14 407
Percentage share	9	40	10	20

The data in the July copy of the IMF Statistics, referring similarly to the end of the third quarter of 1964, show the following:

($ million)

	Gold	Foreign exchange	IMF gold tranche	Total
All member states of the IMF	40 495	22 850	3 925	67 270
From these:				
Developing countries	3 550	7 751	381	11 682
Percentage share	9	34	10	17

Thus, as a result of a change in method, the figures referring to the same date conspicuously differ. The share of the developing countries in the aggregate reserves amounts to 20 or 17 per cent; their share in the foreign exchange reserves is 40 or 34 per cent. [Their part in the monetary stock of gold (9 per cent), and the IMF gold tranche (10 per cent) do not show any change.]

But, choosing either the first or the second publication, in both cases a considerable difference by components may be stated (9 per cent share in gold stock; 40 or 34 per cent share in foreign exchange stock).

The difference can be particularly well demonstrated by examining the distribution of reserves held by the "Group of Ten".

April Statistics of 1965

($ million)

	Gold	Foreign exchange	IMF gold tranche	Total
All member states of the IMF	40 495	25 615	3 925	70 035
From these:				
The Group of Ten	34 753	10 683	3 215	48 651
Percentage share	86	40	80	70

July Statistics of 1965

($ million)

	Gold	Foreign exchange	IMF gold tranche	Total
All member states of the IMF	40 495	22 850	3 925	67 270
From these:				
The Group of Ten	34 753	10 683	3 215	48 651
Percentage share	86	47	80	72

The essential structural difference existing between the most advanced countries and the developing ones regarding the components of their monetary reserves is well illustrated in the tables. According to these, eleven of the 102 member states of the IMF are holding 86 per cent of the total stock of gold, whereas the developing countries' share is only 9 per cent. On the other hand, from the aggregate stock of foreign exchange the developing countries hold 40 or 34 per cent, i.e. almost exactly as much as the "Group of Ten" whose gold reserves are ten times higher than theirs.

Having examined the components of the monetary reserves it seems that the *prima facie* case (namely, that the general level of reserves in the

developing countries is inadequate) could be diagnosed more exactly by saying: *Within the tight reserve position of the developing countries their share in the gold stock is strikingly low, their share in foreign exchange reserves disproportionally high.*

3. What is the meaning of the disproportionate high share of foreign exchange reserves, held by developing countries?

Foreign exchange reserves incorporate claims, payable on sight or on short term, against certain other countries. According to the IMF Statistics, cited above, the claims held by the monetary authorities of the developing countries amounted to 10.4 (or 7.8) billion dollars by September 1964. These assets have been generated by the fact that certain countries — whose currencies figured in the reserves — have not paid the countervalue of commodities and services delivered by the developing countries up to the amount of the reserves. In other words, the developing countries have credited part of their exports and services.

But if the developing countries may be considered as creditors up the amount of their foreign exchange reserves, who are the debtors? The IMF report [3] of 1965 gives an indirect answer to this, as follows:

Composition of reserves	In billions of US dollars			
	1961	1962	1963	1964
Gold	38.89	39.27	40.23	40.86
Gold tranche	4.16	3.80	3.94	3.75
Claims on the USA	11.98	12.55	13.94	14.94
Claims on the U. K.	7.10	6.21	6.53	7.05
Other	0.54	1.26	1.87	2.39
	62.67	63.09	66.51	68.99

The figures above show that from the existing aggregate foreign exchange reserves amounting to 24 billion dollars, some 15 billion, i.e. about 60 per cent consists of claims on the USA and roughly 7 billion, i. e. about 30 per cent on the United Kingdom. One may draw the conclusion for the purposes of a rough estimate that also the $ 10.4 (or 7.8) billion of foreign exchange held by the developing countries consist in their bulk (90 per cent) of claims on the USA and the United Kingdom and only the rest on other developed countries (presumably Switzerland, Germany, France etc.).

The next question may be whether this phenomenon, e.g. that the developing countries grant substantial credits to the most advanced countries by means of foreign exchange reserves, is a temporary or a stable tendency.

In the attached Table the stocks of gold and the foreign-exchange reserves of the IMF member states are shown for the end of September, 1964 and 1965. According to this table the aggregate reserves of the IMF member states did not undergo any essential change during that period. Within the reserves the gold stock accrued with some $ 650 million while the foreign-exchange stock decreased by nearly $ 750 million. The increase of the gold stock has, in its major part (more than $ 400 million) fallen on to the advanced countries. The foreign-exchange stock of these countries has decreased with somewhat more than $ 1.2 billion, whereas the developing countries have increased their foreign-exchange stocks with a further $ 500 million. Thus, the official foreign-exchange reserves of the developing countries increased by the end of the third quarter of 1965 to almost $ 8.3 billion.

This phenomenon was not restricted to the period in question. As early as in 1958 the developing countries held foreign-exchange reserves up to $ 6.6 billion and these reserves increased almost every year (1959: 6.8; 1960: 7.4; 1961: 6.8; 1962: 6.7; 1963: 7.7 billion).

Hence, for the last 8 years the developing countries were crediting to the world's most advanced countries continuously about 7 to 8 billion dollars in the form of monetary official reserves, and it may be assumed that the situation was similar over the whole twenty-year period of the gold-exchange standard system's existence.

Another point is whether the developing countries do grant credits to the most developed countries only through the holdings of their monetary authorities. Again, the answer is indirect, consisting in the already mentioned fact that, according to IMF, the foreign-exchange reserves in the developing countries outside of the control of the monetary authorities amounted to $ 2.7 billion in September, 1964. The IMF did not doubt the existence of these holdings, it had discontinued to record them only because they were not under the control of the monetary authorities. In compliance with this statement of the IMF, the foreign-exchange stocks of the developing countries can be put to 11 billion (8.3 + 2.7) for the end of 1965. However, much is to be said for the possibility that the aggregate stocks of the developing countries are substantially greater. Over and above the official reserves, commercial banks and other financial institutions have assets towards the USA of about $ 10 to 11 billion and towards the United Kingdom of some $ 5 billion. It is beyond doubt that from these assets — though not on *pro rata* level — banks, businessmen and individuals of developing countries have a share, too. It is very likely that the assets of the developing countries should surpass the aforesaid $ 11 billion by 1—2 billion.

To sum up: *The specific aspect of the gold-exchange standard system from the point of view of the developing countries is that it compels them in a permanent creditor position towards the most advanced countries—presumably 90 per cent towards the USA and the United Kingdom. This permanent asset runs up to $ 8 billion if we count only the official foreign-exchange reserves. With other items it may well exceed the sum of $ 11 billion, and a rough estimate of 12—13 billion could not be far from reality.*

4. Benefits and costs of the creditor position of developing countries towards the most developed countries

The main advantage of the gold-exchange standard system for a country lies in that it is not "compelled" to hold its monetary reserves in gold. The role of the reserves is taken over in a flexible manner by their dollar, sterling and other deposits and by short-term drafts. These assets have the advantage over the gold that they bear interest. Assuming that the average interest on these assets amounts up to 3—4 per cent per annum, it is obvious that the developing countries save some 250—400 million dollars by holding their reserves not in gold but in the currencies of the most advanced countries.

Considering this advantage some points should be mentioned.

From this angle, the situation of a country ought to be judged depending on the position of its balance of payments. If it is permanently stable, the country may hoard its surplus in gold, in compliance with the genuine target of the reserves i.e. in order to ensure a smooth functioning of the economy. In this case, though bearing no interest, gold does not represent a loss. There is a "lucrum cessans" at most. Quite different is the position of a country that is indebted abroad and has an unstable balance of payments. Such a country, in order to create some modest reserves with which temporary gaps may be bridged, must increase its foreign debts. But to create reserves at the expense of getting indebted does not mean only "lucrum cessans" but an outspoken loss, because the yield of the reserves is surely lower than the interest charged on the debt. Thus, for such a country the holding of reserves in foreign exchange rather than in gold means but a relative advantage, i.e. lesser loss.

This relative advantage is represented in the interest yielded by the foreign-exchange assets. But these assets are subject to the risk involved in eventual changes in the rate of exchange of the currencies in question. It is easy to realize, e.g. that if, say, a 100 per cent increase in the gold price were to occur, the relative advantage of many years would be nullified at once.

Apart from such a drastic devaluation, the permanent depreciation of yearly 1 to 3 per cent can be observed even with the strongest convertible currencies. This, of course, lessens the advantage of the interest yield.

All these considerations are relevant only when we assume that there exists a possibility for the foreign-exchange reserves of the developing countries to be converted to gold reserves. The gold exchange standard system, however, while offering the advantage of being able to hold reserves in foreign exchange, also prohibits their conversion to gold. Out of the official reserves of the developing countries about $ 2.5 billion are held in pound sterlings and some $ 5 billion in dollars. The conversion of these assets into gold would absorb the whole gold stock of the Bank of England and about two fifths of the gold of the Federal Reserve Bank. Conversion of the currency reserves of the developing countries into gold is all the more inconceivable because, in this case, $ 9 billion short-term claims on England and $ 20 billion claims on the USA would be left without gold cover. (Not to mention the domestic monetary obligations.)

Whereas the possibility of conversion from foreign exchange to gold reserves is theoretical and the advantage of holding reserves in foreign exchange instead of in gold is but a relative one, the disadvantage of the system for the developing countries is a very real one. It consists in their being forced into a permanent creditor position at the same time when they are heavily indebted abroad. In our view such a stable creditor position, even if the foreign-exchange reserve yields an interest of 3 to 6 per cent, could mean an outspoken loss. With this we arrived at the main point of the analysis, where we may attempt to approach a numerical estimation to what extent the foreign exchange assets of $ 8—10 billion in the reserves of the developing countries cause an "invisible" deficit in their balance of payments.

I suggest a two-way approach to clarify this deficit:

a) It seems quite natural to approach the problem on hand of either single or aggregate data of the developing countries in order to establish the average yield of the foreign-exchange reserves. At the same time, also the average burden of existing debts of the same countries should be estimated. The difference between the interest on foreign debts and the interest yield calculated on the basis of the average stock of foreign exchange reserves would disclose the specific loss of the developing country or countries. In the following we shall call this method the "individual" one.

For example: if the average interest yield of the reserves is presumed to be 4 per cent and at the same time the interest charged by the advanced capitalist countries is 8 to 10 per cent and foreign-exchange reserves amount to $ 8—10 billion, the speciffic loss of the developing countries would be anywhere between $ 320 and $ 600 million per annum.

b) Apart from the individual data of developing countries, we might regard the disadvantage attached to foreign exchange reserves of the developing countries as being an aliquot part of the profit gained by the countries

issuing the "key currencies". In this case the "individual" yield of reserves (e.g. 4 per cent) is not to be set against the average ("individual") interest charge of the debt-stock of developing countries but against the gains brought about by the use of deposits in the countries issuing the key currencies (deductive method).

For example: the average yield of the $ 5 billion deposit of the developing countries in the US is 4 per cent whereas US industrial investments have an average return of 13.1% at home and 10.5% abroad.* In this example the "expropriated" income of these $ 5 billion, representing 60 per cent of the foreign exchange reserves of the developing countries is between $ 325—455 million.

We are of the opinion that, in their aggregate results, the two methods would not show any essential numerical differences. But the differences relating to various individual developing countries might be significant.

In lack of exact and detailed data on the foreign debt and debt-service of the developing countries, there is no possibility to define the supposed disadvantage numerically on an "individual" basis.

To answer this question it would be necessary to separate the interest income within the debt-service burden of the developing countries to verify the average yearly interest yield of their foreign exchange reserves. Then the gross figures of expenditure on debt-service ought to be divided into interest and interest-like dividends, on the one hand and to amortization, on the other. Moreover, it would be necessary to establish more precisely the stock of foreign debts of the developing countries abroad (public and private).

The importance of reinvestment should be stressed, too, when examining the average interest burden. Reinvestment does not figure in the balance of payments of the developing countries as an expenditure item, whereas, it is added to the items of capital inflow. But, although the reinvested returns do not figure in the balance of payments, they still represent part of interests and profits already earned and as such they should be added to the debt service appearing in the balance.

The establishment of the above-mentioned "individual" method does not necessarily require a complete system of statistical data comprising every developing country. When a set of "representative" countries is carefully chosen, a few country-studies would permit to establish such individual ratios of interests yielded and paid and could be more generally applied on the total stock of foreign exchange of some other, or all developing countries. In want of more exact data, we might even start from the general situation of the money market. For example, at the time of writing, we would be fairly

* The data used only as an example have been established by Mr. Herbert G. Grubel for the years 1953—59 from the tables to be found in the work of Mr. R. E. Mikesell [4].

safe in assuming that a Central Bank following reasonable reserve policy may achieve an average interest of 4.5% on its US dollar deposits, about 5.5% for sterlings, and 4% for Swiss francs, DM and French francs. On this basis a rough estimation cannot go far wrong.

The comparatively reliable assessment possibilities of the average yield of foreign exchange reserves permits to undertake calculations by the already mentioned "deductive" method. The other part of the question could be answered on the ground of some existing estimates regarding the "efficiency of capital" in the developed capitalist countries.

In this regard it is worth while to mention a debate on the subject of "Benefits and Costs of the role of the USA as a World Banker" [5—9].

Along this debate, though the authors — foremost Mr. Grubel and Mr. Aliber — criticised each other's arguments but seemed to agree on one point even numerically, and from our angle this point is really important, namely, that the interest *marge* derived from the short-term credits deposited in the USA amounts to about 7 per cent per annum. It is worth quoting the authors' statements, underlying our analysis, too.

According to Mr. Aliber:

"The reserve currency role has enabled the United States to purchase more foreign goods, services and investments, and extend more foreign aid than would otherwise have been possible; the United States earns a 'seigneurage' profit from this role . . ."

". . . It is assumed that the average yield on marginal purchases is 10 per cent. It is further assumed that the foreign official institutions earn 3 per cent a year on their liquid assets . . ."

According to Mr. Grubel:

"From a social point of view, the greatest benefits from being the World Banker accrue to the U.S. from the deposits which this activity attracts . . ."

"While foreign governments and businesses thus gain from keeping some of their portfolio in New York liquid dollar assets, the U.S. gains from this arrangement because these deposits represent a loan from foreigners. In order to obtain ownership of these funds, foreigners had to surrender an equal value in the form of goods and services.

It can be argued that, if the U.S. had wanted to obtain a loan of this size through regular financial channels, the annual interest bill would have been at least 10 cent per annum . . .

Since the US interest payments on these short-term funds are nearly three per cent on the average, we subtract this cost from the gains and assume that the net benefits from the deposits will be equal to 7 per cent of the short-term liabilities."

These estimates do not refer specially to the foreign exchange reserves of the developing countries; they reflect the whole stock of deposits at the end of 1961 and 1963, respectively.

Since 1961 and 1963, the rate of the short-term deposits changed considerably. The 3 per cent estimated by Mr. Aliber and Mr. Grubel went up to 4.5 or even 5%.

On the other hand, it should be taken into consideration that these authors have kept in their eyes not specially the official deposits of the developing countries (amounting to about $ 5 billion) but all short-term liabilities of the US as a whole, representing about $ 25 billion.

The so-called "hot money" and the deposits of bankers "more clever" than the Central Banks of the developing countries may have an important role in the differential figures. Therefore it might be assumed that within the average of 3 per cent the developing countries earned a lower yield.

But, with corrections in both directions in relation to developing countries, instead of the interest yield of 3 per cent established by Mr. Grubel and Mr. Aliber a few years ago, about 4% could be estimated for the present.

To the question of the interest charge of the developing countries, it also should be taken into consideration that if the foreign exchange reserves could be used for mitigating the country's foreign indebtedness, in most cases they would enable to repay the marginal, i.e. the most burdensome debts. Therefore, their possible interest-saving effect should be measured by the marginal rather than by the average rate of interest. By the calculation of the interest burden due regard should be given, according to their importance, to short-term debts, as well as to debts services and profits payable in any form to private foreign creditors or owners.

Summing up, we are of the opinion that the relevant interest burden of the developing countries cannot be far off the 10 per cent estimate of Grubel and Aliber. Since I prefer to understate rather than overstate the losses attached to the foreign-exchange reserves, I assume a burden between 8—10 per cent.

Bearing in mind all what has been said about both methods of approach, it could be assumed that after a detailed investigation the loss connected with the foreign-exchange reserves of the developing countries would be in its final result anywhere between 4 and 6 per cent (that is, the marge would be somewhat lower than the 7 per cent stated by Mr. Grubel and Mr. Aliber) and would mean an extra burden of about $ 350—600 million per annum for all developing countries, as a consequence of the present monetary system.

A yearly sum of $ 350—600 million is in itself not an unimportant factor in the aggregate balance of payments of the developing countries. Anticipating that the debate on the monetary system will be going on as slow as in the past suggests that we have to reckon with the recurrence of such losses for several years to come. Retrospectively, the weight of the problem lies with the fact that since Bretton-woods the developing countries have suffered this kind of losses for nearly 20 years.

5. How does the particularly disproportionate distribution among the developing countries of foreign exchange reserves influence the loss attached to it?

Up to now we have spoken about the aggregate of reserves of all developing countries.

It goes without saying that the stocks of foreign exchange reserves of individual developing countries are very diversified.

The Secretariat of the UNCTAD states in its cited publication that at the end of 1963 from $ 12.5 billion total reserves of the developing countries the share of foreign-exchange reserves was $ 9.4 billion. That means an average ratio to imports of 29.4 per cent in the developing countries as a whole. Within this average, there are countries like the United Arab Republic, the foreign exchange reserves of which amount to 5.8 per cent of the imports, or Brazil with 11.3 per cent and India with 14.6 per cent. Exceptionally high are the ratios in Saudi Arabia (131.8%) and Malaysia (108.2%). Generally, the low ratios of foreign exchange reserves coincide with the smallness of the total reserves of the individual countries. (For example: the ratio to imports of total reserves in the United Arab Republic and Brazil are the lowest among the developing countries, whereas Saudi Arabia and Malaysia have the highest ratios of total reserves.)

The exceptional position of the so-called oil-producing countries is well known. It appears also in their reserve position. Whereas the aggregate ratio of total reserves of the developing countries compared to imports is 39.2 per cent and that of the foreign-exchange reserves 29.4 per cent, the same figures of the oil-producing countries (Venezuela, Iran, Iraq, Saudi Arabia and Kuwait taken together) show 80 per cent and 43 per cent resp. These countries are in respect of the composition of their reserves nearer to the picture given for the advanced countries than to the one given for the developing ones. These oil producing countries with a share of 1.5 per cent in world trade, are holding in their reserves 2.2 per cent of the gold stock of the world. The share of these countries in the aggregate imports of the developing countries is about 8 per cent but in their gold stock it is almost 25 per cent.

In our view the striking disproportionality of the foreign exchange reserves among individual countries does not affect our conclusion drawn from the aggregate foreign exchange reserves of the developing countries. The general picture does not change, even if a yearly aggregate loss of about 350—600 million dollars calculated above concerns the developing countries very differently.

In this connexion, however, the reader should remember what we have said about the two methods of assessing the magnitude of this loss. If we

identify the loss suffered by a developing country as an aliquot part of the profit falling to the advanced country that has issued the currency in question, the losses of the individual countries appear as proportionate to their foreign exchange reserves. For example: In this case a considerable loss (about $ 16—20 million per annum) of Saudi Arabia would be stated, regardless to whether it has foreign debts or not, or whether its individual burden of interest is well under the average. With the other method (by comparing the yield of reserves with the "individual" interest burden) a loss of Saudi Arabia could not be proved if it had no liabilities and interest burden at all. — (By using both methods the aggregate result doesn't undergo any change, only the participation rate of the individual countries will differ).

6. Possible solutions

It is not an easy task to eliminate the extra losses attached to the foreign exchange reserves of the developing countries, deriving from the gold-exchange standard system. It would require, first of all, the full understanding and co-operation of the countries issuing the "key-currencies".

A two-way approach of the solution is conceivable. First of all, the problem could be settled in the framework of the new monetary system now under debate. This is most desirable because this reform may — in compliance with its character — cause far-reaching changes in the composition as well as in the level of the foreign-exchange stocks.

In this respect, the suggestions put forward in the debate of the new monetary system may be divided into four groups:

1. turn back to the gold standard (Rueff, Heilperin)
2. apply flexible exchange rates (Friedmann, Meade)
3. introduce an international reserve currency (Triffin, Stamp, and last but not least Keynes)
4. reform the IMF (Bernstein, Jacobson, Machlup, Maudling, Posthuma, Roosa, Zolotas and many others).

The gold standard or the flexible exchange rates (1 and 2) would no doubt abolish or considerably reduce the role and magnitude of foreign-exchange reserves so that the problem would automatically vanish out of existence. However, it should be mentioned, that a return to gold standard with the present (or the potential) gold stock of the developing countries would mean that the financing of their trade could not be implemented either at the present price of gold or in case the price were doubled. A ratio of reserves to imports of about 10 per cent or — if the price of gold were doubled — 20 per cent, would hinder their trade excessively.

The flexible exchange rate, would not make reserves wholly dispensable and would, in addition, bring into the economy of the developing countries a factor of uncertainty that could not be reasonably coped with.

From the angle of the developing countries the suggestions dealing with the creation of an international reserve currency would probably be the most favourable solution and serving them best. (With the understanding, of course, that the new international currency unit would not mean simply that, instead of the present two, ten countries would issue key-currencies in the future. Such a solution would mean only that the countries issuing key-currencies would share among themselves the profits stemming therefrom but the burden of the developing countries would remain unchanged.) In case of a universal new international currency issued by the IMF, the extra burden of the developing countries stemming from their holding of reserves could be abolished. Such a suggestion could be coupled with other solutions having the same purpose. For example: a special credit ensuring an adequate disponibility could be granted by an international institution to the developing countries in order to ensure the smooth functioning of their present foreign-exchange reserves. The developing countries by handing in the reserve currencies against a certain amount of international currency, could use the latter either for repaying their debts, or use them for the conversion of their marginal, i.e. most burdensome credits. Such a solution would fully and automatically liquidate the losses attached to the foreign exchange reserves of the developing countries.

A common feature of the solutions described above is that the holding of reserves in foreign-exchange could be made superfluous, and, consequently, these reserves could serve to reduce the existing foreign debts of the developing countries. As a result, the developing countries could avoid losses stemming from the interest margin.

If, in the course of reforming the IMF any of the proposals mentioned (for example: a more limited reform of the IMF) gained momentum, this in itself would not solve the specific problems of the developing countries. Moreover, as any general monetary reform would take a rather long time for its implementation: in the meantime, quick and direct measures are wanted in the interest of the developing countries.

II.

A practical proposal for solution

Recalling some ideas mentioned as possible solutions in Chapter 6 of the preceding part, I shall try to outline in the following a special solution which could be practically implemented, naturally in case an agreement of all participants could be reached.

The following financial procedure should be made possible for the developing countries, if they so wish:

1. The developing country should concentrate in the World Bank all or part of its monetary reserves which are held in convertible currencies.

2. At the same time, the country should give instructions to the World Bank to repay the country's most burdensome (short-term, high-interest) debts out of its reserves deposited with the World Bank.

3. The country of the individual creditors having thus received an extra repayment and an extra income in its balance of payments, should buy World Bank bonds equal to the aggregate sum with which the extra repayment benefited its balance of payments.

4. The World Bank should deposit the countervalue of these special bonds with the IMF.

5. The IMF should, on the basis of the World Bank Deposit, grant an unconditional drawing right to the developing country for an amount equal to its extra repayment carried out by the World Bank.

This special drawing right would permit the developing country to be continuously credited by the IMF up to the paid-in amount. The credit would be made available, for operative purposes, to re-build the same assets (deposits) with commercial or central banks which existed before the special procedure.

It would seem that nothing was changed by this transaction: the developing country disposes over the same amount at the same banks where its reserves used to be deposited. But the offsetting item of the balance is no longer a burdensome and "deconcentrated" debt. The offsetting item is now an IMF debt which is backed by a World Bank deposit at a low interest. This means the possibility to save $ 320 to 600 million for the totality of the developing countries, besides covering all World Bank and IMF costs. (If we assume that *a)* the interest on the bonds is 5%, *b)* the World Bank and the IMF charge 0.5% each for their costs, *c)* the marginal debts to be repaid are charged with 10—12 per cent of interests and profits, *d)* $ 8—10 billion of foreign-exchange reserves are being used for the debt conversion.)

The buying of World Bank bonds by the recipient countries does not put a new constraint on their balance of payments as they have obtained *extra* repayment. (This repayment is extraordinary, because without the proposed transaction the reserves, as a whole, could not have been used for repayment.)

Beside the balance of payments problems of the creditors' country some other questions might be raised: after the countervalue of the extra repayment to the creditors has been paid in national currency, where do the resources come from to cover the World Bank bonds? Isn't this an inflationary measure?

To the first question:

a) It is a *prima facie* case for granting access to money market for the World Bank, because in this case the general hindrances stemming from the balance of payments are going to be overcome;

b) in some cases there is a possibility to draw on the state budget;

c) finally, the World Bank bond could be refinanced by a bank consortium.

It is true that the solutions *b)* and *c)* could turn out rather burdensome for the fiscal and monetary authorities of the creditors' country. These are real enough, but they should take into consideration that such burden, sooner or later, has to be taken. After all, it is less burdensome to take it sooner and within a framework of a transaction that avoids balance of payment difficulties, than later on accompanied by disturbances of the balance of payments.

To the second question:

The extraordinary inflow (and consequently the outflow of national currency) generated by the extra repayment under *a)* and *b)* has an offsetting character to the money market and to the state budget.

The danger connected with solution *c)* depends on the possibility whether the Central Bank can take part in the consortium or the World Bank bonds could be paid in national currency.

Since, by concentrating the reserves with the World Bank, a sum of $ 8—10 billion could change hands during the transaction, transitional difficulties may arise for the banks holding the reserves and the country remaining without reserves. This difficulty could be overcome either:

a) by simultaneous instructions to all institutions concerned; or/and

b) by a gradual implementation of the system in the various developing countries.

The interests saved by the developing countries, plus the normal costs and profits of IMF and the World Bank would be counterbalanced by the decrease of profits falling to the most burdensome creditors. Such an improvement of the debt structure would serve the interest of all parties concerned in the transaction (with the exception of the "most burdensome creditors").

Finally, this proposal is an example of an "individual" solution mentioned in Part I of this article. In other words, the magnitude of interest-saving depends on the magnitude and proportion of the most burdensome debts (and, naturally, on the magnitude of the reserves held in foreign exchange, i.e. on the losses attached to it). I believe, that by supporting the poorest, that is, the developing countries having the most burdensome debts and the highest losses attached to their foreign-currency reserves, on account of the most greedy creditors, this solution gives a special advantage to the proposal outlined above. To the practical implementation a lot of understanding, political wisdom and a relatively small economic sacrifice is needed on the part of the creditors' countries.

Gold and foreign-exchange reserves of the IMF member states ($ million)

	According to the Bulletin of the IMF from July 1965 on September 30th, 1964						According to the Bulletin of the IMF from January 1966 on September 30th, 1965					
	Gold		Foreign-exchange		Total		Gold		Foreign-exchange		Total	
The Group of Ten												
USA	15 643		227		15 870		14 184		959		15 143	
U. K.	2 302		238		2 540		2 139		616		2 755	
Belgium	1 395		440		1 835		1 554		464		2 018	
France	3 565		1 298		4 863		4 556		825		5 381	
Western Germany	4 149		2 910		7 059		4 390		1 913		6 303	
Italy	2 104		1 130		3 234		2 390		1 223		3 613	
Netherlands	1 601		359		1 960		1 756		309		2 065	
Sweden	182		646		828		202		695		897	
Canada	990		1 644		2 634		1 112		1 511		2 623	
Japan	290		1 469		1 759		327		1 432		1 759	
Switzerland	2 532	34 753	322	10 683	2 854	45 436	2 656	35 266	220	10 167	2 876	45 433
Other advanced countries												
Austria	592		621		1 213		700		567		1 267	
Denmark	92		448		540		97		340		437	
Norway	31		325		356		31		344		375	
Finland	65		261		326		85		185		270	
Iceland	1		33		34		1		46		47	
Irish Republic	18		409		427		20		378		398	
Portugal	523		372		895		560		388		948	
Australia	223		1 652		1 875		231		1 189		1 420	
New Zealand	1		198		199		1		126		127	
South Africa	589	2 135	100	4 419	689	6 554	342	2 068	114	3 677	456	5 745
Developing countries												
Latin America	1 165		1 460		2 625		1 070		1 995		3 065	
Middle East	800		1 400		2 200		785		1 742		2 527	
Other Asian	630		2 730		3 360		665		2 494		3 159	
Other African	100		1 105		1 205		145		1 165		1 310	
Greece	93		176		269		78		165		243	
Spain	576		813		1 389		810		573		1 383	
Turkey	105		10		115		116		16		132	
Yugoslavia	16	3 485	57	7 751	73	11 236	18	3 687	122	8 272	140	11 959
		40 373		22 853		63 226		41 021		22 116		63 137

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СПЕЦИФИЧЕСКОЕ ПОЛОЖЕНИЕ ВАЛЮТНЫХ РЕЗЕРВОВ РАЗВИВАЮЩИХСЯ СТРАН И ПРЕДЛОЖЕНИЕ ПО РЕШЕНИЮ ПРОБЛЕМЫ

ДЬ. ЭРЕШ

Автор анализирует состав валютных резервов развивающихся стран, считающихся как правило, ограниченными. Исследуя составные части этих резервов — золото, валюты и право распоряжения в МВФ (золотой транс) — автор выявляет, что доля развивающихся стран в золотых резервах стран-членов МВФ удивительно низка, но в то же время относительно высока их доля в инвалютных резервах стран-членов МВФ. (Доля развивающихся стран в золотых резервах стран-членов МВФ составляет 9%, а их доля в резервах, состоящих из ключевых валют, равна 40 или 34%-ам, согласно различным отчетам МВФ. Такая доля равивающ ихся стран в резервах ключевых валют кажется непропорционально высокой как по сравнению с 20%-ным удельным весом развивающихся стран в мировой торговле, так и по сравнению с 40—47%-ной долей «Группы десяти» в валютных резервах. В отношении последнего надо учесть, что «Группа десяти» держит в своих руках 86% золотых резервов стран-членов МВФ, следовательно, можно считать совершенно непропорциональным, что развивающиеся страны, располагающие одной десятой частью золота, обладают приблизительно такой же долей ключевых валют, как и «Группа десяти»).

Автор отмечает, что принимая во внимание кроме 8 миллиардов долларов валютных резервов, учтенных статистикой МВФ, также и резервы неофициальных органов развивающихся стран, можно оценить в 10—11 миллиардов долларов, а учитывая и прочие требования, даже в 11—13 миллиардов долларов, количество ключевых валют, находящееся в собственности развивающихся стран.

Автор на основе этого указывает на то, что существующая золотовалютная система заставляет развивающиеся страны выступать постоянным кредитором по отношению к наиболее развитым капиталистическим странам — примерно на 90% в отношении Соединенных Штатов и Великобритании, — в то время, когда они сами имеют иностранную задолженность, значительно превышающую эту сумму.

Далее, автор пытается рассчитать потерю, которую терпят развивающиеся страны вследствие того, что они платят высокие проценты капиталистическим странам по своим долгам, а за свои активы в ключевых валютах они получают низкие проценты. Автор использует два метода оценки и в итоге оценивает в 350—600 миллионов долларов чрезвычайную потерю от разницы процентов, которую развивающиеся страны терпят в результате существующей капиталистической золотовалютной системы. Он подчеркивает, что такая потеря является прочной тенденцией: отмечаемое кредиторское положение появилось чуть ли не с момента заключения Бреттон—Вудских соглашений и с тех пор все более обостряется.

Неравное распределение валютных резервов среди развивающихся стран (например, более значительны резервы нефтедобывающих стран) по мнению автора, мало влияет на общую потерю развивающихся стран. Конечно, на долю отдельных стран в потере значительное влияние оказывает величина резервов и задолженности.

Суммируя сказанное, автор показывает, что такая большая потеря развивающихся стран может быть прекращена или в связи с намечаемой реформой валютной системы или

помимо нее, прежде всего, со стороны развитых капиталистических стран и особенно стран, выпускающих ключевые валюты.

Наконец, автор высказывает практическое предложение по устранению этих потерь развивающихся стран. Сущность предложения заключается в том, чтобы два центральных финансовых учреждения капиталистической валютной системы — Международный валютный фонд и Международный банк реконструкции и развития провели такую финансовую трансакцию, в рамках которой развивающиеся страны могли бы использовать свои резервы в обратимых валютах на погашение наиболее обременительной задолженности. Страна, осуществляющая такое чрезвычайное погащение, должна подписываться на заем МБРР в размере погашенной задолженности. Международный валютный фонд должен предоставить постоянный кредит развивающейся стране, выполняющей свои тбязательства — в пределах суммы выплаченных резервов под залог облигаций МБРР. По мнению автора, развивающиеся страны могли бы таким образом экономить ежегодно 320—600 млн. долларов путем конверсии своей задолженности с наиболее высоким процентом в заем Международного валютного фонда с более низкой процентной ставкой

REVIEWS

Л. Кёвари

ВЕНГЕРО-СОВЕТСКОЕ ЭКОНОМИЧЕСКОЕ СОТРУДНИЧЕСТВО

В развитии нашего народного хозяйства решающую роль играют венгеро-советские экономические связи, прошедшие значительный путь развития. До второй мировой войны внешняя торговля Венгрии с Советским Союзом была незначительной. В 1930 году доля Советского Союза во всем экспорте Венгрии составляла 0,03%, а в импорте — 0,38%. В 1935 году эти цифры составляли, соответственно, 0,44% и 0,03%. Эти соотношения остались, по существу, неизменными до 1941 года.

Первое внешнеторговое соглашение с Советским Союзом было заключено 17 августа 1945 года и этим началось, по существу, экономическое сотрудничество между нашими странами. За первым соглашением последовало заключение ряда годовых и многолетних долгосрочных соглашений, на основе которых наш внешнеторговый товарооборот успешно развивался.

Значение венгеро-советских экономических связей для Венгрии наиболее наглядно можно показать на объеме внешнеторгового оборота между двумя странами, а также на эффективности экономического и научно-технического сотрудничества между нашими странами.

Внешнеторговый оборот

В нашем внешнеторговом обороте Советский Союз занимает первое место. Поэтому динамика товарооборота между нашими странами является ключевым вопросом развития нашего народного хозяйства. Доля Советского Союза в нашем общем внешнеторговом обороте возрастает с 28% в 1958 году до 37% в 1967 году и 42% в 1970 году. В то же время доля Советского Союза в товарообороте Венгрии с социалистическими странами составляет 50% в 1967 году против 39% в 1958 году.

Структура товарооборота между двумя странами за два десятилетия, прошедшие после освобождения страны, изменялась как показана в таблице № 1.

Приведенные данные говорят сами за себя. Ввоз сырья и материалов составляет более чем 70% импорта. В то же время в среднем 50% экспорта состоит из машин и оборудования, 18,2% — из готовых изделий легкой промышленности и 13,5% — из сельскохозяйственных конечных продуктов (сельскохозяйственное сырье не вывозится). Эти группы вместе составляют почти 83% экспорта.

Таблица № 1

Товарная структура
(в процентах)

	Машины и оборудование	Химические продукты, сырье и строительные материалы	Сельскохозяйственное сырье и продовольствие	Промышленные товары народного потребления	Всего
I. *Импорт*					
1950	17,1	34,6	48,1	0,2	100,0
1958	11,1	51,9	35,2	1,8	100,0
1959	29,5	40,3	29,1	1,1	100,0
1960	32,0	38,5	27,8	1,7	100,0
1961	30,6	38,6	29,7	1,1	100,0
1962	35,6	37,8	25,4	1,2	100,0
1963	36,6	41,9	20,4	1,1	100,0
1964	36,6	43,9	18,0	1,5	100,0
1965	30,5	44,3	23,2	2,0	100,0
1966	28,0	48,8	21,3	1,9	100,0
II. *Экспорт*					
1950	43,0	14,0	22,1	20,9	100,0
1958	58,8	6,4	11,5	23,3	100,0
1959	57,4	6,9	9,4	26,3	100,0
1960	59,4	8,1	8,9	23,6	100,0
1961	55,8	7,7	9,5	27,0	100,0
1962	52,5	7,7	10,0	29,8	100,0
1963	54,8	8,4	10,0	26,8	100,0
1964	52,5	10,4	12,0	25,1	100,0
1965	50,5	9,5	13,5	26,5	100,0
1966	47,9	9,3	13,5	29,3	100,0

На основе статистических ежегодников ЦСУ Венгрии

Импорт из Советского Союза

В 1966 году 40% всего венгерского импорта сырья и материалов поступало из Советского Союза, т. е. в снабжении нашей промышленности сырьем решающую роль играют материалы, поставляемые из Советского Союза. Доля Советского Союза в импорте некоторых важнейших продуктов показана в таблице № 2.

Несколько меньшим по своему объему, но весьма важным по своему значению является импорт машин и оборудования из Советского Союза. Особенно важен ввоз комплектного оборудования. За последние годы Совет-

Таблица № 2

Импорт из Советского Союза в процентах от всего годового импорта ВНР (1966 год)

Железная руда	100,0
Кокс металлургический	46,7
Хлопок	61,6
Чугун	100,0
Каучук синтетический	48,0
Бумага	27,2
Целлюлоза	56,7
Асбест	85,0
Свинец	86,0
Древесина	85,9
Искусственные удобрения	39,8
Медь	35,6
Круглый лес	100,0

Источник: *Statisztikai évkönyv*, 1966. (Статистический ежегодник) Budapest, 1967. Központi Statisztikai Hivatal.

ский Союз поставил комплектное оборудование к целому ряду важнейших новых объектов. К ним относятся:

— Дунайский металлургический комбинат, для которого в последнее время Советский Союз поставил холоднопрокатное оборудование мощностью 260 тыс. т/год и кислородный завод;

— Завод по выплавке алюминия в городе Инота также был в основном поставлен Советским Союзом;

— Дунайский нефтеперерабатывающий завод, строящийся в гор. Сасхаломбатта, общей мощностью 3 млн. т в год (из этого уже построена мощность в 1 млн. т, а до конца 1968 года будет введена в строй вся мощмость) и многие другие.

Экспорт в Советский Союз

Основную часть венгерского экспорта в Советский Союз занимают изделия машиностроения. Вывоз машин в Советский Союз составлял в 1965 году 50,5% всего венгерского экспорта машин или 15,2% продукции венгерского машиностроения. Благодаря большим объемам многолетних заказов Советского Союза некоторые отрасли машиностроения могли развиваться особенно быстрыми темпами. Такими являются, например, судостроение, приборостроение, производство средств связи, станкостроение и производство транспортных средств, дававшие вместе в 1965 году 32,5% всей продукции машиностроения.

Таблица № 3

Доля экспорта в Советский Союз в продукции отдельных отраслей в 1965 году (в процентах)

Производство железнодорожного подвижного состава	46
Производство автотранспортного подвижного состава	31
Производство вакуумной техники и средств связи	21
Приборостроение	42
Судостроение	94
Станкостроение	19

Источник: Statistical yearbook, 1965. — Статистический ежегодник, 1965. Budapest—Будапешт, 1966. Hungarian Central Statistical Office — Центральное статистическое управление ВНР.

Советский Союз, заказывая на несколько лет вперед определенные изделия, обеспечивал крупносерийность производства и мог повлиять на внедрение новой технологии и на технический прогресс. Хотя этот прогресс и не осуществился во всех отношениях, в некоторых областях были достигнуты значительные результаты. Таким является, например, переход к секционному производству в судостроении и сварке корпуса судов вместо применявшейся ранее клепки. В результате этого возросла производительность труда, снизилась себестоимость и улучшилось качество в судостроении.

Советские заказы сделали возможным крупносерийный выпуск (40—50 шт.) многосекционных дизель-поездов на заводе Ганц-Маваг. Долгосрочное соглашение с Советским Союзом позволит выпустить в 1970 году 50 дизель-поездов вместо 2—5 штук, ежегодно выпускавшихся до 1961 года. Такая серия привела к коренному изменению технологии производства, что повлекло за собой сокращение цикла производства и значительное снижение себестоимости производства. В результате заказов Советского Союза стало возможным серийное производство пассажирских вагонов с современным климатическим оборудованием и вместе с тем внедрение отечественного производства аппаратуры по кондиционированию воздуха.

В результате соглашений с Советским Союзом внутри машиностроения стали развиваться совершенно новые отрасли производства. Так, например, ранее незначительное производство оборудования пищевой промышленности благодаря советским заказам развилось в крупную отрасль, поставляющую в отдельные годы продукцию на экспорт в порядке миллиарда форинтов. До сих пор Венгрия поставила Советскому Союзу, в частности, 402 птицебойной линии с холодильным оборудованием и 218 консервных фабрик. Эти виды оборудования представляли не только новый профиль для венгерского машиностроения, но и способствовали — благодаря большой комплектности — загрузке широкого круга отраслей машиностроения (машины по перемещению материалов, автоматизация и т. д.).

Сельскохозяйственные продукты, поставляемые Советскому Союзу составили в 1966 году 13,5% экспорта. Это — прежде всего готовые продукты пищевой промышленности и свежие фрукты. Венгрия не экспортирует в Советский Союз сырья растительного и животного происхождения, а поставляет только переработанные продукты.

В последние годы в венгерском экспорте значительно возрос объем готовых изделий легкой промышленности — прежде всего обуви, швейных изделий, трикотажа. Также значительно увеличился экспорт медикаментов: в 1967 году он составит 42 млн. рублей против 10,6 млн. рублей в 1960 году.

Соглашения по сотрудничеству и поставкам

Развитие венгеро-советского товарооборота определяется помимо долгосрочных внешнеторговых соглашений также и многими другими соглашениями. Среди соглашений, затрагивающих настоящий и последующие плановые периоды, важнейшими являются следующие:

Соглашение по глинозему и алюминию

Соглашение было подписано 15 ноября 1962 года. Согласно договору, начиная с 1967 года Венгрия будет постепенно увеличивать свои поставки

глинозема в Советский Союз до 30 тыс. тонн в год, Советский Союз же полностью возвращает Венгрии алюминий, получаемый из этого глинозема. С тех пор венгерские поставки глинозема были расширены и, таким образом, в 1967 году нам предстоит поставить 80 тыс. тонн глинозема вместо 30 тыс. тонн, намеченных в соглашении. В феврале 1967 года стороны договорились о дальнейшем расширении поставок, согласно этому ежегодные поставки увеличиваются на 100 тыс. тонн глинозема, по сравнению с первоначальными наметками соглашения.

Соглашение по глинозему и алюминию выгодно для обеих сторон. Венгрия вывозит в Советский Союз бокситы, переработанные в глинозем, поскольку наша страна не располагает тем громадным количеством энергии, которое требуется для выплавки алюминия — из-за ее известной бедности в энергии. Советский Союз же благодаря своей системе гидростанций в районе Урала располагает такой энергетической и металлургической мощностью, с помощью которой он может выплавлять алюминий из поставляемого Венгрией глинозема и возвращать ей получаемый алюминий.

Венгеро-советское соглашение по поставке овощей, фруктов и консервов

Соглашение было подписано 4 декабря 1964 года. Согласно договору, наши поставки свежих и консервированных фруктов и овощей возрастут с 110 тыс. тонн в 1965 году примерно до 500 тыс. тонн в 1970 году.

Венгеро-советское сотрудничество в фармацевтической промышленности

Имеющиеся «умственные мощности», традиции и экономическая эффективность экспорта делают обоснованным быстрое развитие венгерской фармацевтической промышленности. В то же время со стороны Советского Союза наблюдается большой спрос на венгерские медикаменты. Благодаря выгодному совпадению этих условий сотрудничество в фармацевтической промышленности стало одной из наиболее быстро и эффективно развивающихся областей венгеро-советских экономических связей. При определении направлений перспективного развития и производственных мощностей венгерской фармацевтической промышленности в полной мере учитывались потребности Советского Союза. Большие советские потребности позволяют производить изделия с наиболее передовой технологией и достаточной эффективностью. Венгерский экспорт медикаментов в СССР возрос с 0,2 миллиона валютных форинтов в 1950 году до 30 миллионов валютных форинтов в 1965 году. По пятилетнему плану в период 1966—70 гг. выпуск медикаментов удвоится, причем 75% продукции будет поставляться на экспорт. Доля Советского Союза во всем экспорте достигает к 1970 году 70%.

Сотрудничество распространяется на клиническое испытание новых лекарств, научную медицинскую пропаганду, координирование исследований, специализацию продукции.

Венгеро-советское сотрудничество в автомобильной промышленности

Предложение об установлении широкого сотрудничества в автомобильной промышленности между нашими странами было выдвинуто в начале 1964 года. В ходе консультации по координации планов на 1966—70 годы

заключили соглашение о взаимных поставках, а также о специализации производства узлов и деталей автомобильной промышленности. По условиям соглашения Венгрия значительно увеличивает свой экспорт автобусов в Советский Союз — до 4000 штук к 1970 году. Намечаются большие поставки автоцистерн, полуприцепов, задних мостов автобусов и троллейбусов.

Более развитые формы сотрудничества

Создание межправительственной советско-венгерской комиссии по экономическому и научно-техническому сотрудничеству

Венгеро-советские экономические связи по своему характеру уже переросли ту стадию, которая ограничивается исключительно сотрудничеством в рамках внешней торговли. В последнее время все большее значение приобретают формы сотрудничества, отражающие более высокий, развитый уровень международного разделения труда и международного социалистического экономического сотрудничества. С этой точки зрения важный шаг вперед представляло создание в феврале 1964 года Межправительственной советско-венгерской комиссии по экономическому и научно-техническому сотрудничеству.

Создание этого нового органа мотивируется тем, что наш внешнеторговый оборот с Советским Союзом достиг уже такого объема (одной трети всего венгерского внешнеторгового оборота), что его дальнейшее развитие трудно, и едва-ли было возможно простыми методами внешней торговли. Требовалось более широкое применение новых развитых форм международного разделения труда, сотрудничества, основанного на специализации и кооперировании производства между нашими странами.

Работы по специализации в рамках СЭВ — хотя и имели определенное значение для формирования структуры венгерской промышленности — из-за различных объективных причин не были удовлетворительными с точки зрения обоснования наших наметок перспективного развития. Целесообразным казалось продолжение этой работы в двустороннем порядке, дающем больше возможности для организации производственного кооперирования между отдельными отраслями промышленности и непосредственного экономического сотрудничества через координацию наших соображений.

Возникла необходимость в создании органа, организующего и направляющего по поручению правительств обеих стран экономическое и научно-техническое сотрудничество между нашими странами.

Задачи Межправительственной советско-венгерской комиссии по экономическому и научно-техническому сотрудничеству определяются учредительным документом в следующем:

1. Рассмотрение и решение вопросов сотрудничества обеих стран, вытекающих из согласования текущих и перспективных планов развития народного хозяйства СССР и ВНР.

2. Организация хозяйственных связей на основе специализации и кооперирования производства в важнейших отраслях промышленности обеих стран, прежде всего, в черной и цветной металлургии, машиностроении, химической промышленности, энергетике, легкой и пищевой промышленности, а также в сельском хозяйстве, путем разработки предложений для заключения соответствующих соглашений.

3. Разработка предложений, направленных на постоянное увеличение товарообмена и расширение объема взаимных услуг.

4. Разработка предложений и принятие мер, обеспечивающих расширение и углубление научно-технического сотрудничества путем согласования планов научно-исследовательских и проектно-конструкторских работ, представляющих взаимный интерес, обмена технической документацией и патентами, организации прямых связей между научно-исследовательскими, проектными и конструкторскими институтами и учреждениями, а также предприятиями обеих стран.

Деятельность Межправительственной комиссии

Межправительственная комиссия за относительно короткий, трехлетний период своей деятельности проделала весьма успешную работу. Одной из своих основных задач она считала содействие эффективной координации планов развития народного хозяйства наших стран.

Положительные ответы правительства Советского Союза на втором заседании Комиссии на венгерские просьбы о поставке сырья в значительной мере способствовали большому росту венгерского импорта сырья и имели особенно большое значение с точки зрения снабжения венгерского народного хозяйства энергоносителями (нефтью, углем, нефтепродуктами), бумагой, целлюлозой и искусственным волокном.

Увеличение поставок нефти и нефтепродуктов с 2 млн. тонн в 1965 году до 4 млн. тонн в 1970 году благоприятно повлияет на структуру венгерского топливного баланса. Благодаря, в основном советским поставкам, доля жидкого топлива в венгерском энергетическом балансе увеличится с 17,8% в 1960 году до 21,6% в 1965 году и до 26,6% в 1970 году. Кроме того, советские поставки позволяют продолжить экспорт нефтепродуктов в капиталистические страны.

На основе решения Комиссии об увеличении поставок бумаги, целлюлозы и искусственного волокна импорт бумаги из Советского Союза возрастет к 1970 году до 100 тыс. тонн, а целлюлозы — до 80 тыс. тонн. Советская сторона обязалась поставлять 20 тыс. тонн вискозной целлюлозы в рамках общего объема целлюлозы.

Комиссией было принято решение о сотрудничестве в производстве автобусов и загрузки пяти других отраслей венгерского машиностроения советскими заказами.

Можно констатировать, что поставки, намеченные на основе этих решений и включенные затем в долгосрочные торговые соглашения, открыли возможность рациональной специализации венгерского машиностроения, увеличения серийности производства и выпуска новых изделий, прежде всего в автомобильной промышленности, судостроении, производстве железнодорожного подвижного состава, приборостроении.

Отраслевые переговоры, проведенные в широком кругу на основе указаний Комиссии, дали возможность увеличения в полтора раза венгерского экспорта машин в Советский Союз, что составляет более чем 50% всего экспорта в СССР. В частности, поставки продукции автомобильной промышленности в 1970 году удвояться, по сравнению с 1965 годом, и ее доля в общем объеме экспорта возрастет с 12% до 26%.

Другой важной областью деятельности Комиссии является сотрудничество в производстве и поставках машин и узлов, основанное на специализации и кооперировании.

Среди возможностей, открытых в последнее время, особое значение имеет производственное кооперирование в производстве автодорожных транспортных средств, а также деталей и специальных материалов радиоэлектронной промышленности.

В рамках кооперирования в производстве автодорожных транспортных средств Венгрия поставляет Советскому Союзу ежегодно несколько тысяч задних мостов, а Советский Союз, в свою очередь поставляет Венгрии передние оси, стартеры и другие узлы. Для оперативного решения частных технико-экономических вопросов стороны договорились об обмене технической документации и образцов, о взаимной командировке специалистов непосредственным путем.

Кооперирование в радиотехнической промышленности дает нам возможность в возрастающей мере импортировать из Советского Союза различные детали средств связи, например, баллоны телевизионных электронно-лучевых трубок, конденсаторы, полупроводники.

В химической промышленности особое значение имеет сотрудничество в фармацевтической промышленности, решение о котором было принято на третьем заседании Комиссии, ибо важнейшим внешним рынком продукции венгерской фармацевтической промышленности является Советский Союз (получатель почти 60% венгерского экспорта). Поэтому сотрудничество позволяет определить направления перспективного развития венгерской фармацевтической промышленности. В рамках сотрудничества создается непосредственная связь между исследовательскими институтами, химиками, фармацевтами, занимающимися исследованием медикаментов, для координации тематики исследований и устранения параллелизма в работе.

В легкой промышленности по советской инициативе создается сотрудничество по производству искусственной кожи и искусственной подошвы.

Установление непосредственных связей между венгерскими и советскими отраслевыми министерствами, о чем было решено на третьем заседании Комиссии, осуществляется удовлетворительными темпами. Министерства заключают соглашения и разрабатывают многолетние планы работы по организации непосредственного сотрудничества. Так, например, Министерство металлургии и машиностроения Венгрии разработало подробный план сотрудничества совместно с Министерством автомобильной промышленности, Министерством химического машиностроения и Министерством энергетического и транспортного машиностроения Советского Союза. Непосредственное сотрудничество между министерствами носит, в основном, научно-технический характер и направлено, главным образом, на координацию соображений по перспективному развитию. Такое сотрудничество имеет весьма большое значение, но необходимо, чтобы прямые связи министерств распространялись и на область экономического сотрудничества.

Межправительственная комиссия считает своей весьма важной задачей постоянное развитие и повышение эффективности научно-технического сотрудничества между нашими странами. Помимо значительного расширения традиционного обмена опытом (обмена технической документацией, научных командировок) недавно — на основе решения и указаний Межправительственной комиссии — были введены несколько новых форм сотрудничества.

В настоящее время уже 35 венгерских и советских научно-исследовательских институтов и проектно-конструкторских бюро осуществляют непосредственное сотрудничество на основе многолетних планов работы. Такая исследовательская деятельность выгодна обеим странам, поскольку позволяет сократить время исследований, устранить параллелизм и приводит к значительной экономии.

На основе решений третьего и четвертого заседаний Межправительственной комиссии недавно проводились консультации о координации направлений развития науки и техники. Этим консультациям особое значение придает тот факт, что впервые были заключены соглашения, основанные на детально разработанной перспективной концепции технического развития. Объем этой работы весьма значителен. В консультациях участвовали 310 экспертов шести министерств Венгрии и 520 экспертов сорока министерств Советского Союза, а в результате переговоров было заключено соглашение о совместном исследовании и развитии по 1677 темам.

* * *

Приведенные факты показывают большое значение венгеро-советских экономических связей и их определяющее влияние на развитие венгерского народного хозяйства. Налицо все возможности для дальнейшего развития этих связей. Советский Союз располагает огромным рынком, и его потребности проявляются по весьма широкой товарной структуре. Венгрия — страна небольшая, но имеет значительную обрабатывающую промышленность, многие изделия которой пользуются большим спросом и популярностью в Советском Союзе. Поэтому важной задачей является повышение технического уровня, улучшение качества наших товаров и расширение мощностей по их производству, чтобы можно было удовлетворить растущие потребности этого огромного рынка. Советский Союз чрезвычайно богат природными ресурсами и способен удовлетворить в соответствующем составе и количестве растущие потребности венгерской обрабатывающей промышленности в сырье и полуфабрикатах. Конечно, мы стремимся увеличить также и импорт готовых изделий и оборудования, необходимого для венгерского народного хозяйства. Такая товарная структура соответствует установившимся связям и природным условиям обеих стран.

Все новые и новые формы экономического сотрудничества, производственного кооперирования таят в себе большие возможности для дальнейшего расширения наших связей.

В 1968 году в Венгрии вводится новая система хозяйственного управления. Советский Союз также осуществляет ряд мероприятий по улучшению системы хозяйственного управления. Хотя между двумя системами управления и имеется существенное различие, оно совсем не носит характера, могущего ослабить наши связи, повести к сокращению товарооборота. Как раз наоборот: рынок, регулируемый центральным планированием, и большая самостоятельность предприятий открывают новые возможности в развитии плодотворных венгеро-советских связей.

BOOK REVIEWS

Ács, L.: *A szocialista pénz elmélete.* (The theory of socialist money.) Budapest, 1966. Közgazdasági és Jogi Könyvkiadó. pp. 322.

In Hungary, as in the other socialist countries, there have been discussions on end about the essence and functions of socialist money. Lajos Ács's book, similarly to his previous publications, is a useful contribution to these discussions. He lists the views of Hungarian and foreign authors on the subject and draws his own conclusions in argument with these. The book contains not only these arguments but also several original ideas enriching the conception of socialist money.

The book is divided into seven chapters discussing the substance of paper money, gold money and credit money, the problems of convertibility, the theory of labour money and its criticism, the connection between the conceptions of cybernetics and money, and finally the place of the socialist monetary standard in the socialist economy.

The author is critical about the long period when an autarkic *conception of the socialist money* was held in socialist economy, which led to conflicts both in domestic and foreign monetary relations. He rejects the concept according to which there should be a dual currency in socialism, one for internal, and another for external purposes. The author expresses the view that socialist money should sooner or later assume the functions of world currency too. In connection with the controversy of paper money and credit money in socialism he does away with the rigidly fixed monetary and credit categories and regards socialist money as a dynamic economic category.

The book is dealing in details with the nature of the capitalist and socialist monetary systems and raises the problem of the interpretation of the present-day monetary standard. Ács arrives at the correct conclusion that at present a gold-exchange standard is functioning in the capitalist countries and he gives a description of this standard. A most interesting part of the book contains a survey of the connections between a given economic mechanism and the monetary standard.

The author points out that life demands, we should do away with the rigid refusal of the theory of inflation in socialist economics. He goes into detail as to what extent inflationary phenomena exist and what their reasons are in some socialist countries. He draws the conclusion that price stability cannot be looked upon as a compulsory law of socialist economy and shows that deflationary and inflationary tendencies in themselves mean the criticism of the principle of price stability.

The second chapter of the book discusses the much debated topic of gold standard. Setting out from the international monetary discussions in the capitalist world he presents the recent ideas for the reintroduction of the gold standard, first of all the French concept. Subsequently he analyzes the connection

between gold and money-circulation in socialist economy. In fact he is criticizing here the role of the gold standard in socialism. He lists a large number of the representatives of the different viewpoints. Ács states that the role of gold should not be excluded from the socialist theory of money, but it should get the treatment it deserves on the basis of its importance. One of "the main aims of my book is to facilitate the formation of a synthesis in monetary theory that does not see an antagonistic and irreconcilable contradiction between the manipulated inner money that is slightly inflated and whose purchasing power is decreasing thus being of "deteriorating" value and the currency appearing in foreign economic relations, at a firm exchange rate based on gold rate and convertible to gold. On the contrary, I strive to stress the unity between the two functions of money." (p. 132). The author discusses in detail the present and future situation of the socialist world currency, gold and Rouble. He also analyzes the character and main problems of monetary relations among the socialist countries and those between the socialist and capitalist economic systems.

The third chapter deals with the *functions of credit money* stating: "The money of the socialist economy is the credit money. Thus the socialist monetary standard is the credit standard, the credit mechanism." (p. 153). Further: "Accepting the credit money character of socialist money, I want to stress that the socialist credit money is not pure credit money, there are many elements in it that recall paper money, therefore it can be looked upon as credit money only basically, as regards its main characteristics and the tendencies of its development." (p. 193). The author explains these thoughts in a didactic, persuasive form. He makes us acquainted with the debate on the acceptance of the credit character of socialist money. He makes in this chapter an interesting allusion to the so-called "suppressed" inflation. He is also giving here a critical analysis of the socialist credit mechanism. The analysis is useful from the point of view of the further development of this mechanism. The view expressed in connection with the liquidity of the national economy is unique and new in the literature of this field.

The fourth chapter is devoted to one of the most exciting monetary problems of our days, i.e. the *convertibility of socialist currencies*. The author takes the view that in the near future the convertibility of socialist currencies might be achieved. He gives a concise picture of the monetary system of the monopol-capitalist states and also about the crisis of this system. The main proposals for the changing of the international monetary system are also introduced as well as the general problems regarding the role of the dollar and sterling as key currencies. The fifth chapter contains the debate about the *theory of the labour money* while in the sixth an up-to-date idea is touched upon: *the interrelations of cybernetics and money*. The final chapter of the book returns to the *problems of socialist monetary standard.*

I. WIESEL

DRECHSLER, L.: *Értékbeni mutatószámok nemzetközi összehasonlításának módszerei.* (Methods of international comparison of value indices.) Budapest, 1966. Közgazdasági és Jogi Könyvkiadó. pp. 368.

Earlier attempts at international economic comparisons started in the most diverse directions and compared in the most varied ways the economic development level or the various index numbers of two or more countries. Of these methods, outstandingly important are those aimed at expressing the most important synthetic index numbers of the economy (such as those of national product, national income, private consumption, the aggregate production of an economic sector, etc.) on the basis of conversion into a common currency with the aid of detailed computations. Though highly laboursome, they are the most accurate of the possible methods

and offer the possibility of the most differentiated and manysided comparisons. Two calculations of this comparative character have been carried out up to now, both covering several countries. The first was performed by Milton Gilbert and co-workers, who compared the national product of several Western European countries and the USA;* the other by CMEA experts to compare the most important synthetic index numbers of the member countries. The methods adopted by the latter corresponded in several respects to those used by the former, but the CMEA experts tried also new ways in respect of several problems and solved also some which Gilbert and associates could not undertake to solve.

In the course of carrying out calculations of this type, several special economic and statistical-methodological problems are bound to arise. L. Drechsler's work presents these problems, solving them mainly on the basis of experiences gained in the course of the project carried out within the framework of CMEA in which the author played a significant role, and giving in a number of fields a further elaboration of the methods hitherto developed. The main importance of the work lies in the fact that its author is the first, not only in Hungarian economic literature but in that of the socialist countries as well, to give a comprehensive survey of essentially all aspects of the international comparison of value indices.

The book falls into two parts. The first part entitled *General problems of international comparisons*, deals with the methodological problems which are bound to arise in any comparison of value indices. The second part which bears the title *Special problems relating to the main domains of value-index comparison* discusses the characteristics of comparing different aggregates. The fundamental problem of the first part is how to render comparable the value indices of different countries expressed in different currencies. The official exchange rates are, obviously, not suited for the purpose; what is needed are special conversion rates, so-called territorial price indices, which conform to the actual composition of the aggregates to be compared. The establishment of such indices raises, however, several methodological problems. The first of these problems arises in connection with the method of weighting which is problematical even when two countries are compared and becomes particularly complicated when the investigation is extended to more than two countries. The chapter on weighting methods surveys the possibilities one by one, showing in detail the advantages and disadvantages of the various methods. Another comprehensive problem of computing territorial indices is constituted by their varying degrees of representativeness due to the fact that the synthetic index numbers to be compared are generally composed of so many elements that an effort at full coverage in the course of conversion would be unfeasible. Here, the application of special sampling methods is necessary.

A chapter of outstanding importance in the first part is that dealing with the question of comparability, where an index is worked out with the aid of which the degree of comparability may be quantified. There were also earlier attempts at constructing such indices* but the one constructed by L. Drechsler is more exact than any of the hitherto known methods.

The second part surveys the most important value indices and presents the methods suited for their comparison. The author deals separately with the comparison of consumption, living standards, industrial and agricultural production, construction and investments. In these chapters the first step is generally to delimit exactly the category to be compared.

* M. Gilbert, and Associates: Comparative National Products and Price Levels. OEEC. Paris, 1958.

* See e.g.: B. Mudgett: Index Numbers. New York, 1951.

(E.g. in the case the elements belonging to this sphere are determined both in principle and item by item and private consumption is separated from production costs, accumulation and from the non-private part of the consumption fund.) The next step is the classification of the aggregate to be compared, which is important not only because the analysis of the detailed conversion computations must be uniform for each country but also because the results yielded by the comparison of these groups (arranged, e.g. in the case of consumer goods by use: foodstuffs, clothing, etc.) will be the subject of an independent analysis. This is followed, where necessary, by the selection of the index most suited for the comparison and the description of its method of conversion.

By way of conclusion, a separate chapter deals with the comparison of the balance of national income as a whole, discussing the special problems of comparison which arise, beside those encountered in the comparison of individual aggregates, when a more comprehensive comparison is attempted.

GY. SZILÁGYI

Mrs. E. CSIZMADIA: *A megoldás útja a termelőszövetkezeti munkadíjazásban.* (Remuneration in agricultural cooperatives: the way of solution.) Budapest, 1966. Közgazdasági és Jogi Könyvkiadó. pp. 217.

The publication of Mrs. E. Csizmadia's book, based on her research work in the Insitute of Economics of the Hungarian Academy of Sciences, is an indication of progress in Hungarian literature on farm economics. There is hardly a subject in economic literature in this country on which so many articles, studies and books have been written as on the evaluation and remuneration of work, the distribution of income in agricultural cooperatives. The forms of remuneration, the material incentives, the problems of income distribution and relative earnings etc. are discussed in numerous studies from the points of view both of farm economics and bookkeeping. Mrs. Csizmadia, however, not only endeavours to synthetize and systematize, as it were, the existing knowledge on the subject but also *approaches the problem in a novel way, more penetratingly than other investigations hitherto did* and analyses the whole complex of problems against a broad economic and social background.

The problems of remuneration of work in agricultural cooperatives are discussed in the book in four chapters. In Chapter I the author outlines the novel approach to the problem, reviewing the development of the system of material incentives in Hungary, the requirements to be raised on income distribution and remuneration which follow from the special features of the cooperatives, the formation of the income-sharing fund as well as the composition of the latter in kind and money. In Chapter II the characteristic features of the *level* of income shares in the cooperatives and the economic factors affecting it are discussed. The differences between cooperatives in respect of farming results and remuneration as well as the level of income are reviewed in connection with the problems of the natural endowments and economic position of the cooperatives. Chapter III deals with the problems of improving the system of income distribution in the cooperatives. The shortcomings of the present system and the Soviet experiences in this domain are analysed. The suggestions concerning changes in the system of income distribution, the further formation of working assets and the extension of the credit system, differentiate between the prosperous cooperatives, and those with poor farming results. Chapter IV discusses the question how to improve the system of remuneration and income sharing, reviewing the various forms of remuneration, their relative merits as well as their connection with relative earnings. Within this framework the author analyses in detail the form of remuneration in money, regular advance payments, share-farming and the forms combined with bonus payment.

The book's line of thought is novel also from the point of view that it considers the shortcomings of the system of *remuneration and income distribution in cooperatives* not merely as an internal problem of business economics, with the cooperative treated as an enterprise, but as one of the national economy, *closely connected with distribution relations and their incentive effect.* "Incentives serving the raising of production will be most efficient under the conditions of socialism" — writes the author — "if the material interests of society and the economic units as well as the individual interests of the workers are successfully brought into harmony and material interests *work in the same direction on all three levels.*" The author points out that in the cooperative, too, there is a direct connection between the material interests of the workers and the results of farming. In her view, the main shortcoming of the system is that *the average level of remuneration is low as regards the country as a whole and that especially in the less prosperous cooperatives payments are irregular and uncertain.* The opinion is, at the same time, rejected according to which a schematic application of the remuneration system prevailing in the state farms could bring a solution. Novel in approach is also the part of the book where the author characterizes the level of remuneration and proves that this is affected only by microeconomic measures, i.e. the rules of cooperative management and organization, but is, particularly as regards the less prosperous cooperatives, in close connection also with the country's system of economic policy, and the price, financial and credit relations. It follows that, in order to eliminate the present shortcomings, a system of remuneration is needed which involves, on the one hand, *changes in the measures of economic policy affecting the cooperatives and, on the other hand, a modification of the rules of farming and remuneration in the cooperatives themselves.*

The author draws the important inference that the cooperatives should, with the help of measures of economic policy, be put in a position to be able to pay out of a definite part of gross income and adequate remuneration, proportionate in level to that paid in other fields.

The practice, too, should be changed that in a considerable part of cooperatives *remuneration is as yet not properly guaranteed* and that especially in the less prosperous cooperatives the part of personal income distributed after payment of the liabilities is inadmissibly low. Therefore, the author recommends *to divide in the future the annual income share of cooperative members into two parts.* A definite part should be guaranteed and paid out regularly in the course of the year, and a smaller part should be paid at the end of the year as an additional share, depending on the *actual level* of gross income. In addition to guaranteed payments, also the methods of formation of working assets and the credit system of the agricultural cooperatives should be further improved in a way that financing is brought into close harmony with the system of work remuneration.

In the author's opinion, the introduction of guaranteed payments for work *must not be interpreted as meaning that the diversified forms of remuneration in cooperatives will cease.* On the contrary, the cooperatives should be free to continue to apply the accepted forms of remuneration in accordance with local conditions and the whishes of the members.

Within the framework of an organic concept, the author gives an outline of the perspectives of income distribution in cooperatives, endeavouring, in addition to the general recommendations, to work out proposals also for various characteristic cases. Special attention is paid in the book to the problems of the less prosperous cooperatives where, in the author's view, state subsidies and special credits to ensure the payment of guaranteed wages are necessary even in future.

I. GÖNCZI

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Printed in Hungary

A kiadásért felel, az Akadémiai Kiadó igazgatója Műszaki szerkesztő: Farkas Sándor

A kézirat nyomdába érkezett: 1967. X. 10. — Terjedelem: 12,75 (A/5) ív

67.64537 Akadémiai Nyomda, Budapest — Felelős vezető: Bernát György

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A Quarterly Review of the Hungarian Academy of Sciences

Papers are published in English or in Russian, German, French.

Editorial Office: Budapest 24, P.O.B. 509

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Журнал Академии Наук Венгрии

Публикуется ежеквартально.

Статьи публикуются на английском, или на русском, немецком и французском языках.

Адрес редакции: Budapest 24, P.O.B. 509

Подписная цена — 165 фт за год. Заказы принимает Предприятие по внешней торговле книгами и газетами «Kultúra» (Budapest 62, P.O.B. 149) или его заграничные агентства.

ACTA OECONOMICA

Vierteljahrsschrift der Ungarischen Akademie der Wissenschaften

Aufsätze erscheinen in englischer oder in russischer, deutscher und französischer Sprache.

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