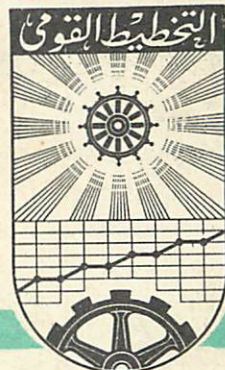


ARAB REPUBLIC OF EGYPT

THE INSTITUTE OF
NATIONAL PLANNING



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PLANNING IN HUNGARY

BY

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The Development of National Planning

The postwar results of the Hungarian economy are closely linked to the development of national planning. The first three-year plan^a guided the reconstruction of the economy; it repaired war damage and regained the prewar level of production, while exceeding former living standards of the population through a new distribution of the national income. The subsequent first five-year plan speeded up industrialization and the collectivization of agriculture.

The wide-ranging nationalization of the means of production not only was a precondition and a basis for national planning, but it also had a feedback effect creating a strong requirement for further government action. The need for establishing priorities and for nationwide coordination of branch production was a logical consequence of the nationalization. The distribution of nationalized resources and the distribution and redistribution of national income also required central decisions and guidelines.

The new situation called for new organizations. In 1947, the National Planning Office was established with the mandate to elaborate national plans and monitor their fulfillment. Later, specialized branch ministries came into being to control and manage nationalized sectors of the economy. Central guidelines assisted the newly established organizations and the management of nationalized enterprises to fulfill their new and complicated tasks.

In the development of national planning in Hungary we can distinguish four main phases:

1. 1947-53, in which the basis of the planned economy was laid down;
2. 1954-56, a period of improvement and correction in the system of national planning;
3. 1957-67, which brought the further extension and deepening of the role of central planning;
4. 1968 onwards, involving the introduction and realization of economic reform.

The first three phases together constitute a period of "extensive" growth. Beginning in 1968 a new orientation towards an "intensive" utilization of all resources of economic and social development has made higher and constantly improved economic efficiency a central economic policy aim.

^aThe list of medium-term plans in Hungary is as follows:

1. Three-year plan: 1947-49. (Started August 1, 1947 and fulfilled in two-and-a-half years by the end of 1949.)
2. First five-year plan: 1950-54.
3. Three-year plan: 1958-60.
4. Second five-year plan: 1961-65.
5. Third five-year plan: 1966-70.
6. Fourth five-year plan: 1971-75.
7. Fifth five-year plan: 1976-80. (In preparation.)

During the period 1955-57, the national economy was directed by annual plans only. The elaboration of a five-year plan for the years 1956-60 started several times, but because of political changes it could not be approved.

At the beginning of the first phase, the national plan was an economic policy tool without a detailed sectoral breakdown. It provided the main directives for the reconstruction of the economy and determined the main proportions in the distribution of resources, but it did not define the ways and means of implementation of the plan. Gradually, however, the emphasis was shifted to annual and even shorter-term plans in which a detailed sectoral elaboration of plan indicators was to be found. The authorities centralized more and more functions in the production and distribution of materials and goods. The difference between planning and operative management of industry disappeared in practice. Incentives in enterprises were directly connected with output plan targets and depended on the fulfillment and overfulfillment of output indicators.

All these changes in the methods of planning and management, when introduced, helped to accelerate the growth rate. But they also contributed, before long, to growing tension in the economy created by the overstrained industrialization targets. Because of these methods, planned proportions of the national economy were damaged, the fulfillment of the aims of the five-year plan was slowed down, and, in some respects, growth stopped. Compared with the speedy rate of growth of industry, agricultural output fluctuated strongly. A great dispersion was to be found in investment, losses and costs in production were high, and on the market there were often scarcities in basic goods and especially in agricultural products. Finally, in 1952, the living standard of the population decreased significantly.

During the first phase the foundations for the planned economy were laid down. The results, however, were overshadowed by the one-sidedness and deficiencies of the development of national planning. The economic policy aim of the next phase (1954-56) was to strengthen the planning of the main proportions of the national economy and to adjust inequalities in development. For that purpose some authority was decentralized: the role of branch ministries and local authorities was partially increased, and the circle of enterprise decisions was also broadened. The methods of national planning and the system of material incentives were also improved. In agriculture, important changes began as the obligatory delivery of products at fixed prices was gradually replaced by purchases of the surplus product at market prices and extension of the role of free market. The entire process, called at that time "the rationalization of national planning," also gave an initial push to discussions on principles and methods of national planning and plan implementation.

"Planned economy" was considered the opposite of "market economy," and it was strongly hoped that the former would harmonize economic growth in the long run. In practice, however, different economic policy aims were sometimes found contradictory and the full realization of plans encountered difficulties. The intention to use more detailed central planning and the increase in the number of physical indicators and balances could not solve the problems. On the contrary, the application of more comprehensive value indicators and decentrali-

zation clearly improved the implementation of basic plan targets. This was the first time in Hungary that discussions faced the problem of how to determine and regulate the relation of central planning and the market. But the discussions which aimed at improving the functioning of a planned economy later elicited proposals departing from it, and a number of economists lost their belief in the basic principles of a planned economy. These problems added heavily to the political crisis which occurred in 1956.

The new Party and government leadership drew conclusions from these developments and discussions in 1957. While the final objective of economic policy remained the building of a socialist society, and industrialization and the collectivization of agriculture were looked upon as the main instruments to achieve this aim, basic changes were carried out in the methods of national planning and management.

The rearrangement was based on the principle of maintaining the leading role of central planning and its directive nature. Medium-term planning was strengthened and annual plans were made on the basis of the well-established medium-term plan. The central role in the management of the economy was assigned to the annual plans, which were supported by a system of material incentives. Planning in value-terms developed, while the list of obligatory indicators in physical terms was radically diminished. The main responsibilities for the fulfillment of the national plan were given to branch ministries, and, in certain respects, to local councils. These authorities had some operational rights and independence in their own field of activity within the broader framework of planned indicators. At the enterprise level, instead of fixing the number of employees and the total sum of wages, a more flexible annual "average wage control"^b system was introduced, and an end-of-year remuneration was paid to all employees up to a maximum of one month's salary depending on the annual increase of enterprise profits. In agriculture, the system of obligatory delivery of products at low fixed prices was abolished and replaced by annual contractual relations between the state organs, on the one hand, and cooperatives and private farmers, on the other.

This system of national planning and management contributed to the political and economic success in the post-1957 period but, in its actual functioning, the stimulating force of the system gradually decreased and several shortcomings came to light.

^bIn the "average wage control" system, ministries and other supervising authorities approved for the enterprises as obligatory plan indicators the annual average wage-level, rather than the total number of workers and employees and the total wage bill. This system gave some flexibility to enterprise managers, who could maneuver with the number of workers and employees and also with wages. However, it adversely affected the growth of labor productivity, because managers kept low-wage workers and employees even when they had no need for them and managers could not pay really high wages to reward exceedingly high performances. In the long run the result was a tendency toward equalization of earnings within each enterprise and a superfluously high employment level in industry as a whole.

In the first part of the sixties, Hungary experienced fluctuations of a somewhat cyclical nature in plan fulfillment, and repeatedly-appearing problems in investment activities and the foreign trade balance. Although the disproportion between industrial and agricultural development decreased as compared with the previous period, it was not yet eliminated. Similarly, the overall equilibrium in the market for both materials and consumer goods improved, but output of technically up-to-date producer goods and high-quality consumer goods often lagged behind the demand, and variety in the supply of materials and goods was still small. Technical progress was not accelerated as expected and the rate of growth of industrial productivity was relatively low. These problems could be attributed to the still too-centralized decisionmaking and to the limited responsibility, authority, and personal initiatives at the enterprise level.

Following the Party Directives, and under the leadership of the Party's central committee, a critical evaluation of the national planning and management system was organized in 1965. A large number of proposals were discussed and a program for change was elaborated, leading to the economic reform introduced in 1968.

Basic Principles of the Reform

The building of a socialist society entered into a new phase: industrialization started to bear fruit; a new generation of workers, managers and intellectuals had grown up; in agriculture a few years had passed since the completion of collectivization and the greater part of the cooperatives had successfully started their activities. A turn towards intensive utilization of all resources and efficiency in all economic activities was needed more than ever.

The central idea of the economic reform [3] was to combine national planning and market relations on the basis of socialist ownership of the means of production. The question of how to regulate interrelations between central planning and the market was raised anew and new answers were elaborated. At this point, however, a few theoretical explanations are needed.

First, to avoid misunderstanding, we refer to the notion "on the basis of socialist ownership of the means of production," which thesis excluded a return to a private economy. The share of the private sector was at that time already marginal in our economy and no significant increase of this share was intended or carried out in the reform. The idea was to rearrange certain basic relations within the socialist sector.

Second, we exclude also the notion that the reform abandoned the basic ideas of national planning and management, although it incorporated some important changes in economics developed in the discussions of the last ten to fifteen years. "Planned economy" was treated as a certain unity of two different elements: central planning and management of the economy as a whole, on one side, and market relations among enterprises and other parts of the economy, on the other. Contradictions between these two elements have not been denied, but the feasibility of unity built on these controversial elements has been asserted.

National planning and the management of the economy based upon the plans determine consciously and over the long term the growth of the economy in planned economies. Overall development of a market economy is the spontaneous result of the play of market forces which depend nowadays not only on an enormous quantity of decisions taken by private firms and individuals but also on the activities of important organized actors of the economy such as state organs, trade unions, etc. There is no convergence between these two different economic systems—their basic difference rests upon the different ownership of the means of production—but certain common elements cannot and should not be denied.

Central planning and economic policy measures, which after World War II were generally applied in most of the developed market economies, illustrate that a certain kind of unification of these two contradictory elements can exist and function. The inclusion of the new elements improved the functioning of these economies but did not change their basic nature. In market economies central planning and state policy measures assist the functioning of the private economy in order to conciliate tensions and avoid larger fluctuations and recession.

In the case of planned economies the role of market relations is the main point at issue. Central decisions reflecting overall social interests should determine decisions taken at the branch, local, and enterprise levels. But there are many ways in which overall directives can be transmitted to the lower level. An oversimplified concept and a mechanical practice in the breakdown of national plan indicators into branch, local authority, and enterprise plan indicators caused many difficulties and losses in the development of planned economies in the past.

Experience has proved in all socialist countries that nationalization of the means of production and collectivization of private farms in agriculture do not abolish market relations in the economy. Money, prices, costs, finance, supply and demand not only are formal instruments of central management but they represent market dependencies. Market laws play an important role in the economy. More precisely, the influence of the market is not limited to distribution or relations between state and collective farms, or to private consumption, or to foreign trade. Rather, market relations have a significant effect within the state sector itself.^c

Market relations based on socialist ownership of the means of production and the laws governing these relations need not conflict with socialist tendencies, nor do they themselves assist the development of a socialist economy. Past economy policy tended to limit market relations and abolish them as soon as possible. That intention resulted in an incomplete use of the means available to central planning and management, and also caused conflict and inefficiency.

^cWe refer, for example, to the discussion of whether means of production are market goods in the socialist economy. This theory has received general acceptance in recent years.

Reform principles in 1968 accepted for the long term the existence of market relations in socialism [4] and regulated the interconnections between planning and market relations according to the following principles:

1. National plans should determine economic growth in the economy as a whole and should enjoy primacy over market tendencies or, in other words, plans should guide and influence the development of the market.
2. As a precondition for the above thesis, planning should take into account market relations, in general not directly opposing market tendencies but guiding and influencing their development by means and methods which are in harmony with the nature of market relations.
3. Plans should give leeway for movements in the fulfillment of plans including feedback effects of market forces. Intervention should occur only where the national interest or basic allocations made by the plans are threatened.

The main consequences of the adoption of these principles fall within the field of plan implementation and methods of central management of the economy. The introduction of a regulator system taking into account market relations, instead of a direct disaggregation of plan targets to enterprises, was the most striking feature of the reform. It had, however, also important consequences in other fields.

The reform established new relations between central supervising authorities and enterprises. The apparatus of central authorities was rationalized and significantly decreased, while the responsibility and competence of local councils and mainly of enterprises were broadened. The role of material incentives increased, and profitability of enterprises was placed in the center of the system of incentives.

In various branches, first of all in agriculture, special reform measures were elaborated and applied, taking into account their particular features. The agricultural reform was based on a systematic and gradual increase in contractual state prices and the related rise in profitability. The autonomy and competence of cooperatives were broadened and strengthened.

Main Features of the Regulator System

Conception of planning. The adoption of the above principles had three main consequences for the conception of planning:

First, functions of national planning and enterprise planning were reformulated, separating enterprise from national planning and stimulating the development of their respective patterns.

Second, an interconnected system of national plans of different length was adopted, and a strong impetus was given to starting systematic work on the preparation of a long-term plan and to increasing the role of medium-term (five-year) plans in plan implementation. This gradual shift from annual plans to

a greater rôle for five-year and long-term plans is also a characteristic feature of the reform. This change has had many repercussions.

Third, a new task was included among the functions of national planning: the coordination of basic effects and basic elements of the regulator system. Because of the more active role assigned to prices and financial means, their planning and coordination have also gained importance.

National plans form the basis for central management. It is an important function of the plans to transmit the economic policy aims from the overall social level to central management of the economy and, therefore, national plans are of a directive nature at this level. They are obligatory for the government and its agencies (ministries and similar authorities) in their economic activities. This principle has been maintained during the economic reform of 1968 but with fundamental changes in its interpretation and implementation.

Previously the compulsory character of central plans was extended to the plans of all economic units (enterprises, local councils, etc.). Enterprises received from their supervising authorities (ministries) annually and quarterly a smaller or greater number of so-called plan indicators, setting targets to be attained or limiting the use of one or another factor of production (output and export targets, the supply of certain materials, the average wage level, investment targets and financial resources, etc.). These plan indicators were derived by ministries from the national plan, and the attainment of the plan indicators either as minimum or as maximum targets was obligatory for enterprises and limited their activities to a greater or lesser extent.

One of the most important changes made by the economic reform of 1968 was the abolishment of the central fixing of enterprise plan indicators. Under the new system of economic management, ministries may not systematically give comprehensive plan targets to enterprises, and their direct intervention—according to the reform regulations—is limited to exceptional circumstances.^d Instead the central management relies upon a system of economic regulators. Consequently, the new management is based on two principles: first, the obligatory nature of national plans at the governmental level and, second, respect for the autonomy of the enterprise. The managers of enterprises are assumed to be sufficiently competent and fully responsible for making the correct decisions.

Enterprise responsibility and authority. In consequence of nationalization, the main part^e of the means of production has been put in the hands of the same

^dProblems in this area will be mentioned in the evaluation of results and problems of further development in the "Conclusions" section below.

^eAn important part of the means of production is owned by cooperatives, and about 23 percent of the net national product was produced by the cooperatives in 1972. Cooperatives, however, have a special status. In this short description we deal only with problems of state-owned enterprises, especially industrial enterprises, and branch peculiarities are neglected.

owner: society as represented by the state. This does not mean, however, that state-owned means of production could have been directed as a single technical-economic unit, without organizing a relatively large number of enterprises. The social division of labor; the extremely wide variety of products, technologies, machines and equipment; the historical background, size, and nature of investments; geographical distribution; the capabilities and costs of everyday organization and administration of work; and many other factors determine the enterprise structure of an economy. It is a very complex scientific problem to find a good (or even further an "optimal") structure, and this is far from being solved satisfactorily, either in theory or in practice. But the reform in Hungary made only minor corrections in the given structure. Instead, it took over the enterprise system resulting from the last general reorganization in 1962-63. The reform decentralized responsibility and authority to enterprises, despite awareness of the high degree of administrative concentration.

As state organs and state enterprises are considered basically to represent the same interests, it is a practical question to determine functions on different levels. Before the reform, rights of supervising authorities were not defined exactly and therefore they enjoyed a great freedom in their activities, whereas enterprises had a relatively limited "operational economic autonomy." The reform limited the role of supervising authorities to the following basic functions:

1. foundation, separation or integration, liquidation of enterprises, and definitions of their field of activity;
2. appointment and discharge of the leaders of enterprises and supervision of their activities; and
3. annual auditing and evaluation of enterprise activities.

These functions are carried out on behalf of the state by branch ministries in the case of larger enterprises of national importance, and by local councils in the case of smaller enterprises. Outside the above functions, state organs shape the economic regulator system which determines the basic orientation, economic possibilities, and limitations of enterprise activities. Continuous intervention and a take-over of decisions and responsibilities of enterprises were prohibited in the new regulations for supervising authorities. The right to intervene by direct instruction was maintained only for exceptional cases and situations.

The reform enlarged enterprise autonomy by different means:

1. in a legal sense, giving all rights to and placing all responsibilities on the director (manager)^f of the enterprise—not only charging him with continuous

^fThe personal responsibility of the director (manager)—a basic principle of enterprise management in Hungary—was and still remains unchanged. Directors are assisted in their work, of course, by a group of managers but, in the end, decisions are, and should be, taken by directors personally.

- implementation of the enterprise's plan and the organization of its work, but also entitling him to approve all enterprise plans and programs; and
2. in an economic sense, by decentralizing a large part of financial resources which make possible, in normal economic circumstances, not only the maintenance of the initial production level but also, to a certain extent, an extension of it.

According to the regulations, for a large expansion of production all enterprises can apply for bank credits or state loans. A bargaining process about credit terms has been established, and enterprises can relinquish an investment if they cannot accept the conditions of the bank credit or loan. In practice, however, the bargaining possibilities are limited as, generally, enterprise demand for investments is high and financial resources are limited. On the other hand, it is still correct to say that enterprises are not obligated to make one or another investment, so basic responsibility for investments does rest with them. In a few exceptional cases—in the establishment of new enterprises and in very large investments mentioned individually in national plans—central investment decisions are taken and enterprises are responsible only for the fulfillment of the programs. In the case of existing enterprises, these decisions are discussed with enterprise leaders in advance.

During the preparation of the reform a few suggestions were made to introduce a system of enterprise self-management in the economy. In Hungary self-management is the basic principle for the status of cooperatives, but state enterprises are supposed to be integral parts of the unified social property. These proposals, therefore, were refused both from a theoretical point of view and on the basis of the examination of practical experiences of self-management.

Price formation and regulation. The reform of prices had been prepared for a long period. Price formation in the fifties made large differences between the levels of producer and consumer prices. Consumer prices often differed greatly from total production and turnover costs, and as a result a large part of budget income came from the indirect turnover tax (e.g., in 1956, 53 percent of state revenues were from this source).^[5] Also, the agricultural procurement price level was much below the retail price level.

The price reform of 1968 was based on the idea of unifying the price system both concerning price formation principles and also, as far as possible, in price levels. It was thought that a unified price-building system would exert the same stimulating effects on different enterprises, would put them under the control of equal circumstances, and would, therefore, both assist a clearer evaluation of costs and profitability at the central level and serve the development of market relations at the enterprise level.

New prices were introduced in industry and trade on January 1, 1968. In agriculture, their introduction started with certain changes in 1966 but successive steps were foreseen to achieve the goals completely. Preparatory

calculations were carried out with a large price model as early as the middle of the sixties, and nearly one year before their introduction most price lists were discussed and gradually finalized. This process made it possible to put all preparatory calculations of the reform on the basis of new prices.

The basic function of prices was defined by reform principles so as to orient and stimulate producers and consumers in their economic decisions. The price system was meant to promote rational utilization of economic resources, the adaptation of production to demand, the spreading of up-to-date technologies and products, and the formation of an economical consumption pattern, as well as equilibrium between supply and demand.

In price-building, the following three main factors were taken into account at all levels:

1. costs of production and trade;
2. the influence of the market in expressing substitution effects and supply and demand relations; and
3. state preferences derived from the economic policy aims and the national plan.

In all phases of production and trade costs had to cover material inputs, wages and salaries, depreciation of fixed assets and centralized revenues of the state. The two main forms of centralized revenues were: a 5 percent uniform charge (like an interest rate) on all productive fixed and working capital and a total 25 percent charge on all wages and salaries. Above costs, prices had to make it possible for enterprises to achieve a certain amount of profit. State preferences, substitution effects, and supply and demand of different products were supposed to influence the profit rates of branches and mainly of different kinds of products.

The principles could be applied only with certain corrections in the different branches of the economy. Existing price relations, foreign trade prices, the given consumer price level and product-mix, and other factors influenced the determination of prices in the various branches, and many additional rules and changes were needed. The first approach was to keep the initial profitability level relatively low. In practice, however, profits included in the initial prices of the reform were 6.5 percent of the total value of assets in industry.[6]

The compromises and, mainly, the higher initial profitability decreased the stimulating force of the reform and within a short time caused high profitabilities and large differences to develop, often not directly related to the true economic performance of the enterprise. The changes in the price system proved to be of only limited help in improving central guidance of the economy and facilitating direct comparisons of results in different branches and enterprises.

Initial production prices were calculated with the condition that the overall

consumer price level should be maintained and only small changes could be made in relative consumer prices. Price lists were elaborated as fully as previously in order to obtain initial calculated prices, but not all prices were issued, because the reform was also connected with new price regulations. Three basic forms of prices were introduced:

1. fixed prices;
2. officially regulated prices, including a wide range of different methods ranging from maximum prices, which functioned in practice nearly as fixed prices; through so-called guiding prices for a product-group, with more scope for declines in individual product prices; to the regulation of price-building methods, leaving enterprises to form individual prices on the basis of their own calculations;
3. free prices without central prescriptions, to be determined in contracts between enterprises, set for certain consumer goods by domestic trade enterprises, or developed in the free market.

Table 9-2 shows the relative importance of the different price categories in household expenditures, as planned for 1968.

In the sphere of production, the prices of raw materials and certain typical intermediate products were mostly fixed or maximum, while in other manufacturing industries the share of loosely regulated or free prices was very high, on the assumption that prices of materials, on the one hand, and consumer prices and related interests of trade enterprises, on the other, would impede a rapid general increase in producer prices.

The introduction of the price reform—as a part of the general preparations—was supported by preventive measures: state reserves and stocks of basic

Table 9-2. Hungary: Relative Importance of Different Price Categories in Household Expenditures (percentage of sales planned for 1968)

<i>Product Group</i>	<i>Price category</i>			
	<i>Fixed</i>	<i>Maximum</i>	<i>Loosely regulated</i>	<i>Free</i>
Foodstuffs	31	29	27	13
Clothing	—	21	54	25
Construction materials	20	70	—	10
Fuels	100	—	—	—
Miscellaneous industrial articles	7	50	22	21
Total retail sales	20	30	27	23

Source: Reform of the Economic Mechanism in Hungary, ed. István Friss (Budapest: Akadémiai Kiadó, 1969), p. 151.

materials and of most important consumer goods were increased; the balance between the purchasing power of the population and the supply of consumer goods was improved; and during the first two-three years the consumer price level did not increase more than the foreseen annual 1-2 percent. Later, however, the annual rate of increase rose somewhat, reaching 3.5 percent in 1973, but still remained relatively low.

The price reform, although it successfully supported the reform as a whole and brought improvements as compared to the past, could not completely fulfill the aims and hopes that were attached to it. An analysis of the circumstances and reasons which caused the results in this field to fall behind expectations would, however, go far beyond the limits of this study.

Enterprise income regulations. The price system and enterprise income and other financial regulators are closely related. Prices should make it possible to self-finance production, not only on the previous level but also with some expansion of output. In the new system subsidies are not generally assumed.

Enterprise costs include important elements of budget revenues. A part of the depreciation of fixed assets is centralized; and the charge on productive assets and wage taxes and social insurance contributions are obligatory payments to the budget. At the same time, they orient enterprises to economize on different factors of production.

A central idea of the new system was that income regulations and material incentives should be based upon the interest of enterprises in the total sum of profit. In contrast to the 1957-68 period—when primarily the fulfillment of annual plan indicators oriented and measured the performance of enterprises, and the increase of profitability had a complementary role—in the reform, profit came to be the main guideline and measure of enterprise activity. The relation between annual plan indicators and profit changed. Previously, profitability was only one of the main indicators, the evolution which strongly depended on resources provided by central decisions and expressed by other plan indicators. In the broadened enterprise autonomy since 1968, the intention to increase profits has influenced enterprise activities strongly. As the total sum of profit depends directly on costs and the sale of commodities on the market, feedback effects of the market on economic development have manifested themselves to a much greater extent than before.

Profits earned by enterprises are taxed and their use is regulated by several central rules. These rules are important guarantees of national planning and management for balanced growth and they also influence significantly the interests of enterprises. Although stimulating both the enterprise as a whole and its workers and employees individually, the regulations have some inconvenient side-effects as well. Thus, these rules, though remaining stable in some basic elements, have undergone many modifications since 1968.

Profits of enterprises are divided into two main parts—allocations to the

"development fund" and the "sharing fund"—according to the proportions between total assets and the wage bill, with the latter multiplied by a so-called wage multiplier ranging from 2 to 7 in the main branches of the economy, but generally taken as 3. The purpose of this division is to provide adequate funds for personal material incentives while taking into account the balance between the purchasing power of the population and the supply of consumer goods. The rules of distribution of enterprise profits into the two parts thus are determined in accordance with the proportions of accumulation and consumption in national income.

The part of the profit which is calculated in proportion to the *assets* is taxed linearly; generally, 60 percent should be paid to the budget. The remainder goes into the enterprise development fund, along with the portion of depreciation allowances retained by the enterprise. This fund is the source for enterprise investments and repayment of bank credits.

The second part of the profit, formed in proportion to a multiple of the *wage bill*, is taxed progressively. The tax rate is differentiated in bands and rises from 40 to 70 percent depending on the band proportion to the wage bill. Transfers from the sharing fund to the development fund are allowed, but the reverse change is prohibited. From the sharing fund, enterprises are entitled both to increase wages and to pay annual bonuses. The introduction of the sharing fund was the main stimulating force of the new incentive system, but the system was very sensitive to different rules regulating the use of the fund. Although wage increases above a certain level coming from the fund were again taxed progressively, the close link between profits and wage increases gave rise to unhealthy inequalities between enterprises. Low-profit enterprises could neither pay good bonuses nor increase wages, and their relative backwardness could only grow over time. Therefore, in recent years, although basic principles were maintained, the regulations were made more flexible.

Enterprises are also obliged to form a reserve fund related, according to central rules, to both the development and the sharing fund. The reserve fund provides security against risks and is regulated to level out annual profit fluctuations and their effects on funds.

THE CURRENT SYSTEM OF NATIONAL PLANNING

Planning Agencies

The organizational framework of central planning and the division of labor in central planning agencies have been determined by reform decisions and partly up-dated in the Act of National Economic Planning passed by the parliament in 1972.[7] The act also embodies the principles of national planning and was used in preparing this part of the chapter.

The directives of the long-term plan are discussed by the National Assembly,

which approves its main features. The *five-year plan* is a legal act passed by the National Assembly on the basis of proposals submitted by the Council of Ministers (government), which subsequently informs the parliament from time to time of the progress of the plan. The approval of the *annual plans* is the prerogative of the Council of Ministers. But, together with the bill on the annual budget, usually in December, the government submits its report to the National Assembly on the progress of the on-going annual plan and informs the parliament of the main targets of the plan for the following year. It is part of the government's responsibility to take the decisions that ensure plan fulfillment.

National Planning Committee. The government is assisted in the realization of its economic functions by the National Planning Committee organized recently.⁸ The Committee submits to the government plan proposals and proposals to ensure plan fulfillment, and it continuously observes and evaluates the realization of plan targets. It also takes a stand on other basic economic policy issues.

The National Planning Committee is led by a deputy prime minister who is also the Chairman of the National Planning Office. Members of the Committee are deputy prime ministers in charge of economic affairs, the Minister of Finance, the Minister of Foreign Trade, the Minister of Labor Affairs, and the First Deputy Chairman of the National Planning Office.

National Planning Office. The National Planning Committee is assisted in all its functions by the National Planning Office, which is the central organ of national planning. This Office directs and organizes the elaboration of national economic plans, the international coordination of plans in the Council for Mutual Economic Assistance (CMEA), and the coordination of the system of economic regulators. It continuously analyzes the development of the national economy and the realization of plan objectives, and initiates government measures if needed.

The elaboration of the conceptions and objectives for detailed planning work, a considerable part of plan computations, and the final coordination and formulation of the plan proposals are the main tasks of the National Planning Office. The methods to be applied in national economic planning are established by the Office, which is also responsible for continuous progress in planning methods.

The functional ministries. The so-called functional ministries (e.g., Ministry of

⁸The decision was taken on July 3, 1973. At the same time the previous Economic Committee of the government ceased its activity. The change is intended to strengthen central guidance at this high level. This tendency is expressed by the fusion of the chairmanship of the Planning Committee with that of the National Planning Office. It should be noted that in the Economic Committee all ministers charged with economic affairs were members but the new Planning Committee includes only a few of them.

Finance, Ministry of Labor Affairs) are responsible in a certain sense for the economic activities of the whole of the economy. They participate in national planning by preparing proposals for economic policy aims and for the regulators in the field of their responsibilities. They coordinate the proposals for the regulators with other ministries and after the government decision they are usually responsible for publishing the appropriate orders.

The branch ministries. The branch ministries (e.g., the Ministry of Metallurgy and Engineering, the Ministry of Food and Agriculture), which bear the responsibility for economic activities in their own branches, supervise enterprises and are connected also with national planning in many forms. They prepare analyses of the development of their branches and assist central plan preparation by technological and economic studies and proposals for policy aims concerning their branches. They also suggest, where necessary, changes in the regulators concerning their branches and participate in the coordination of all these proposals. They assist in the international coordination of plans and organize the participation of the enterprises in this work. The realization of the plan targets in their branch is supported by economic policy measures, and the branch ministries promote the development of direct contacts between enterprises within the branch and between branches.

Plans of Different Time Horizons

The preparation of national plans is a complex task. National planning includes the following main elements:

1. *analysis* of past development, the present situation and the fulfillment of on-going plans;
2. *forecasts* based on past or recent tendencies which determine some of the external or internal conditions of future economic development;
3. *estimates* of the future course of certain flows (e.g., ongoing investment processes; the effects of economic regulators, prices, taxes; etc.) if economic policy intervention does not occur;
4. *determination* of social and economic *objectives* and of the main direction of development to be followed in the plan period, producing the so-called "plan conception" that serves as a basis for detailed planning and coordination;
5. *preparation* of partial alternative proposals and comprehensive *variants* regarding plan objectives and their implementation;
6. *continuous* and final *coordination* of plan proposals and variants with objectives, revision of partial solutions and their combination in such a way that they result in a coherent plan.

While in practice all the above elements are applied in different combinations, but in close relation to each other, a relatively clear distinction developed

between plans of different time horizons. Experience has shown that all functions of national planning cannot be fulfilled by a single plan covering a definite time horizon. The basic functions of planning for different time horizons can be formulated as follows:

1. foresee the most important long-term tendencies and form long-term social and economic policy aims;
2. elaborate social and economic targets for a medium-term period, define tasks and means of national management, and determine the basic elements of the economic regulator system;
3. adjust current economic policy to the changing circumstances in harmony with long-term objectives.

Planning must take into consideration the great differences in the nature of different economic activities. Economic decisions should be made neither too early nor too late, but in accordance with particularities of each economic flow. Demographic forecasts and expected changes in the factors determining labor supply and demand often require a perspective of twenty-thirty years. Changes in social circumstances, education, and health services have an impact on long-term growth and, therefore, should be foreseen on such a long-term basis. The best utilization of natural resources is a similar problem. Investments in the energy sector and in production of some raw materials and semifinished products should be based on a fifteen-twenty year analysis. However, if we take the problems of structural changes in manufacturing industry, usually a medium-term horizon is sufficient to realize investment policies and to give enough flexibility for the accommodation of changes in domestic demand, in foreign markets, and in technology. Finally, if we look at equilibrium problems of the economy, current economic policy measures and annual corrections are still necessary.

Planning, however, not only should accommodate the differences in the nature of economic flows, but also must take into account the many interdependencies between economic flows and therefore must unify time horizons and methods in order to harmonize different parts and elements. The existing differentiated system of national planning and national plans developed under the influence of these factors.

Planning in Hungary is based on an interrelated system of national plans consisting of the following three types of plans:

1. long-term plan: looking ahead fifteen-twenty years with complementary projections in some fields for twenty-five-thirty years;
2. medium-term plan: the five-year plans as developed in practice with calculations for certain aspects up to ten years;
3. short-term plan: the annual plans that are also complemented by a perspective of two or three years.

The three types of plans, if correctly linked together, can create a harmonious system providing a stable basis while remaining flexible enough for changes needed during development.

The long-term plan affords a basis for the elaboration of the objectives of five-year and annual plans, but it is not practicable for long-term plans to contain details that can only be safely regulated for a shorter period. We must combine the long-term predictions with medium-term and short-term decisions and regulation. After the completion of a five-year period it is useful to extend the long-term plan for another five years. In this sense long-term planning may be considered a "continuous" activity that provides for every five-year plan a further ten-year perspective. This principle was first applied recently, when the time horizon of long-term planning was lengthened until 1990.

A different practice emerged in five-year planning. Experience proved that the annual "stretching" of five-year plans by a year is not workable because most of the advantages of the harmonization of different parts and elements would be lost and the two-three year time input expended on the preparation of a five-year plan impedes continuity. It seems practicable, however, in the third year of the plan period to evaluate results attained and, on this basis, to elaborate the main conceptions for the next five-year period. These objectives and data will provide an orientation to annual planning during the last two years of a five-year plan.

The long-term plan. The specific task of the long-term plan is to define a long-term economic policy orientation, to set a framework for five-year and annual planning, and to serve as a basis for decisions significantly influencing long-term social and economic growth.

After some previous experiments, long-term planning has been developed in Hungary following the economic reform of 1968. In the first phase work was aimed at preparing a long-term plan for the period 1971-85. Recently, after a decision by the Council for Mutual Economic Assistance (CMEA), the lengthening of the time horizon to 1990 has been decided.

We can approach the preparation of the long-term plan from two different angles: one is the examination of past economic trends and structural changes in order to define some progressive tendencies; the second is the exploration of future structures and changes in tendencies based on social, economic, and technical sciences. From this second approach might be derived the new demands and conditions which will characterize future development. A description of qualitative changes and an estimation of new structures are essential elements of long-term planning.

Special forms of organization are used in long-term planning. Committees have been formed with the participation of leading personalities from social, economic, and scientific institutions. The committees direct the work in economic ministries, scientific institutes, and social institutions. Proposals are put forward and variants are prepared for central coordination. The central

committee for coordination is headed by the Chairman of the National Planning Office and committees are serviced by divisions of the same office. The National Planning Office bears the responsibility of coordinating suggestions and preparing unified variants for the economy as a whole.

Long-term plans are of quite a different nature from five-year or annual plans. They do not contain decisions and elements of the regulator system. A qualitative definition of objectives and tendencies has a greater part to play in these plans. But the economic policy orientation represented by long-term plans is extremely important, because it influences long-run economic growth and is a basis for the most important social and economic decisions which have permanent financial and material consequences.

Although an overall long-term plan has not yet been approved in Hungary, the theoretical requirements have been formulated. The long-term plan must deal with, and coordinate, the following groups of issues:

1. the rate of growth, the main proportions of the national economy and basic changes in social relations;
2. the long-term conceptions of the development of international economic relations;
3. the main directions of technological development and the growth of certain branches, such as the energy sector, transport, and communication;
4. changes in living standards and in circumstances of life;
5. conceptions of regional economic development.

In harmony with the long-term plan of the national economy, a plan is also under preparation which will determine the prospective direction of scientific research work.

The five-year plan. The reform principles have been fully applied for the first time in the preparation of the fourth five-year plan (1971-75). Therefore, we can introduce five-year plans by using as an example this plan enacted by the National Assembly on October 3, 1970.[8] Under the new system the basic instrument of national management is the medium-term plan. This principle is reflected in the comprehensive nature of the plan and in its relation to the economic regulator system.

A period of five years is short enough to permit a reasonable assessment of economic development and to set realistic tasks. Five-year plans therefore give the most complete definition of economic policy objectives. At the same time, it is a period long enough to ensure the necessary perspectives for the guidance of national management and enterprise planning. The stability of the system of economic regulators requires the major prescriptions of regulation to be valid for a certain length of time, ensuring thereby a stable environment for enterprises. This is why the system of regulators is so deeply involved in five-year plans. The

fourth five-year plan consists of two main parts. In the first, economic policy objectives are defined, while in the second part the main characteristics of the system of economic regulators are determined.

The central economic policy aim of the fourth five-year plan is to increase the efficiency of economic activities in all fields. The growth rate, resource allocation, and planned proportions in the distribution of national income are all subject to this central aim.

The plan envisages a 5.5-6 percent average annual growth rate in national income, which is higher than the annual growth rate of the gross social product. This difference presumes a significant decrease in material inputs. The planned growth rate of the net product of industry is 7 percent per year. Another reason for the improvement in efficiency is the speeding up of productivity: 85 to 90 percent of the increment of the national income and 75 to 80 percent of industrial production growth are derived from the increase in productivity.

No change in proportions between accumulation and consumption within the national income is planned. The growth of output will be produced by a shift within the accumulation: In comparison with the preceding plan period, a smaller part of accumulation will go to the increase of inventories and a greater part will be used for fixed investments. Also, a higher share of investment is allocated to nonproductive branches—especially to housing and household services—than before.

The plan relies upon a more efficient use of fixed and working capital in the sphere of production. An important factor in increasing efficiency in Hungary has been and will be a more intensive participation of the country in the international division of labor. Thus, the average annual growth rate of foreign trade is planned higher than that of total output or national income.

The final economic policy aim of the plan is to attain a regular and relatively high rise in the living standards of the population, to improve living conditions and cultural facilities. Per capita real income of the population will increase at almost the same rate as the per earner national income. In addition, the plan envisages improvements in social benefits, a very high increase in state-financed residential construction, and the general introduction of the 44-hour work week.

When calculating improvements in efficiency, the plan takes into account the effects of the regulator system. On the basis of the two years of implementation of the new system, five-year planning could be evaluated and two main conclusions have been reached. First, interrelations between national plans and regulators should and could be improved, and, second, some provisional elements of the regulator system could be abolished, while basic principles could be applied more consistently. These ideas guided changes in the regulators.

The five-year plan also defined the sphere in which direct methods could be used, and the Act and a governmental decision settled the basic arrangements, which will now be described briefly.

The plan decided upon four so-called "central development programs." These

programs, the complexity of which is a new striking feature in our planning, define development targets, investments in fixed and working capital, the main uses of products (e.g., private or industrial consumption, exports), financial resources and import cooperation if any, the time-schedule of realization, and related preferences and subsidies. The four fields where such decisions have been taken are: the development program of bus construction; the use of natural gas; the aluminum industry; and the development of domestic output and use of computers. These programs demonstrate the orientation of the plan to the development and use of modern techniques.

A second sphere of direct central decisions is investments. For a limited number of individual projects the plan contains actual decisions, whereas for other investments the plan only defines the aims and provides funds. Although in investments these central decisions are very important, most decisions on productive investments are instead decentralized. For example, in industry around two-thirds of envisaged investments will be decided by enterprises.

A separate chapter of the plan indicates the directions in technological development that enjoy priority and will be supported by credits or subsidies. Environmental problems, e.g., the reduction of air and water pollution, are also included under this heading.

The growth of household income and of living standards is closely connected with the increase in enterprise profits. But many corrections in relative income and wage structures are envisaged. The plan formed a special reserve fund for measures affecting living standards, and directives regulate the planned use of this fund.

Finally, central measures might be taken concerning domestic and foreign trade in certain products.

It is a basic principle, declared in the Act, that beyond the above mentioned decisions "the accomplishment of the different tasks determined by the plan should be promoted, in general, with the application of indirect economic regulation." [9]

The fourth five-year plan contains general policy directives concerning the development and application of economic regulators in the following fields: price policy, monetary and fiscal policy, credit policy, foreign trade regulation, wage regulation, and regional development. These policy directives of the plan are expounded in detail and applied to actual circumstances in orders [10] of the Council of Ministers or the individual ministries or agencies.

Decisions on the five-year plan and on changes in the system of economic regulators are taken on the basis of a detailed system of plan calculations. A great part of the analytical tables and plan indicators are published for the information of enterprises, economic authorities, and institutions. But no enterprise-by-enterprise or similarly detailed breakdown exists in this background information.

The annual plan. The annual plan is an important link between the five-year plan and current economic activity. The function of annual plans is to define the ways in which different conflicts between economic policy aims and everyday realization should be resolved.

Even in the best five-year plan it is impossible to foresee and harmonize economic flows in such depth that during the realization no conflict would arise and no deviations occur. In many cases, these problems can be resolved without intervention, and development can go forward uninterrupted. Experience, however, proved that conflicts do often arise causing major difficulties even on the macroeconomic level and that they impede the automatic return of the economy to normal growth as originally envisaged in the five-year plan.

Fluctuations in agricultural production and in branches using agricultural raw materials; changes in world markets and their effect on the domestic economy; delays in the realization of investment projects or, the reverse, over-investment; labor shortages or surpluses and relative differences in wages; and many other factors can cause tensions. It often happens that several of these factors combine to aggravate the problem. We must realize that the power of a five-year plan to anticipate economic development is limited in some respects.

To fulfill its functions, annual planning relies upon an overall analysis of the economic situation and of the realization of the ongoing annual plan. The examination of equilibrium and the exploration of possible fluctuations and tensions are of the greatest importance in this work. When preparing annual plans we often look ahead not only for one year but also for the following one to two years and elaborate a system of balances including input-output tables and coordinate expected economic flows in detail. This is a task of a complex nature.

Contrary to the practice before 1968, the overall analysis is needed only to check economic growth and to find where and by which methods we have to intervene. But in most cases there is no intervention, as basic elements of the economic regulator system cannot be changed every year.

The annual plan consists, like the five-year plan, also of two main parts: (1) economic policy aims and (2) decisions and amendments of the regulator system. Although the first part is very concise, it is comprehensive in nature, defining specific features of the economic policy applied to the given year and determining the ten to fifteen most important plan indicators which characterize development in the following year. The content of the second part changes every year depending on the situation and on the special needs for intervention. The list of investment projects to be started and to be finished, based on the decisions of the five-year plan, and domestic and foreign trade regulations are, however, generally included in this part. The annual plan also includes the annual credit policy directives of the National Bank and is prepared in close association with the annual budget.

Connections with enterprise plans. The fact that direct contacts between national and enterprise plans to determine enterprise plan indicators from above have been abolished does not mean that connections no longer exist.

National planning cannot exist without information from enterprises, and central planning is entitled to ask for calculations and proposals in the course of plan preparation. The information requirements of national planning may be divided into two groups:

1. information about the past development and present situation—data that serve for central calculations;
2. estimates and proposals regarding the future, which inform central planners of the intentions of enterprises and aid planners in working out possible solutions for certain problems.

The first type of information generally reaches planners through statistics. The demand for statistical information in a centrally planned economy is very high.

The second category of information is needed mainly in five-year planning but for specific problems such demands often arise also in annual planning. This work is organized directly by the National Planning Office.

By summarizing enterprise proposals regarding major comprehensive indicators of the entire national economy, we usually obtain less realistic forecasts than on the basis of central calculations and predictions, which can also evaluate interdependencies and foresee tendency changes earlier and in greater detail. Therefore, no complex enterprise plan proposals are asked and summarized.

Connections between national and enterprise plans should also exist after national plans are adopted. Enterprises are obliged to prepare medium-term and annual plans and to cooperate with each other in plan preparation by giving information to larger supplier and buyer enterprises. The plans of the enterprises should be in harmony with economic policy aims determined by national plans. But enterprises do not receive plan indicators from supervising authorities, nor is the form of enterprise plans centrally prescribed either. The plans of the enterprises are approved by the manager (director, general manager) or in cooperatives by the general assembly. The manager makes his decision after hearing the opinion of the workers of the enterprise. A series of informative meetings is organized together with trade unions, where general proposals as well as related workshop problems are discussed.

The organizations of central planning are obliged to inform enterprises at regular intervals of economic developments, results and problems in national plan fulfillment, and future plans. Following the enactment of the fourth five-year plan, all enterprises received detailed information on the content of the

national plan to serve as a basis for their own planning. A similar but simplified procedure is applied in annual planning.

The Planning Process

The methods and the organization of national planning are under the influence of opposing factors.

On the one hand, interdependencies between the different sectors and different aspects of growth endow planning with a certain stability. On the other hand, changes in the domestic and the world economic situation and the ensuing alterations in economic policy aims, the accumulation of experience, and improvements in skill and training and new technical conditions (such as computers and other equipment at the planners' disposal) explain the continuous development in the methods and organization of planning. A given system and level of planning are therefore a result of all these effects.

During its development national planning in Hungary has become a more comprehensive system. However, we cannot explain this phenomenon in technical terms: product specification used in central planning and the number and breakdown of material balances are now less detailed than twenty years ago, and also the total number of staff actually decreased in certain years. But methods of planning for different time horizons or in different fields gradually became diversified. For instance, production planning in branches, planning of consumption levels and structures, domestic and foreign trade planning, collateral planning in constant and current prices, coordination in physical units and value figures, financial coordination, planning of price changes and of other regulators, have each developed their special methodology. The processes of combining traditional methods and mathematical models and of using computer techniques have also advanced significantly during the last few years.

A common feature of planning activities is that they integrate all the elements of analysis, forecasting, determination of policy aims and concrete targets, preparation of variants, and continuous coordination, as already mentioned above.

An iterative process is essential to the determination of the plan. At least two phases are defined in five-year and annual planning. In the first, we concentrate on the determination of the main social and economy policy aims and we produce guidelines for more detailed planning and coordination. In the second phase the plan is elaborated in detail and extensive coordination takes place. The second phase ends when plans are adopted by authorized social organs. In annual planning each of the phases requires two-three months; in five-year planning usually each phase takes at least one year but sometimes longer. In long-term planning the iterative approach and the need for more phases in order to elaborate the plan have also proved inevitable, but the system is not yet as well established as those for five-year or annual planning.

If we look into the technology of a phase of planning work, we can define three elements: (1) analysis, (2) planning of growth and structural changes, and (3) coordination. These are not phases following each other but rather are elements which are repeatedly and collaterally applied. Their separate treatment in this chapter is, therefore, somewhat arbitrary and intended only to clarify certain problems.

Analyses and forecasts. The preparation of plans begins with an analytical task. The length of the period to be analyzed depends on the time horizon of the plan under preparation. The background of the analysis for a long-term plan should be, as far as possible, a similarly long interval. Long-term planning in Hungary started with an analysis of growth and social and structural changes during the period 1950-68. Five-year planning is generally based on the analysis of the fulfillment of the previous five-year plan, which is partly an analysis of past development (including actual data of the first two-three years) and partly an estimate of the expected fulfillment of the plan in the concluding years. In annual planning, the last complete year and the expected fulfillment of the ongoing annual plan provide the two basic reference years.

This analytical work accompanies plan preparation until the end; from time to time the analyses are revised on the basis of new data which become available.

The analyses and the conclusions drawn from past development, as experience has often proved, are of a great influence on planned growth; sometimes they even have a determining role in decision making. A recent paper critically analyzed the strong correlation between the actual increase in national income and the planned rate of growth of the next five-year plan.[11] The data are presented in table 9-3, which shows that, with some leeway, planned rates of growth of national income followed the actual tendencies of the preceding period. The researcher therefore came to the conclusion that past analysis had in this case a stronger influence on plans than did the exploration of changing

Table 9-3. Hungary: Actual and Planned Average Annual Rates of Growth of National Income (percentage)

<i>Period</i>	<i>Actual rate of the previous period^a</i>	<i>Planned rate for this period</i>
Second five-year plan, 1961-65	7.1	6.3
Third five-year plan, 1966-70	4.5	4.1
Fourth five-year plan, 1971-75	6.8	5.6

Note:

^aFor 1961-65, the actual rate for 1958-60; for 1966-70 and 1971-75, the fulfillment figures of the previous five-year plan period.

circumstances in the future. In the figures for national income this tendency is demonstrated relatively clearly. A deeper analysis could prove such an interrelation also in the development of many other indicators, but in other cases this tendency is generally not so significant because other factors often exert an overriding influence.

By a deeper analysis of future circumstances such simplifications can be avoided. We should reveal existing inefficiencies and inconsistencies, analyze problems and tensions, and examine their expected influence on future growth. In forecasts we should not only describe trends that are likely to continue, but also anticipate changes in tendencies. Economic growth has often demonstrated how evolution may be broken by smaller or greater changes in the tendencies. The future is never a simple repetition of the past, and planning should foresee significant changes. How far planning can meet these high requirements depends above all on the disposition of the society to accept changes and be critical of its own efforts and, furthermore, on the ability of planning to fulfill its duties.

One purpose of the analytical task is to select a set of social and economic policy aims for future development and to make a preliminary outline of the problems which should be elaborated in the planning period. The intention in the last five years has also been to combine analyses with forecasts that explicitly show the consequences of past trends for future development.

Forecasts contribute to better understanding of the past, to the exploration of existing inconsistencies and tensions, and they also often help to find possibilities and constraints of future development. However, the preparation of realistic forecasts is a very difficult problem.

According to Professor Tinbergen's definition: "By forecasts we mean an estimate of the future economic situation under the assumption that there will be no change in economic policy." [12] But it is often very difficult or even impossible to determine exactly what the assumption "no change in economic policy" really means and to distinguish the consequences of a given economic policy. [13] When the private sector prevails in an economy and state intervention is relatively rare and has a limited role, forecasting means to define the path of the ongoing movements in the economy. But when the public sector has a prevailing position and central management is a determining factor of growth, the distinction between planning and forecasting does not always have a clear meaning. For instance when, as previously in Hungary, central management had a wide sphere of direct activities and was based on short-term plans, separate forecasts—at least in short- and medium-term planning—had practically no meaning.

Forecasts as expressions of future movements have gained importance only since 1968, when central management has been based on medium-term plans, main rules have been determined for a longer period, and enterprises have been acting primarily under the influence of a system of economic regulators. Nevertheless, in practice the role of forecasts still remains limited. They are used

with success only to forecast partial tendencies, to predict the future consequences of certain factors and individual measures. In overall planning, however, they have not been applied regularly.

The preparation of analyses and forecasts involves difficult methodological problems. Plan analyses examine simultaneously the tendencies of past development and the fulfillment of plans in previous periods. They usually include an estimate of the expected fulfillment for the remaining period of the ongoing plan. All these activities are carried out on the basis of the accumulated experience of economists. At the present stage, however, the statistical-analytical techniques used are generally simplified. As this field is especially suited for the application of more advanced mathematical-analytical methods, it is realistic to expect significant methodological developments not far in the future. This will in all probability contribute to a wider use of forecasts as well.

Planning of growth and structural changes. National planning in our concept is a systematic way to determine future development for the economy as a whole. Analyses and forecasts are necessary and important steps toward this goal, but the content of plans could never be determined if planning stopped at this stage. It should go forward: (1) to form a weighted and coordinated system of economic policy aims; (2) to plan the development of such comprehensive economic flows as production and employment, consumption and accumulation, developments in international economic relations; (3) to plan the growth of branches and to determine individual investment projects; (4) to plan regional development; and (5) to prepare targets for central decisions (where such decisions should be taken) and to plan regulators or changes in regulators that are needed to achieve planned results and to promote development.

The main role in development planning is still played by the experts' inventions and a gradual approach or, in other words, a trial and error process. Economic policy aims are quantified in a few macroeconomic aggregates, such as growth of national income, which serve as starting points for detailed planning in branches and in regions.

While analyses and forecasts can be prepared in all parts and at all levels of the economy simultaneously, planning of growth and structural changes generally begins from above, on the basis of central guidelines given to the branches. What they need most are the assumptions on growth rates of national income and consumption and some elements of investment and foreign trade policy. Usually a few figures are enough to give the first impetus to branch planning, which then becomes a self-generating process. Because of their interactions in the planning process, the intention of each branch to ensure adequate supplies and a market for its commodities stimulates the other branches to work out their own conceptions and to provide for the preconditions of their own development.

From time to time the progress achieved needs to be supervised. Results are

summed up and checked by coordination departments of the National Planning Office and, if needed, further guidelines are given to rectify wrong estimates, change unrealistic proposals, and reveal and solve inconsistencies. In this work generally the same aggregates are collected as were given to branches at the beginning of the work. Growth of national income and consumption, total investments, total exports and imports, and the balance of foreign trade are the most frequently used indicators. But they are derived from detailed branch figures summarizing data of branch estimates and, therefore, their nature changes and they become "control" figures of the progress in planning. In this way, development planning and coordination join into a common flow. Sometimes new information on the progress of plan fulfillment, newly received statistical data and consequent modifications in the conclusions of the analyses, or changing foreign markets and other exogenous circumstances give a new impulse to planning.

Two factors now contribute more intensively than before to planning of growth and structural changes: international comparisons and examination of technical progress. The two approaches are closely related. Comparative analyses, particularly in a smaller country that is not highly developed technically, can explore ways to develop the industrial structure and to increase productivity, and can point to new products and new technologies which should be introduced. These analyses often aid demand forecasts, showing the main directions of progress in advanced countries. The same results can be achieved also by direct studies on technical progress and new technologies.

At this point difficult organizational problems should be solved. A wide circle of experts and scientists and also managers of industries must be involved in this phase of plan preparation. Before 1968 the branch five-year plan proposals and discussions of them between the National Planning Office and branch ministries constituted the main organizational framework, whereby the decisions on the more important technical proposals were made. These proposals were made and the meetings organized as a direct part of national planning when the enterprises' interest to receive maximum resources (for investment and other activities) was already dominating discussions and time was usually too limited. Therefore, in these proposals and meetings real experts played a minor role and real discussions were usually killed by administrative and tactical approaches.

A new approach to the problem was the suggestion to elaborate "conceptions of technological and economic development" for the more important technical proposals. The conceptions are not plan-proposals. Neither their time horizon nor their preparation is connected directly to the long-term or medium-term plan. They represent a sort of scientific analysis of the current situation of one or another industry, or of the production and consumption of a group of products, with alternative proposals for future development. The preparations of these conceptions is organized by branch ministries or, for those concerning complex problems, under the auspices of the National Commission for Technical

Progress. Their decisions, which are made after thorough discussions with the participation of scientists, managers and experts, are used as advice for long-term and five-year planning. However, the actual decisions are taken in the planning process in which production, investment and other basic indicators are coordinated with each other. This separation of the two tasks has solved many problems: the first discussion is free from the pressure which is always exerted by the scarcity of resources and time in plan preparation. Apparently a stock of such studies has already been developed that facilitates planning.

Coordination. Plan coordination is an ingredient of national planning. Wherever planning exists, we can find the task of coordination, but we also find that the greatest differences in the conceptions of planners are in this field.

In economies with a broad private sector, many tasks which are often attached to coordination are solved ex post by the market, and the role of coordination is thus more limited.

In socialist countries the requirement is a more detailed coordination. Interdependencies should be deliberately enforced between the branches' production and investments, between production and consumption, domestic and foreign trade relations, etc. This need for coordination in depth is a direct consequence of the fact that the prevailing part of the means of production is in state ownership. This is why the harmonization in advance of the basic economic relations within the plans is a precondition for the subsequent coordination of the decisions and economic regulators and, finally, for the smooth functioning of the market.^h

Two general approaches are known to coordinate national plans. The first is characteristic of national planning as it is functioning today. The second method is expounded in studies suggesting the use of mathematical models for this task. Because the use of mathematical models is increasing rapidly, it is worthwhile to study both methods.

In practice planning starts with a set of economic policy aims and plan proposals, which usually are not easily balanced. For instance, demands for investment both to increase capacities and to accelerate technical progress generally overrun the available investment funds. The need for social improvements, housing construction, education, and health, together with demands to raise wages and salaries and other income for the active population also, as a rule, exceed possibilities. Under these circumstances, coordination decreases the number of proposals, by leaving out what is thought to be of secondary importance for the given period, and by reducing the degree to which different

^hThe coordination of basic economic relations in planning is a necessary instrument and a precondition of the realization of the primacy of plan against market. To the extent that harmonization on the level of the national economy as a whole is successful, the realization of the plan will go on undisturbed and balanced and the role of market will remain in shadow; but where and when inconsistencies in the plan are significant, disturbances will appear in the execution of the plan and elemental market forces will manifest their presence.

needs are satisfied. On the other hand, maximum efforts are made to accelerate development of scarce factors, for example, to improve the efficiency of exploitation of capacities of scarce products or to promote the rate of growth of exports.

In traditional planning a system of balances has been developed to reveal inconsistencies and solve the problems of coordination. The system of balances used in Hungary consists of the following types of primary balances:

1. material, or product balances (in the preparation of the fourth five-year plan their number was approximately 300);
2. manpower balances;
3. financial balances; and
4. the balance of foreign trade.

Each of the balances serves for coordination of resources and envisaged use of one or another factor of production. We synthesize the relations expressed in the primary balances and estimate the general equilibrium of the economy by means of the national balances, which include:

1. the balance of social product (gross output);
2. the balance of national income; and
3. the synthetic balance of manpower resources and use.

As a result of the developments during the last fifteen years, input-output tables and relevant mathematical methods of analysis are also regularly used in this synthetic work.

The system of balances aids coordination successfully, but the deficiencies of this system are significant.

Using this method we proceed from a larger group of proposals to a more limited circle step-by-step and, in this procedure, there is no equal criterion for measuring the proposals. What is from one point of view a worse proposal compared to another, and is omitted from later work, could be a better one if we could consider all suggestions at the same time, and with equal measures. When grading proposals according to a single efficiency criterion (in Hungarian planning, for a time, certain types of indicators were used, e.g., to rank investment proposals or export production), we receive a different list compared to the result of a balancing process in which the scarcity of different resources (and not efficiency) is the main criterion.

Another well-known deficiency of the method is the lack of simultaneous overall solutions. The whole procedure is directed to fighting inconsistencies and to the production of a complete plan proposal which satisfies constraints and economic policy aims within reasonable limits and in an acceptable combination.

This task usually needs the total time period given for the preparation of the plan.

Mathematical programming models could overcome these imperfections and provide for many overall variants ordered according to different objective functions, but here other difficulties arise. Such a model requires as data the results of nearly all the calculations prepared in the course of planning. In contrast, the current methods are very flexible: the proposals are often elaborated during the planning period and amended when conditions are gradually clarified. Another disadvantage of the applicable mathematical models is that coefficients should be linear because the dimensions of overall models at the present still exclude nonlinearity.

All these objections do not mean that linear programming models cannot be adequate for this task. In the preparation of the fourth five-year plan, after some previous experiments, a linear programming model has been applied closely linked to the traditional planning process.[14] The model received input data from an existing plan variant available three-quarters of a year before the final decision was taken on the plan (although it was not a fully acceptable and consistent variant). The constraints took into account all the main conditions of a consistent plan and the model produced complete plan variants ordered according to four objective functions.ⁱ However, mainly because of the poor computing facilities available at that time, only the computations of the ten branch submodels were ready in time. The solution of the overall model, which contained in a reduced form 1,782 variables and 1,626 constraints, was available a few months too late for practical use. However, the work resulted in important conclusions for the future.

It has been proved that traditional methods of planning can be combined with mathematical models successfully. This combination is needed, on the one hand, because the data input of the models comes largely from the existing planning system and, on the other hand, because harmonization and optimization can be improved significantly by mathematical models. The successful functioning of such a combined system depends on two main conditions: (1) on computing facilities, which have been improved during the last two years by the creation of an independent computer center for national planning; and (2) on improvements in input data handling. Only a chain of interrelated work can reduce the total input of time in the preparation and solution of the model. As these conditions are gradually improving, the application of mathematical models in the coordination of national plans will increase in the near future.

ⁱThe four objective functions were: (a) maximization of consumption above the minimum increase; (b) maximization of the surplus of foreign trade balance with the dollar area; (c) maximization of the surplus of foreign trade balance with the ruble area; and (d) maximization of the total of enterprise profits.

CONCLUSIONS

Accomplishments of Planning in Hungary

Postwar economic development in Hungary was tightly connected with the foundation of a planned economy. The reconstruction of the economy was directed by national plans, the level of output multiplied while the structure of production and consumption changed, and the living standard of the population improved significantly. Thus, during the first twenty-five years national planning produced good results, as shown in international comparisons, although the historical heritage was adverse and the country often had to face political difficulties and to compete with developed countries on the world market. The results were achieved by relying, first of all, on domestic resources, although development was also supported by the international economic cooperation of socialist countries within CMEA.

The planned economy, as it developed in Hungary, was especially appropriate to create new industries, to industrialize new regions, to help newly established collective farms, to start economic activities on a large scale and to introduce modern agrotechnics. A rather even and high rate of long-term growth was achieved, and experience was accumulated in regulating key proportions of the economy. The forms and methods of planning developed continuously, and solid foundations were laid down for future development.

As principal advantages of a planned economy, on the basis of Hungarian experience, we can emphasize two features:

1. A planned economy is an efficient system to unify national resources in order to realize common social aims.
2. A planned economy has all the means for continuous and harmonious growth and can avoid great fluctuations in economic development.

In our country national planning is a state function. The state, representing the society as a whole and as owner of the bulk of the means of production, is able to review future social needs and establish priorities. The system of plans with different time horizons and the related stepwise decisionmaking procedure are intended to solve this problem. The system of balances and models used in planning aims at the investigation of social needs, the clarification of their interrelations, and the determination of the degree of their urgency. The greatest problem, however, is not how to take into account the whole bundle of social needs and to weigh the social significance attached to them, but—when needs and existing tensions between needs and real possibilities are already known—how to determine and realize priorities. This task endows planning with a political nature. A precondition of the smooth functioning of the planning

system is that basic decisions be taken on a political level in the Party leadership and by leading state organs.

We consider here as examples two basic problems: first, the degree of economic centralization of surplus product (the net residual of production and trade); and second, the determination of the proportion between consumption and accumulation in the use of national income.

A part of surplus product produced by enterprises generally should remain with those who produced it, while the other part is centralized and redistributed according to central economic policy aims. Naturally enough, enterprises and institutions fight for their own interests and want to keep and receive the highest possible share of resources. To give enterprises and institutions directives is therefore not a simple question of knowledge and of economic reasoning but in considerable measure a political task.

The first five-year plan was characterized by a very drastic centralization of resources in order to promote the development of heavy industry. In light industry there were branches where even a large part of depreciation allowances was not left with enterprises but was taken into central hands. Later the degree of centralization diminished and all branches got more possibilities to modernize their production from their own resources. The 1968 reform made an important step forward in the direction of further economic decentralization. A certain degree of centralization is, however, indispensable in the decision making and planning process.

A similar problem is the regulation of the distribution of national income between consumption and accumulation. Maintaining the already achieved per capita level of consumption determines the lower limit of this proportion, while using all of the increase in national income for consumption can be taken as an upper limit to the future share of consumption. The actual distribution is determined within these boundaries. On one pole, consumption represents the present and direct interests of the population, while on the other, accumulation serves future development.

The first five-year plan put a high preference on accumulation, trying to accelerate the rate of industrial growth to a maximum. Practice has shown, however, that when the growth of consumption is very limited, workers and peasants do not feel directly interested in production, and lower growth of productivity diminishes the overall rate of growth. Therefore, the highest rate of growth in the long run is produced not by the maximum possible share for accumulation, but by a good combination of increase in both consumption and accumulation. The shares of consumption and accumulation are again a basic policy decision, the execution of which should be enforced by state authority. Hungarian development has shown that good solutions—or long-term harmonization of interests which conflict in the short run—can be found and realized successfully, and in such cases the basic aims of national plans receive the support of the population.

Our experiences also show certain problems in the practical operation of a planned economy. In our history the potentials of the system were not fully exploited because of deficiencies in foresight and planning. In certain periods, resources and the possibilities for future growth were overestimated; these erroneous evaluations found their expression in overstrained output and investment plans and in an overdistribution of resources exceeding real possibilities. These periods were necessarily followed by unforeseen corrections and rearrangements carried out through annual plans. However, the amplitude of these deviations was not very significant—except during the first five-year plan period—and as experience accumulated it has decreased.

Another often mentioned problem was to find the best methods of plan implementation on the enterprise level. The first approach to this problem was very simplified: the plan was interpreted as the main instrument of its own implementation, and tasks of national plans were broken down to the enterprise level in an attempt to define exactly and in detail what enterprises should do. But rather soon the importance of enterprise autonomy and the great role of material incentives were recognized. Since the middle of the fifties adequate solutions to this problem were sought, and they were also among the basic goals of the economic reform in 1968.

Evaluation of the Reform and Its Future Development

The economic reform of 1968 envisaged deep changes in the national management system; a price reform and reforms in practically all main elements of the planning and financial systems were carried through. Although the changes were profound, due to the long and careful preparation the transition was smooth and the new instruments gradually showed their effects. The main results of the reform and current problems in its realization can be summed up as follows:

1. The reform has been followed by general improvement in the main indicators of economic performance and an acceleration in economic development. Both the per capita rate of growth of national income and the ratio of national income to gross output increased. The relative backwardness of agricultural growth was eliminated, and market equilibrium in all respects was strengthened. The rate of foreign trade turnover grew nearly twice as fast as the national income. During 1968–73 real per capita consumption of the population rose at an annual average rate of nearly 5 percent—more than one percentage point higher than the annual average of the previous seven years.[15]

2. The basic ideas of linking central planning with a broadened role for the market proved to be not only realistic but very advantageous, because feedback effects from the market helped accelerate growth and did not disturb to a great extent the planned development of the main proportions of the economy.

The organized study of long-term social and economic development began, and drafts for a long-term plan were prepared. The five-year plan became the central

element of the planning system and now is the main link in the coordination of economic policy aims, concrete plan targets, and economic regulators. However, the harmony of plan targets and regulators was in practice imperfect.

The regulator system was established both to furnish relatively broad guides to orient enterprise activities and also to provide a common basis for evaluating their operations. The introduction of greater uniformity in price formation, charges on capital and labor factors, the use of profitability as the basic common yardstick of performance, and other related measures served these aims. However, already during the preparation of the reform many requirements expressed by regulators were loosened and too many exceptions and branch differentiations were introduced. Later the situation worsened further. Although further corrections were needed to make requirements more realistic for some enterprises, for a large number of enterprises high profitability was provided by the initial price level or by rapid improvement in other factors. The variability of the foreign and domestic market situation had also been underestimated. As a result of all these reasons, the role of annual plans and central intervention proved greater than foreseen.

3. Incomplete harmony between plan targets and regulators manifested itself most in the field of investments. Expenditure for central investment targets and also for enterprises' decentralized development funds exceeded the envisaged figures, and the share of accumulation in national income rose above the five-year plan goals. In these circumstances, with free price formation in construction and in machinery and equipment, the price level of investment goods rose rapidly. Although price movements reduced the real purchasing power of enterprise development funds and other fixed financial resources, price movements alone could not counteract imbalances and reestablish an equilibrium situation. Because of the significantly higher general level of enterprise profitability, the share of decentralized investment in total investment increased to a higher level than envisaged. In order to achieve central policy aims and finish ongoing investment projects, financial resources for central investments were often expanded. Thus, total investment grew also in real terms by extremely high rates (the peak figure in 1970 was nearly 17 percent).[16] Only central reallocation decisions could prevent further disequilibrium and return the economy in 1972-73 to the planned growth path.

4. Enterprises welcomed the reform and adapted to new requirements and circumstances rapidly. Production for market and sale became the first concern of enterprises; technical progress accelerated in many respects; direct cooperation between enterprises at home and abroad developed; the product-mix changed to meet demand better.

There were, however, also some drawbacks. The pressure of the market was not strong enough to press enterprises to decrease production and marketing costs significantly. Rather frequently smaller and medium-sized enterprises could adapt their activity to changing market relations better, and achieved a higher

profitability, than some large industrial enterprises in different branches of heavy industry. The modernization of the technology and the product-mix of a few, but large and important, state enterprises needed and still needs special central attention.

5. The population actively participated in the preparation of the reform, and the importance of economizing and economic efficiency has been recognized generally. Being strongly interested in profitability, workers have helped solve enterprise problems, and their expectations and activity exerted a kind of pressure and control on enterprise management.

The reform fulfilled the population's expectations for improving living standards, but relatively large differences occurred in personal incomes of different strata of the population. Agricultural procurement prices continued to move upwards during the period: in the last five years their level increased by 23 percent [17] and the income of peasants grew at a higher rate than the income of industrial workers. Larger differences than before arose also within industry between branches or professions and between workers at different enterprises. As the increase of personal income depended on profitability and the dispersion of profitability became significant, after a few years unforeseen differences appeared in income levels.

Price-level movements also contributed to larger differences in growth of per capita family income. During the first three years after the reform, consumer price level changes remained limited and did not surpass the 1-2 percent annual average maximum determined by political decisions. However, consumer prices rose by an average of 2.9 percent in 1972 and 3.5 percent in 1973. Although these changes were envisaged in annual plans, and the annual increase in real income level was, respectively, 4.5 and 3.1 percent, [18] families were affected in a rather differentiated way and the population reacted unfavorably to successive increases in the price level. The central authorities decided to increase workers' personal income, and different measures were taken to limit the rate of subsequent price increases.

6. This summary evaluation of the reform is very positive. The planning and management system developed in harmony with new requirements and circumstances of our economy, the regulator system proved to be efficient, and future development of the management system and more concretely of regulators will be based on further application of the principles of the reform. However, certain problems must be solved and are now among the main concerns of economic policymakers and planners:

- a. In the preparation of the next five-year plan, plan targets and regulators must be newly coordinated and changes in the regulator system elaborated.
- b. The degree of decentralization in investment policy should be newly determined, with due regard to maintaining equilibrium.

- c. Possible new regulation of wage increases is under consideration to secure more equitable relationships among industries and branches.
- d. Evaluation of factors in price formation has been discussed for a long period, and a decrease in capital charges and an increase in labor input costs are generally considered desirable.
- e. Price regulations should be revised to reduce differences in the operating conditions of enterprises with different proportions of output sold at fixed, regulated, and free prices.

These changes are being elaborated as a part of the preparations for the Fifth Five-Year Plan and some will be introduced in advance to facilitate a smooth transition to the next plan period.

NOTES

1. For background statistical data see (a) Hungary, Központi Statisztikai Hivatal (KSH) [Central Statistical Office] *Statisztikai Évkönyv 1970* [Statistical Yearbook 1970] (Budapest: KSH, 1971), and (b) *Statistical Pocket Book of Hungary 1970* (Budapest: Statistical Publishing House, 1970).

The 1970 GDP per head was 32,292 Ft., estimated to be equal to about \$1,600.

2. 1968-73. Data of this period are to be found in *Statisztikai Évkönyv 1972* [Statistical Yearbook 1972] (Budapest: KSH, 1973). The last year's data are provisional estimates.

3. For a review of the Hungarian regulator system as introduced in 1968 and its application and improvements, see *Reform of the Economic Mechanism in Hungary*, ed. István Friss (Budapest: Akadémiai Kiadó, 1969), and *Reform of the Economic Mechanism in Hungary: Development 1968-1971*, ed. Ottó Gadó (Budapest: Akadémiai Kiadó, 1972).

4. The same approach was also demonstrated by the resolution of the Central Committee of the Communist Party of the Soviet Union (CPSU) in 1965. In his speech at the Plenary Meeting of the CPSU Central Committee, Leonid Brezhnev said: "In the course of building communism there continually arise many acute problems which require profound theoretical elaboration for their practical solution. Today, for instance, such questions come to the fore as socialist cost accounting, the use in planned economic management of profit, prices, credit, economic contracts, etc., elaboration of the theory of organization and management of socialist industry in the conditions of the current revolution in science and technology, the combination of centralized planning with economic independence of enterprises, etc." See *New Methods of Economic Management in the USSR: Plenary Meeting of the CPSU Central Committee, September 27-29, 1965* (Novosti Press Agency Publishing House, no place and date given).

5. See *Reform of the Economic Mechanism in Hungary*, ed. István Friss (cited in note 3), p. 136.

6. Ibid., p. 146.

7. Act VII, 1972. *Magyar Közlöny* [Hungarian Official Gazette] (Budapest), December 22, 1972.

8. Act II, 1970. *Magyar Közlöny* [Hungarian Official Gazette] (Budapest), October 1970.

9. Act II, 1970, para. 42 (2).

10. See *Reform of the Economic Mechanism in Hungary; Development 1968-1971*, ed. Ottó Gadó (cited in note 3).

11. See A. Stark, *Középtávú terveink teljesítésének néhány tapasztalata* [Experiences in the Fulfillment of Our Medium-Term Plans] (unpublished conference paper). See also by the same author, "Gazdasági előrelátásunk fejlődése" [Developments in Our Economic Foresight], *Közgazdasági Szemle* 20, 7-8 (July-August 1973): 785-802.

12. Jan Tinbergen, *Central Planning* (New Haven, Conn.: Yale University Press, 1964), p. 9.

13. Similar doubts are expressed also by Tinbergen, because he continues the above cited sentence as follows: "Clearly any forecast must always be based on a large number of assumptions, both about the operation of the economy and about the probable course of the so-called 'data' or external or exogenous variables. Everybody making a forecast chooses these assumptions as realistically as possible, but even so forecasts will, as a rule, not coincide with the actual course of events. There does not seem to be any reason, therefore, to make a distinction between forecasts and so-called projections." Ibid., p. 9.

14. The author of this chapter was the leader of the team that elaborated and solved the model. See the description of the model and the organization and the results of the first phase of work in T. Morva and G. Bager, "Principal Features of the Mathematical Model of the Fourth Five-Year Plan of Hungary and the Most Important Experiences" (United Nations Economic Commission for Europe, First Seminar on Mathematical Methods and Computer Techniques, Varna. Ref. No. ST/ECE/MATHECO/2. Geneva, 1972). The final results and evaluation of the model are summarized in the book *Népgazdasági tervezés és programozás* [National Planning and Programming], ed. S. Ganczer. (Budapest: Közgazdasági és Jogi Könyvkiadó, 1973).

15. The figures are 3.6 percent for 1961-67 and 4.9 percent for 1968-73. See Hungary, KSH, *Főbb népgazdasági folyamatok 1973* [Main Economic Flows 1973] (Budapest: KSH, 1974).

16. Hungary, KSH, *Statisztikai Évkönyv 1972* [Statistical Yearbook 1972].

17. *Főbb népgazdasági folyamatok 1973* [Main Economic Flows 1973].

18. Ibid.