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INDUSTRIAL PLANNING IN HUNGARY[1/]

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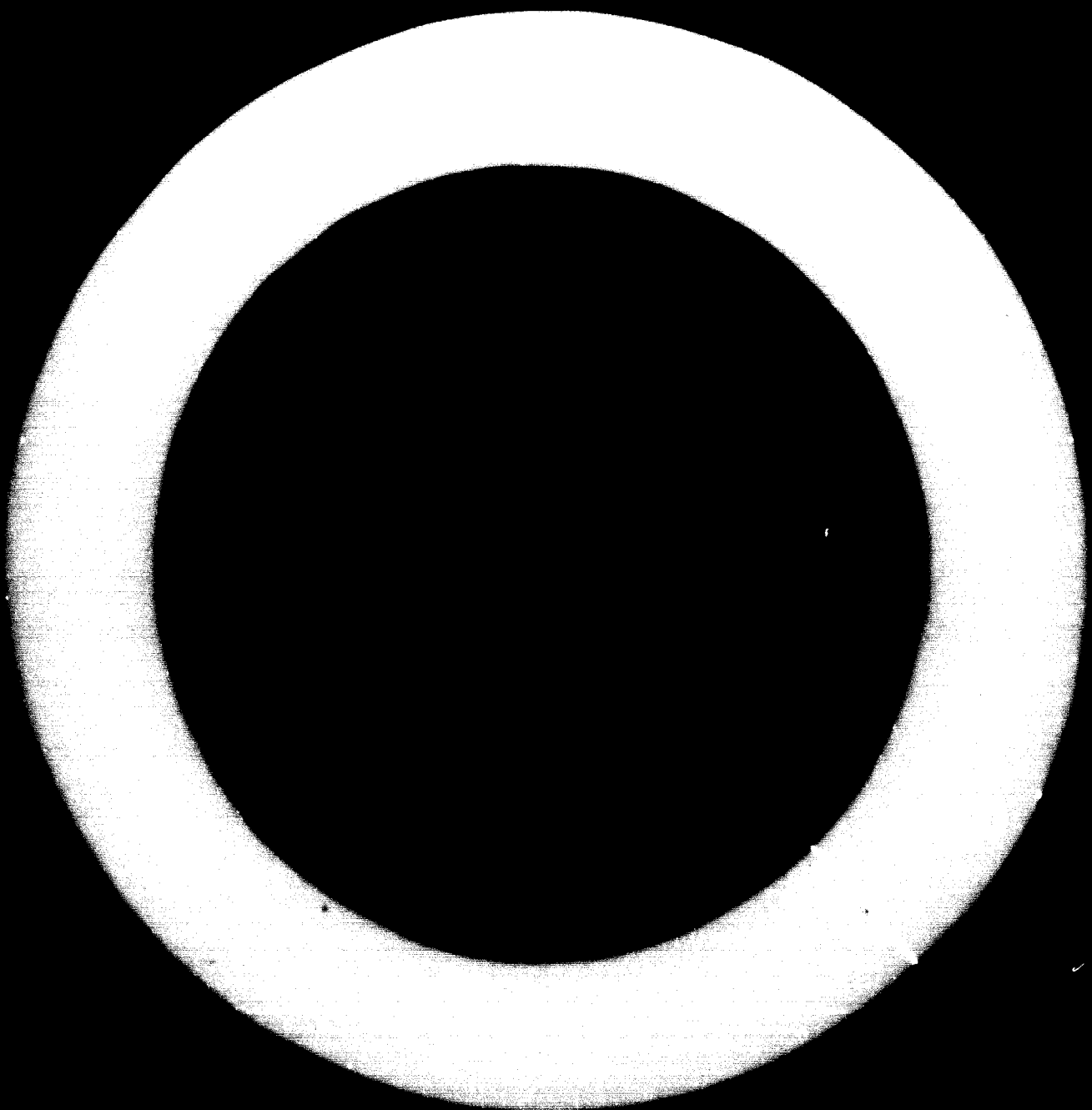

Summary

National economic planning exists in Hungary since 25 years. During this period the basic elements of socialist planning remained constant; however, considerable changes took place in both the system and techniques of planning. As far as the system of planning is concerned, the most remarkable ones tackled the emphasis given to long, medium and short term plans and the interrelationship between macro- and micro-economic planning. Concerning the techniques of planning, the increasing use of EDP, mathematical tools and interdisciplinary approaches deserve special consideration.

The national economic plans (long, medium and short-term) form a consistent system. Much effort is made to ensure their close harmony. A basis for the planned guidance of the economy is the subsequent series of medium term plans. They lay down the major objectives and tasks of economic policy concerning the rates of growth, the basic proportions and structural changes, the equilibrium of the economy as well as the basic means and measures to be used for achieving these targets. The major sections and indicators of the plan are explained in detail together with the balances, which are considered as important tools for planning. The medium term plans are based on long term plans. An increasing need is felt for elaboration of more comprehensive and consistent long term plans due to a number of reasons.

Prior to the reform of economic guidance in 1968, the short term (annual) plans constituted an important means for prescribing directives to the economic agents at different levels. Today the annual plans serve primarily the objective of assessing the expected development of the economy in the next year and of providing a basis for marking out the measures to promote the development foreseen in the medium term plan, or to modify it in some respects.

The macro-economic planning for industry consists of analysis of the past growth and the present situation; forecast of objective processes; requirements and conditions of the development; elaboration of alternatives for different growth paces based on a set of hypotheses and specific development concepts and projects; drafting a comprehensive final plan.

The industrial enterprises draft annual plans, programmes and perspective plans. Prior to 1968 the form of the annual plans was rigidly regulated and the basic indicators of the plans prescribed through directives. Although there are no more obligatory forms and figures for annual planning since the reform, the enterprises have not abandoned the practice of drafting annual plans and guidelines for management and organisation. The targets of the annual plans are in harmony with the perspective plan. The plans are approved only by the director of the enterprise. A direct interference in the activity of the enterprise is restricted preferably to the narrowest possible scope.

A brief presentation is made of the planning procedures and decision-making concerning investment projects.

The standpoint of the Hungarian planners about the role of forecasts has undergone some changes. Today's opinion makes a distinction between forecast and plan but considers prognoses as an important planning aid. During the preparatory stage of planning, forecasts help to visualize possible and probable development trends. The plan will have then to select the most suitable.

Information is the most important basic element of planning. Thus one of the duties in the organisation of planning is to ensure the "production", flow and processing of information. The main sources of information are statistical and accounting figures as well as surveys on technical and economic facts. The system of statistical data collection is controlled by the Central Statistical Office, with a close co-operation from a number of other institutions - State Planning Office, Ministry of Finance, National Board for Technical Progress, sectoral information and documentation offices, etc.

The Hungarian system of economic guidance intends to ensure the implementation of the industrial development plan instead of breaking down and assessing the aggregate figures of the plan to ministries and enterprises, by incentives and regulators which should induce all economic units to draft and fulfil their plans in harmony with the targets of the national economic plan. The central agencies are entrusted with certain compulsory duties within the plan, just as councils and enterprises have responsibilities, but the latter prepare their plans independently. The exchange of information and the system of incentives and regulators must create the appropriate connexion between different levels of plans.

The implementation of the plans is carefully followed by the Central Statistical Office and the State Planning Office in general; within their professional areas it is followed by the respective "branch" as well as functional ministries, and national authorities, councils and enterprises.

There is a general endeavour to maintain the economic regulators unchanged for the entire period of the relevant five-year plan. Another endeavour is to restrict the number of individual instructions and regulations, that is, if the accomplishment of the plan would require a different enterprise attitude, general financial or other measures should be adopted instead of a direct administrative instruction.

The Hungarian experience in different levels of planning - industrial, sectoral and factory /project/

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1. The Hungarian economy

1.1. Level and trends of development

Hungary is a small country of 10,3 million inhabitants, with a relatively high density of population /111 persons per squaremeter/. Per capita national income of the country according to recent estimates might be about 40-50 per cent of the level in developed Western European countries. Per capita consumption should be in the same range, since in 1970 75 per cent of the national income has been used for consumption, 25 per cent for capital formation. Hungary is a centrally planned socialist country: in 1970 98 per cent of the national income was produced in the socialist sector /69 per cent in the state-owned sector, 24 per cent in cooperatives and 5 per cent in other socialist establisments/. All people seeking for job are employed. The level of employment is relatively high. The number of active earners amounted in 1970 to 49 per cent of the population. Due to a rapid industrialization, from the total number of active earners, 37 per cent are engaged in industry, 7 in construction, 26 in agriculture, 7 in transport and communication, 8 in trade, 15 in other branches.

In the last two decades /1950-1970/ national income increased by 5,6 per cent per annum, population by 0,5 per cent, per capita national income by 5,1 per cent p.a. Since employment grew only by an annual 1 per cent, four fifths of the increase in national income can be attributed to the growth in labour productivity. National income originating in industry increased in the period under review by 7,9 per cent, that in construction by 7,1

per cent, that in agriculture by 0,5 per cent per year. /Gross value of output in agriculture increased by 2,.' per cent annually. Value of materials used may be somewhat overestimated and growth of net product underestimated in the calculations concerning agriculture, due to the special price relations./

While in 1950 in the material sphere of the economy 61 per cent of total employment was engaged in agriculture, and 28 per cent in industry and construction; in 1970 the corresponding ratios were 34 and 49 per cent.

Significant changes took place also in the pattern of the industrial production. In accordance with the general trends, the share of mining, textiles and food industries decreased, while that of engineering and chemical industries increased. In 1970 32 per cent of industrial employment was engaged in the engineering, and only 10 per cent in the food industries. Enterprise sizes and concentration in the industry are relatively high; in 1970 813 state-owned enterprices employed about 84 per cent of the industrial labour force /13 per cent was engaged in 321 cooperatives and 3,3 per cent, 45,000 in the private sector/. While per capita industrial employment rates are among the highest in Europe, productivity is lagging behind the majority of the European countries.

In agriculture cooperatives play a very important role; 63 per cent of the active earners in agriculture are engaged in cooperatives, producing /in 1966-1970/ about 72 per cent of total agricultural output /15 per cent originated from the state-owned, 13 per cent from the private farms/. Employment in agriculture is steadily decreasing, the modest increase of this sectors' output is due to higher productivity, mechanization, more use

of chemicals and up-to-date techniques. Foreign trade is a state monopoly; in domestic retail trade two thirds of the turnover go through state-owned sector, one third through cooperatives.

Exports and imports increased in the last two decades by more than 10 per cent per annum. One of the major problems in developing the Hungarian economy is to keep the balance of trade in equilibrium, primarily by export promotion, thereby rendering the products more competitive. In addition to the growth in volume, also the commodity pattern of Hungarian foreign trade underwent considerable changes. The share of agricultural and food products decreased, that of /other/ industrial products, particularly engineering products, increased significantly. In 1970 from total exports 22 per cent was agricultural and food, 78 other industrial /36 per cent engineering/ products. For the imports the corresponding shares are 21,79 /12/ per cent. About two thirds of the total foreign trade turnover are connected with socialist countries.

Nearly 50 per cent of the population lives in urban areas, 20 per cent in the capital /Budapest/. Personal income levels of industrial workers and those engaged in agriculture do not very considerably, greater differences emerge depending on number of members and earners of the families. 97 per cent of the total population is given social insurance. The share of inhabitants of 10 years and older who did not attend school was only 1,8 per cent, that of 15 years and older with at least 8 grades of primary school 52 per cent in 1970. Health provision, educational and cultural opportunities and food consumption compared to per capita national income are relatively high; meeting the demand for housing /and for consumers'

durables: personal cars/ encounters greater difficulties.

In the current five-year plan for 1971-1975 national income is foreseen to grow by about 32 per cent, industrial production by 32-34, construction activity by 41-43, agricultural production by 17-19 per cent. The major part of the increment should derive from higher productivity accompanied by improvements in the production pattern. Per capita real wages should grow by 16-18 per cent, per capita real incomes by 25-27 per cent. Priority is given to develop housing conditions and to improve the supply of consumer foods.

Further dynamic development of international economic relations is planned with particular attention to the foreign trade balance. For longer term more emphasis will be given to the development of the tertiary activities; total growth of industrial output should be covered by increase of productivity, in order to provide additional manpower for these sectors which must have a greater share from the investments funds, as well.

1.2. System and organization of economic guidance

As in all centrally planned economies, the major objectives to be pursued by economic policy, the fundamental rates of growth and proportions of the economy, the most important characteristics of the development of the social and economic life, the basic means and measures to be used for achieving these targets are fixed in the national economic plan in Hungary. This plan sets a co-ordinated and compulsory direction for the activities of the government and the bodies responsible for the guidance of the economy.

About three fourths of the national income is produced by the state-owned sector in Hungary. The private sector produces only a fraction of it; the rest comes from the cooperative sector with special importance in agri-

culture. Within the new system of economic guidance introduced January 1st 1968, the state-owned enterprises as well as the cooperatives obtained a high degree of autonomy. The evaluation of the performance of the enterprises and the material incentives are related to profit indicators. The enterprises work according to their plan, conscious, of course, of the objectives set in the national economic plan. As their plans are not approved by the bodies of the state-administration, when drafting their plans they take into consideration not only the requirements and constraints of the market but are influenced both by the targets for the development of the total economy and by the system of regulators and incentives that constitute a part of the national economic plan.

In Hungary's state administration the Council of Ministers is the central organ. The Council of Ministers is elected by and can be recalled at any time by the National Assembly, the supreme body of state power.

The Council of Ministers: directs the activity of the ministries and of other bodies immediately under the Council's supervision; ensures the enforcement of Law and of the Decrees passed by the Presidential Council; ensures the implementation of national economic plans; performs the duties Law entrusts it with.

The members of the Council of Ministers are: the Chairman, Deputy Chairmen, cabinet ministers and the President of the State Planning Office. In economic affairs, the Council of Ministers is assisted by three directly subordinated Government Committees: the Economic Committee /which probably will be substituted by a Planning Committee/, the Committee for International

Economic Affairs, and the Science Policy Committee. The Economic Committee deals with issues in guidance of the economy that require government level decision-making; the Committee for International Economic Affairs with questions of economic cooperation and foreign trade and the Science Policy Committee with questions related to research and development activities. The resolutions adopted by these government committees are binding for the other bodies of the state administration.

Guided by the Government and the government committees mentioned above, "functional" and "branch" ministries /national authorities/ execute the concrete duties of economic management. /The difference lies in the fact that the heads of the national authorities are not cabinet members in contrast with the ministers./ The functional ministries deal with questions of general character and related to all branches /planning, finances, labour, technical development etc./ They have an active role in drafting national economic plans and in shaping the system of economic regulators.

There are three functional ministries: Ministry of Labour, Ministry of Finance, State Planning Office;

three functional national authorities: National Material and Price Office, Central Statistical Office, National Board of Technical Development;

eight branch ministries: Ministry of Heavy Industry, Ministry of Metallurgy and Engineering Industry, Ministry of Light Industry, Ministry of Communications, Ministry of Construction and Town Development, Ministry of Agriculture and Food, Ministry of Home Trade, Ministry of Foreign Trade /discharges some functional duties, too/;

and a "branch" national authority: National Water Conservation Office.

The branch ministries have close working linkages with the "functional" authorities. They constitute to drafting the national economic plans and to shaping the regulators particularly concerning their respective branches. They prepare systematic analyses of the activity, trends and prospects of the branch. They draft development concepts and programmes with particular regard to technical development, investment policy, labour recruitment and vocational training in the branch; organise research projects of general interests to the branch, international cooperation etc.

The branch ministries discharge the duties of managing individual branches and exercise a so-called supervisory activity over the enterprises directly subordinated to them. They are charged with tasks not only with respect to the enterprises subordinate / them on the direct line of organization, but also to companies subordinate to other ministries, but pursuing activity congruous with the given branch. /E.g. the Ministry of Communications has responsibility and authority for all activities of transportation in the country, including i. a. companies operating under other ministries, as e.g. the Ministry of Home Trade. The Ministry of Metallurgy and Engineering Industry has to co-ordinate also enterprises under other ministries or local councils, cooperatives and private artisans whose activity falls into the engineering industry./

By the supervisory authorisation, the ministries can establish and liquidate enterprises; they supervise and evaluate the operation of the enterprises and their management; appoint and release the top executives of the

enterprises /general-director, directors and assistant directors/; in case of need and within the legal restrictions, they can command the enterprises to execute certain concrete tasks. The executive committees of the local councils exercise the same supervisory rights over enterprises /mostly of medium or small size/ that satisfy local needs and requirements.

2. The role and organization of planning

In September 1972 the 25-year anniversary of the national economic planning was celebrated in Hungary. In this 25-year period the basic elements of socialist planning remained constant but some considerable changes took place, too, both in the system and in the techniques of planning. As for the former changes, the most remarkable ones tackled the emphasis given to long-, medium- and short term plans and the ways of linking macro- and microeconomic planning. Concerning the techniques of planning, the increasing use of EDP and mathematical methods and interdisciplinary approaches should be mentioned first. Here the present state of affairs will be reviewed, only with a few reference to former practice.

2.1. Macroeconomic plans: long-, medium- and short term

As stated in the Law on national economic planning enacted by the Hungarian Parliament on 22 December 1972, the national economic plans for different spans of time form a consistent system, and their close harmony should be ensured. The basis of the planified guidance of the economy is the subsequent series of medium-term plans.

The medium-term /usually five-year/ plans lay down the major objectives and tasks of economic policy concerning the rates of growth, the basic proportions and structural changes and the equilibrium of the economy. They fix targets on

- the increase and use of national income,
- the development of the main sectors of the economy and the salient changes in their production pattern,
- the main directions of science and technical development policy,
- the volume, distribution and major objectives of investments;
- employment, private consumption, real incomes,
- the social, health, cultural, housing and communal provision for the population,
- the main directions of the international economic relationships, the development and pattern of foreign trade,
- the tasks of regional development in the country.

The medium-term plan also includes the major investment projects to be implemented in the period, as well as the guidelines for and measures of economic policy first of all for finance, price, incomes, foreign trade and living standard policy and the basic "regulators" of the enterprises' activity /rules of taxation, profit sharing, wage increases, etc./. All these are discussed and approved by the Parliament.

The medium-term plans are based on long-term plans; an increasing need is felt for this. In many cases the five-year period is too short to be able to plan the entire process; on the other hand, the individual 5-year periods are committed in several respects, e.g. mostly 50-60 per cent of investments are already decided at the time of

drafting the plan. In addition, decisions must be taken often on problems which have a bearing on a perspective of 15-20 years, unknown without an outline of the long-term development. For some long-range decisions this was recognized already in the 1950-s and special projections beyond the five-year planning periods were elaborated, e.g. for demand and supply of energy, residential construction, highly qualified manpower etc. The National Board of Technical Development had regularly commissioned studies about the future trends of technical progress.

The better foundation and harmonization both of these specific plans and of the 5-year plans necessitate, however, a comprehensive long-term plan, too, which states the long-term social and economic objectives and the main directions and means of their implementation. At the beginning of the 1960'-s an attempt was made at drawing up a 20-year long-term plan. This experimental exercise was abandoned and a new venture started in 1968 to draft a plan for 1971-1985. Recently decision was taken to extend this plan up to 1990. The next /fifth/ five-year plan for the period 1976-1980 should be elaborated in harmony with this long-term plan.

Prior to the reform of economic guidance in Hungary, introduced in 1968, the short-term /annual/ plans constituted also an important means of direct control. They were elaborated in many details, then broken down and prescribed as directives for the ministries and enterprises. Today the annual plans in Hungary serve primarily the objective of assessing the expected development of the economy in the next year and of providing a basis for marking out the measures to promote the development fore-

seen in the medium-term plan, or to modify it in some respects. The annual plans include numerical targets; policy guidelines and concrete measures /e.g. about investments/. The detailed calculations with the figures on the system of "indicators" are attached to the plan and distributed as informative material, similarly as in the case of the medium-term plans.

The drafts of the long-term plans are usually broken down into five-year periods. For drawing up the annual plans, the five-year plan is divided into the respective years. /e.g. in the first year of the 5-year period for the 2. and 3., in the second, third and fourth year for the rest of the period./ Annual state budgets are elaborated and approved in harmony with the medium and short-term plans.

2.2. Macroeconomic planning: the process

Plans for the different periods are the tangible outcomes of planning. Macroeconomic planning work includes the following activities /and results into a number of intermediary "products"/:

- analysis of the past growth and the present situation of the economy,
- forecast /prognosis/ of the objective processes, requirements and conditions of the development of the economy;
- elaborating alternatives about different growth paces of the economy, based on a set of hypotheses and specific development concepts and projects,
- drafting the comprehensive and final plan.

The analysis of the past trends and the present situation evaluates all important aspects of the social and economic life. It does not only registrate the most significant characteristics but as far as possible explains their causes and interrelationships, too. For this, methods of mathematical statistics, econometrics and international comparisons are increasingly used. These analyses are the basis for the forecasts of future trends, requirements and constraints of development in population, in technical progress, in international trade and all other internal and external conditions of economic growth. Next hypotheses, concepts, projects and summarising alternatives on the different aspects of future development will be formulated. These provide the basis for drafting the consistent plan, first tentatively perhaps in some variants, finally the version to be submitted for approval. This final draft may also include some alternatives to be selected. Experience shows, however, that a preselection will be performed mostly already in the previous stages of the planning process, and a single "optimal" /suboptimal but less risky/ variant will be submitted for approval in the case of medium- and long-term plans to the Parliament, and in the case of annual plans to the Council of Ministers.

The temporal interdependence of economic growth and structural changes are taken into account by the system of plans for different periods of time. The interdependence of the various elements of the economy: that of inputs and outputs, of production and distribution, of different activities, sectors, regions etc. are taken into consideration by planning these elements first separately, then harmonising them with the help of aggregation, balances and finally by drafting comprehensive plans.

All the stages of the planning process mentioned above - analysis; prognosis; elaborating hypotheses, development concepts and alternatives; drafting the consistent plans - should be performed on the one hand in the subsequent planning for different periods, on the other hand both separately for different activities and aggregated, mostly repeatedly as an iterative procedure. Organizer of the work on macroeconomic planning is the State Planning Office, with a special department for long-term, with an other one for annual plans, while the organization of medium-term planning is shared by them. Under the guidance of these departments in the four stages of the planning process take part the various other departments of the Planning Office /as Department Industry, Agriculture, Investment, Finance, etc./ and all the ministries and other national authorities according to their specific field of activities. Analyses and proposals will be collected from the different representatives and organizations of the society including country, city and other local councils, professional associations, etc. In some critical stages of the planning process also the competent Party and Trade Union bodies express their opinion.

The different parts of the plan /and the preparatory analyses, forecasts, development concepts etc./ will be drafted running parallel and checked more times, harmonysed iteratively. Production targets will be drafted both by major products, by branches and by aggregate indicators. Figures on employment e.g. will be calculated by branches in the ministries and in the "branch departments" of the Planning Office; according to regions by departments engaged in territorial development; in a comprehensive way by the Department dealing with manpower as well as that one

responsible for comprehensive planning in the Planning Office, and also by the Ministry of Labour. Often in the departments more different approaches are applied simultaneously, e.g. by use of "traditional" iterative planning and mathematical programming. Drafting development concepts and projects for science, research and technology is mostly organized by the National Board for Technical Progress with participation of a great number of experts from different institutions and then discussed several times by all interested experts and institutions.

This procedure is more simple in the case of the annual planning, based in principle on the actual medium-term plan and the analyses, forecasts and other working materials already available, requiring mostly only thorough up-dating. In case of long-range planning all these stages appear very articulated, not limited by the lack of time which often emerges in the period of finalizing the medium-term plans.

For preparing the long-term plan for the period 1971-1985 a wide network of committees has been brought into being. Seven committees dealt with specific fields: manpower and living standards, industrial development, construction and building materials, agriculture and food industry, transport and communication, foreign trade, and regional planning. The whole work was controlled by a so-called consultative committee. It is here that the results of the activities of other committees were summarized and evaluated. Beside the authorities concerned also research institutes and practical people were represented in the committees and actively participated in the formulation of the plan.

In the first phase of work critical analyses were prepared covering the past 15-20 years. Relying on these, in the second phase the committees elaborated hypotheses, development concepts, alternatives for the next 15 years. In the third phase the harmonisation of the different proposals and drafts and the role of the synthetizing departments and committee came into prominance.

For medium-term planning formal committees will not be established; informal meetings and working linkages are preferred. Having prepared the analyses, forecasts and alternatives, and taking preliminary decisions about the seemingly optimal pace of growth, more attention is paid to the possibilities, the alternative ways and the measures needed for the implementation of the plan. Here lies the main difference between long- and medium-term planning. In the first phase of the medium-term planning the analyses, prognoses, alternatives and development concepts for the various spheres of production and economic policy are based primarily on up-dated long-term forecasts. In the second phase the increased number of consultation with foreign trade partners /i. e. with the planning authorities of the CMEA countries/, with enterprises and with the experts of the ministries and several departments should help to reveal the long-term plan and how its objectives could be achieved in the planned period.

2.3. Planning at enterprises

All Hungarian enterprises draft annual plans, programmes for shorter periods /operative plans/ and recently most of

them perspective plans, too. Prior to the reform of economic guidance introduced in January 1968 the forms of annual plans have been rigidly regulated and the basic indicators of the plans prescribed through directives. These directives were nevertheless results of negotiations where usually the ministries argued for more ambitious targets, the enterprises for indicators whose implementation seemed guaranteed with moderate efforts and without too much risk. Bonuses for directors and staff as well as other signs of high esteems were primarily based on these "success indicators". Though after the reform there are no more obligatory forms and figures for annual planning, the enterprises did not abandon the practice of drafting annual plans, gudelines for management and organization.

Usually the annual plans of the enterprises consist of the following chapters:

production and realization,
manpower, wages, productivity,
capacity utilization and investment,
material supply, inventories,
technical progress, organizational development,
costs, profit and finance.

Production and realization are planned by major products /also in physical units/ as well as aggregated in value terms /gross value of output/. The production targets are based on the one side on market research and on long-term contracts and plans, on the other hand on the possibilities permitted by the production factors /including R and D/ and their efficient uses, and thirdly on financial considerations.

Manpower planning first entails the calculation of the avarage number of employees needed by occupations

/based on alternative production and productivity targets/, drafting manpower balances in order to check the requirements for recruiting and training and the need for dismissing employees, and finally the planning of wages, personal and social policy. Planned manpower requirements are closely linked with the foreseen technical and organizational improvements, wages - according to the actual Hungarian regulations - with the profitability of the enterprises.

Production targets will be confronted with available capacities by means of detailed calculations and analysis to reveal imbalances. In case full utilization of capacities /at least in the first shift, in other cases both in the first and second shifts, or continuously/ can not be expected, the possibility of raising production targets will be checked. Lack of capacities should be covered by reduction of idle periods, additional shifts, by investments /usually foreseen already in the perspective plan/ or by use of cooperation, subcontracting. As a result changes in the stock of fixed assets and their aggregate utilisation will be planned, too.

Material requirements are planned by all sorts of basic and auxiliary materials and intermediary products based on norms of uses per unit of output /by products, or related to aggregate indicators/. Also planned inventories will be calculated by help of norms and the purchases needed by help of balance equations. Due consideration is given to changes in product mix as indicated in the production plan, as well as to impacts of technical progress /substitutions, savings of materials, etc./ presented in this special chapter of the annual plan.

The plan of technical progress and organizational improvements sets targets for the development of product designs, for the introduction of new products, technologies, for the improvements in work and production organization. This chapter of the plan includes not only figures characterizing the foreseen development of the enterprise work but also the measures /with concrete dates and addresses/ needed for the implementation of these targets. Technical progress and organizational improvement modify per unit norms, production possibilities, costs and profit; all these impacts should be taken into account in the respective other chapters of the plan.

Summarizing costs of labour, capital, materials and some additional components, total costs might be calculated and compared to sales value derived from the plan of production and realization. The resulting profit figures are of utmost importance for the Hungarian enterprises, they are the basic determinants of the increase of personal incomes. Data on planned costs and revenues are the starting points for financial planning, including sharing and development funds, liquidity, credits, etc.

All these parts of the annual plan of the enterprise are closely interrelated; they are elaborated as a rule simultaneously by an iterative process. Auxiliary calculations /e.g. on material, capacity, manpower requirements/ are increasingly performed by use of computers. Mathematical programming methods /usually assuming linearity/ will be also often used. The targets of the annual plans are drafted in harmony with their perspective plan, with the requirements of their domestic and international obligations, in given cases with those set by their higher authority /ministry/ and envisage the growth of

profits needed for the foreseen increase of personal incomes. The annual plan will be approved by the director of the enterprise.

Before the reform of economic guidance only some of the largest enterprises drafted perspective plans. The increased freedom in decision-making by the enterprises made them aware of the need for longer term perspectives and just after the reform a greater number of enterprises started to work on perspective plans. In the decree of the government on the Fourth five-year plan for 1971-1975 the enterprises were advised to draft their own perspective /five-year/ plan, based on targets derived from the plan of the national economy and from consultations with their ministry, but without the obligation to submit these plans for formal approval.

The perspective plans of the enterprises mostly consist of two parts: a plan of the development strategy and numerical targets on the major indicators of the enterprises' activity. The strategic plan sets the basic objectives concerning product and technological development, growth of output, improvement of competitiveness, wages and labour conditions, investments, etc. Numerical targets are drafted in the system of the annual plans but less detailed. The need for rolling planning is quite generally recognised and its practice introduced step-by-step.

In Hungary there are a great number of large multi-plant enterprises where both annual and perspective plans are elaborated separately for the individual units. The degree of centralization and decentralization is varied and depends on such factors as markets, location, links between the single units, etc. In some cases the plans of the enterprise will be desaggregated, in other

ones the plans of the single plants aggregated and harmonized, but mostly an iterative process takes place with permanent consultations and exchange of information. The most important targets of the plans are also broken down by departments.

A further area of enterprise planning - of the so called operative planning - will not be dealt with here; under this activity drafting quarterly and monthly plans and scheduling tasks for each unit of the plant is meant.

2.4. Planning and decision-making on investment projects

Until 1968 investments in state-owned enterprises had been financed in Hungary mostly by budgetary grants; other financial sources /credits, internal savings/ did not play a significant role. With the aim to stimulate the better utilization of fixed assets and to moderate the enterprises' requests for investment funds, a levy on fixed assets /5 per cent on gross value/ was introduced in 1964. The reform of economic guidance in 1968 modified both the financing of investments and the tasks and responsibilities of government investment policy. The major features of these changes are decentralization of investment decisions and wide use of indirect measures in order to chanell the enterprises' activity towards the implementation of the objectives laid down in the national economic plans.

The idea was that investments which can be decided best by state authorities are to be financed primarily by budgetary appropriations or by state loans. Investments which can be evaluated and choosen better by the enterprises themselves, will be financed from internal funds supplemented by government credits. Though these forms of financing

differ from each other in many respects, several regulations approximately equalise their final consequences on enterprise profits, bring their users in a similar position and create an equal interest in the economic use of all these sources.

The investments to be decided upon by state authorities and financed by budgetary funds are of two types:

/I/ large individual projects with significant influence on the structure and rate of growth of the whole economy or its major sectors and

/II/ lump sums allocated to objectives where the concrete individual investment serving the same objective and as a rule being of similar character can be decided upon by subordinate state authorities or by the interested enterprises themselves.

The large individual projects may have both productive and infrastructural character; in the first category they may be establishment of new plants or major reconstructions and enlargements of existing ones. Qualification depends partly on the costs of the projects, partly on their characteristics and impacts on the structure and growth of the economy; their implementation enjoys priority.

The lump sums allocated to objectives are also of great importance to the total economy or to its major sectors; they serve, however, not the implementation of defined single projects but a great number of similar minor investments common in their destination, mostly in different geographical areas, often interrelated /e.g. housing, production and distribution of energy, development of the network of highways, etc./.

The budgetary funds are given either as appropriation or in form of state loans with a special regulation concern-

ing the terms of repayment. The financial sources of the repayment are depreciation allowances and part of the profits transferred into the development fund of the enterprise.

The scope of enterprise decisions covers the investments deemed necessary for its own development, primarily the maintenance of the capacity of fixed assets, as well as their continuous modernization, flexible adaptation to the markets' needs, improvement of product range and quality, and further on capacity expansion. These investments are to be realized from internal sources, the development fund of the enterprise, supplemented by state credits.

The profit of the Hungarian enterprises is equal to the sales receipts, less costs including a 5 per cent levy on fixed and current assets and a 25 per cent charge on wage costs. Beside these general contributions to be paid by all enterprises there are special turnover taxes and subsidies, customs duties, and production taxes /to absorb differential rents arising from extraordinarily favourable conditions of production/.

Profits are to be divided /according to the proportion of assets and wages multiplied by a coefficient/ into two parts and then these two parts will be taxed separately and at different rates. The amounts after the deduction of these profit-taxes form a part of the development and sharing fund.

The development fund is augmented also from the depreciation allowances. The rates of depreciation are centrally stated on the basis of the gross value of fixed assets with a differentiation by categories of fixed assets and by branches. Generally /with some variations/ 40 per cent of the calculated depreciation allowances are due to the state budget and 60 per cent may be retained and added to

the development fund. The enterprise has to finance from its development fund first its needs for current assets, the residual can be used for investments aiming at replacement, modernization and expansion of capacity.

The development fund may be supplemented by credits to be repaid later on from this fund. Medium-term credits are to be repaid usually within 3, long-term credits within 6 years. The condition for granting investment credits for medium-term is credit worthiness. This is applied to long-term credits as well, plus a prescribed minimum level of profitability of the investment. Claims for long-term credits meeting this requirement compete with each other. They will be evaluated and ranked primarily by profitability and terms of repayment offered but preferences will be taken into consideration, too. Priority is given to applications which seem to promote the objectives formulated in the national economic plan and in addition give priority to investments which are more profitable, and promise shorter time of recoupment.

The investment projects do not come from entrepreneurs but emerge and will be formulated in the process of planning. Macroeconomic planning reveals imbalances, lack of capacities, need for development which partly can be met only by investment. Ideas on productive investments arise in the sectoral planning from different angles: in order to increase output for domestic or foreign markets, aiming at introduction of new products, new technologies, or export promotion, import substitution, etc. Proposals of enterprises concerning both projects to be financed by their own funds and those connected with request for budget appropriation, loan or credit, will be taken also into account. The need for non-productive investments is the outcome of a similar work analysing requirements and possibilities of development

of health, education, housing, etc.

Investment proposals and projects will be analysed and evaluated as a part of the iterative process of macro-economic planning on three levels: on project, sectoral and national economic level.

Project evaluation at enterprises is based primarily on commercial profitability, while state authorities look at national economic profitability. Enterprises mostly use methods of pay-back period, average return on investment, and/or discounted cash flow. Analyses of national economic profitability make use of accounting prices both for measuring input and output and interdependences as well as social preferences are also taken into consideration. Institutions dealing with macroeconomic planning analyse and evaluate separately only the major projects.

On the sectoral level a preselection of projects takes place, combined with the harmonization of the different parts of the sectoral plan /production, manpower, material supply, etc./. At this stage the working linkages with the sectors' enterprises, with buyers and suppliers are of utmost importance. The sectoral investment plans include both the projects elaborated separately and the aggregate figures of the minor projects. As a rule the requests for investment funds exceed the available resources. From national economic point of view the drafts of the sectoral investment plans and the most important projects submitted individually are to be evaluated on the one hand by the criteria of the dynamic equilibrium of the economy, on the other hand according to the priorities laid down in the long-term plan or other documents of economic policy. Decisions will be taken on the total amount of investment, on the sectoral distribution of investment, on the major individual projects /and lump sums allocated to objectives/,

on the finance of investment and in medium- and short-term plans mostly also on some organizational measures.

Territorial councils and enterprises have their own investment plans. These plans are based on the analysis of their needs for investment, of their internal financial sources and of other funds /budgetary appropriations, loans, credits/ already granted or expected. Single projects will be evaluated and ranked in the context of the draft of the consistent plan covering all important aspects of the councils' or enterprises' activity. At this level decisions are taken about the total amount of investment, about concrete projects, and about questions of financial policy, technical and organisational measures.

3. Means and techniques of planning

3.1. Major sections and indicators of the plans

The major sections and indicators of the plans will be presented primarily on the basis of the current /Fourth/ five-year plan for 1971-1975. Some remarks on the content of the long-range and short-term plans will be added later on.

The Fourth five-year plan for 1971-1975 was enacted by the Hungarian Parliament as Law II/1970. The text of this Law consists of two parts. Chapter 1 of Part One formulates the basic objectives of the plan, including the general aims of economic policy, the main figures of growth and use of national income, the main development set for production, living standard, investment, science and research policy. Chapters 2-4 deal in more detail /with the targets for the development of industry, agriculture, and communication, by major branches. Targets and guidelines for home

trade and tourism are formulated in Chapter 5, those for international cooperation and foreign trade in Chapter 6, for employment, incomes and living conditions in Chapter 7, for regional development in Chapter 8. Part Two formulates guidelines for the economic regulators, for price, financial credit, foreign trade, wage and regional policy.

These main targets and figures about the growth and structure of the economy and principal guidelines for the different fields of economic policy are based on detailed analyses and calculations. The most important results of these analyses and calculations are summarized in two documents: one of them includes the figures in the consistent system of the plan indicators, the second is the resolution of the Government with concrete measures needed for the implementation of the plan.

The document summarizing the basic calculations of the plan consists of 13 parts as follows:

1. Summary of the basic indicators of the planned economic growth:
   - rates of growth for the previous two/five-year periods and for the planned five-year periods/indicators on national income, consumption, accumulation, personal incomes, employment, production, trade turnover, investment/,
   - characteristics of the pattern of the economy /percentage figures on the pattern of national income, industrial and agricultural output, retail trade and foreign trade, employment, investments/.
2. Employment:
   - aggregate manpower balance of the economy,
   - number of persons employed by major branches of the economy and by categories of employees.
3. Social product and national income:
   - aggregate balance of social product /gross value of output/ at current and constant prices,

- aggregate balance of national income at current and constant prices,
- additional data about the use of the national income,
- growth of productivity in the two previous and the planned five-year periods /in industry, construction, and agriculture and the total economy, measured by social product and national income per person engaged/.

4. Industry:
- gross value of output at current and constant prices by major products and by sectors according to ownership;
- percentage figures characterising the pattern of the industrial output by branches and sectors;
- domestic production, import, domestic use and export for 93 products /mostly in physical units/;
- per capita production and consumption /use/ for major products;
- 25 "technico-economic" indicators characterising different aspects of technical progress;
- the pattern of energy consumption.

5. Construction:
- gross value of output at current and constant prices by 11 components;
- indicators on housing construction.

6. Agriculture:
- gross value of output at constant prices, plant cultivation, animal husbandry and total;
- domestic production, import, domestic use and export for 12 major products /in physical units/;
- use of land /and sowing/ area by major activities;
- average yields for 21 products;
- stock, production and productivity indicators of the animal husbandry;

- per unit area and per capita indicators of the agricultural production;
- indicators of mechanization and other measures of developing agriculture;
- indicators of silviculture and water supplies.

7. Transport and communications:
- indicators of the volume of transport of goods and passengers;
- indicators characterizing investment and technical development.

8. Retail trade:
- turnover by 7 groups of goods at current and constant prices;
- turnover by 51 subgroups of goods at current prices.

9. Incomes and consumption:
- balance of incomes and expenditures of the population;
- personal incomes at the enterprises;
- real wages and incomes;
- pattern of consumption according to different classifications;
- total and per capita consumption of major products, per capita stock of consumers' durables, of industrial services.

10. Housing, health, culture and education.

11. Foreign trade:
- exports and import in forints, in rubels and in dollars by 5 groups of goods and by 12 branches;
- exports and imports by major products /about 70-80 products each/.

12. Investment and inventories:

- investments according to their "material composition" /construction, machinery domestic and imported, other/, by financial sources, by branches and by spheres of decision-taking;
- balances of enterprises' and local councils' development funds;
- gross value of stocks of fixed assets by branches;
- total value of inventories by branches.

13. Finance:

- incomes from and subsidies to the state-owned sector by different items and by major branches;
- profitability by major branches /per gross value of output, per total value of assets, and assets and wages, per person engaged/;
- sharing, development and reserve funds of the enterprises.

14. Regional development:

- indicators of industrialisation of less developed areas;
- indicators of living standard and living conditions by areas.

15. Comparative international data:

- per capita consumption of major products.

The other document attached to the law on the medium-term plan sets measures in concrete terms for the basic fields of economic policy as well as figures

- for the few central development projects,
- for the major investment projects and investment grants,
- for regional development, and
- for the major economic regulators.

The four central development projects in the Fourth five-year plan concern the production of public road vehicles, the increased use of natural gas, the aluminium industry, and the use and production of computers. The number of major investment projects individually approved amounts to 100; usually the starting and the terminal years of the construction, the total costs and the expected incremental capacity are stated. Other investment grants are allocated by objectives, by branches, or ministries. For regional development the areas preferred and special subsidy funds are fixed. The economic regulators are determined in concrete terms: the rates of taxes, the rules of sharing net profits, the rules of crediting, rates of interests, etc.

Final version of a long-term plan has not been approved yet, but it should consist /similarly to the medium-term plan/ of a document listing the main targets and guidelines and of an annex with detailed figures. The annual plans /also that one for 1973/ are composed of two parts: the resolution of the Government including the major targets, guidelines and policy measures and an annex with detailed figures according to the structure of the medium-term plan calculations.

What have been presented above, are the major sections and indicators of the comprehensive plans. All sections of these plans are elaborated in much more detailed taking into account all the interrelationships of the different sections. Figures on employment, or on investment are presented in the comprehensive plans in the respective sections, nevertheless employment and investment are calculated for and integrated into the plan of each sector separately as well.

Though e.g. in the comprehensive plan under industry only the production targets and indicators on foreign trade, on the use of industrial porducts and on technical progress are listed, the plan of the sector industry - for long-, medium- and short-term - includes a consistent system of indicators with a number of interrelated sections on

- output by branches /gross and net value of output at current and constant prices/ and by major products /in physical units/;
- realisation of the output /for intermediary use, for consumption, for investment, for export/;
- technical progress, science and research /complex and branch programmes and guidelines/,
- manpower /employment, productivity, wages/ by branches and by categories of employees /primarily according to qualification/;
- regional development;
- fixed assets and investment, by branches, major investment projects separately;
- use /and stock/ of materials and energy /domestic and imported/;
- finance.

The number of branches, products, projects, categories, etc. separately planned is much more than finally included in the comprehensive plan. The consistency of these sections of the plan will be checked first of all by aggregation of the major indicators and by different types of balances.

3.2. Balances: tools of coordination

. Balances are the main instrument in Hungarian macro-economic planning for harmonizing the different parts and targets of the plans. From the several types of balances used four are to be mentioned:

the synthetic balances,
the input-output balances,
the product balances and
the financial balances.

The most important synthetic balances are the balance of social product, the balance of national income, and the balance of manpower. On the one side of the scale: the sources are indicated by major items, on the other, the uses.

The typical pattern of the balance of social product /measured by gross value of output/ is as follows:

Sources:

1/ By productive sectors:
- industry
- construction
- agricultulture
- communication, etc.

2/ By social sectors:
- socialist
- private

3/ By the character of the goods:
- means of production,
- consumption goods.

Uses:

1/ Replacement /by sectors/
- of intermediary goods,
- of amortisation.

2/ Consumption
- private,
- social

3/ Accumulation
- fixed assets,
- working assets,
- reserves.

4/ Losses

5/ Export

The balance of social product summarizes the production targets of the main sectors of the economy and compares them to the needs for and uses of these goods and services. These interrelationships are analysed in more detail with the help of product balances /calculated for the most important materials, intermediary and final goods/ and by input-output balances. In the comprehensive balance of social product intermediary uses are indicated only by major sectors and classified into two groups: use of materials and semifinished products, and uses for replacement of fixed assets.

In the balance of national income the sources are given by the same productive and social sectors as in the balance of social product; uses do not include replacement /since it is not a part of net social product/ and instead of the gross figure of export, the difference in the value of export and import transactions appears. Both balances are elaborated at current and constant prices, according to the MPS /Material Product/ system, which does not include most of the tertiary activities of the SNA system. The balance of national income sets the basic proportions of the planned economy: on the "sources" side the proportions of the sectors' contribution to national income, on the "uses" side the ratios of consumption, accumulation, investment, impact of foreign trade transactions.

The manpower balance in its synthetic form compares the sources and uses of manpower at two dates: on the first and last day of the planned period. The sources are the population in working age and the active earners beyond the working age; the uses are listed by sectors; all figures are broken down also by males and females. All balances as a rule are supplemented by a number of ratios

characterizing both the pattern of sources and uses separately and their major interrelationships. To the manpower balance employment /participation/ ratios related to total population are also added.

Input-output balances will be compiled according to the usual open static type, at current prices. In the technological matrix 20-50 sectors are represented. Value added is broken down into a number of components and in order to facilitate further calculations, figures on employment, fixed and working assets by sectors are also added.

Product balances in physical units are traditional tools of macroeconomic planning. Nowadays they will be calculated in Hungary approximately for 150 products, in the form as follows:

Sources:	Uses:
1/ Domestic production	1/ For production /by sectors/
2/ Import	2/ For consumption /private, social/
3/ Other sources	3/ Investment
4/ Changes in stocks	4/ Export

Input-output and product balances supplement the synthetic ones on social product and national income. Sometimes other supplementary balances are calculated, too, as e.g. balance of national wealth, that of fixed assets, of working assets, balance of the redistribution of national income, etc.

Financial balances should facilitate the analysis of the financial equilibrium of the planned growth of the economy. They reflect the financial aspects and impacts of the planned real processes. The most important financial balances are the balance of incomes and expenditures of the population, that of international payments, of credits, of state budget and the synthetic financial balance.

The structure of this latter one can be illustrated by the following scheme:

Sources:	Uses:
1/ Income of state budget, from - state-owned enterprises, - cooperatives, - inhabitants, - international payments, - budgetary institutions, - others	1/ budgetary expenditures for - financing investment, - subsidizing state-owned enterprises, - subsidizing cooperatives, - budgetary institutions, - international payments, - reserves, - others.
2/ Sources of credits, from - inhabitants' deposits, - inhabitants' cash, - enterprises' deposits, - enterprises cash, - banks' deposits, - foreign currencies, etc.	2/ Credits, for - inhabitants, - state-owned enterprises, working assets, - cooperatives, working assets, - investment.

All these balances will be drafted in an iterative process based on close working linkages and on permanent exchange of information and successive variants. They must take into consideration so many interdependences that in the near future there is not much chance to reach a stage, where all these links can be formalized and calculated by computers. Computer calculations play an increasingly important auxiliary role but still can not suplement "traditional" planning.

3.3. Forecasts and international comparisons

The standpoint of Hungarian planners about the role of forecasts has undergone some changes. Previously the view was expressed that the socialist planned economy had nothing but plans which differed from the prognoses by not only outlining the feasible pattern of future development, but also by projecting the conditions and measures whereby the realisation of the selected development pace could be ensured. Today's opinion invariably makes a distinction between prognosis and plan, but considers prognoses as an important planning aid, necessary even under the conditions prevailing in socialist, centrally planned countries. During the preparatory stage of planning, prognoses help to visualise possible and probable development trends. The plan will have then to select the most suitable one therefrom, taking into account the conditions and means, too, of how to realise this development, and defining the measures needed to ensure implementation as well.

In the various areas of preparing prognoses Hungary has most experience in drafting forecasts of population and manpower structure. Such forecasts covering 15 to 30 years have been regularly made for quite some time and represent one of the fundamentals for planning. Technical development studies covering generally 10 to 20 years ahead have similarly been prepared regularly for some time now. They forcast world trends supplemented by investigations on the possibilities and preconditions of the Hungarian development. These are prepared mostly by the National Board for Technical Progress and, in a smaller number, by the different ministries with the co-operation of many experts of enterprises and other institutions. In addition, medium-term prognoses are regularly prepared

on the growth of foreign trade, including the development of the volume of export and import, as well as prices and terms of trade. Forecasts are drafted also on the development of consumption, with respect to the various categories of the population, regional units, and the development requirements of the infrastructure. Earlier, such prognoses were prepared mainly for medium-term; but the 1971-85 long-term planning work has extended them to a longer time period.

Short-term prognoses, too, are prepared for production, consumption, foreign trade balance, and other important factors of the economic equilibrium. Part of the long-term prognoses correspond to the planning period /recently 15 years/, but may be extended if the nature of the process thus forecast requires. In accordance with the planning process, medium-term prognoses cover generally 5 years, and are superimposed on the long-term plan and prognoses.

Prognosis methods have undergone a significant development in recent years. Initially, mostly only various improved forms of extrapolation were used, while today also more sophisticated techniques are increasingly employed as e.g. time sequence analysis, correlation and regression analysis, econometric methods, special surveys collecting enterprise and population opinions, and organized expert estimations like the Delphi method. Efforts are exerted to promote international co-operation in preparing and checking prognoses.

As a rule in preparing forecasts, particularly in countries which do not rank among the most developed, data of other countries and international comparisons are widely used and these orient planning from several other aspects as well. About 10 or 15 years ago, such comparisons

covered more or less only the per capita production and consumption data /expressed in physical units/ of the major products, and certain growth rate figures. Recently, however, the requirements of such international comparisons have been considerably increased. According to the general opinion, the situation of an economy at a given time, its development during the past period, the growth rate characteristic thereof, and the structural changes can be correctly evaluated only on the basis of international comparisons. With respect to the further development of an economy, it seems to be similarly important to learn about the situation and structure of the more advanced countries and, in order to assess the projected growth rate, to complete its evaluation as reflected by the past experiences and future plans of other nations.

Naturally, planners are convinced that the development of the country cannot be outlined merely on the basis of international analogies but planning consists, essentially, of finding where or in what do we have to deviate from the general development trends, with respect not only to the geographical environment, level of development and other conditions of the country, but also to its social objectives. International analogies can render only a starting point for outlining the pace of development the country can follow. Evaluation of international experiences should help to arrive at conclusions on how to avoid certain negative experiences, leap over certain phases of development, and how to make the whole development process much more harmonic.

Development of the international comparisons proper is manifested in Hungary both in its extended scope and improved methods. Thus, today, international comparisons

cover, in addition to production and consumption, the various structural characteristics of the economy, comparisons of productivity as well as technical progress, a great number of social life phenomena, and aim not only at recording facts but also the discovery of certain correlations. They study, for example, the correlation of the pattern of the economy and other characteristics to the per capita national income level, with respect to the size and other features of the country.

Efforts to improve the methods are manifested, among others, in the performance of complex investigations where Hungarian statistics are adjusted to the system of the country used as a basis for comparison, and separate calculations are carried out aiming at adequate price and volume indices. So the differences of national price systems are eliminated not only in comparing the level of production, consumption, etc. but also concerning the indicators of the pattern of the economy. In order to make the international comparisons more reliable, calculations are often completed parallel to several methods. Thus, for example, the national accounting balances have been prepared recently by the Central Statistical Office parallel to their standard MPS method and in the Western SNA system. All these render to the Hungarian planners a sufficient basis for the evaluation of the country's situation and development as built onto comprehensive international comparisons.

Hungary participates actively in projects aimed at the further development of such international comparisons, carried on within the framework of international organisations, both in attempts to improve the existing statistical systems, and in other actions like the national income and productivity comparisons sponsored by the CMEA, or the

bilateral productivity and multilateral input-output balance comparisons initiated by the EEC. Following the creation of a suitable statistical basis, the main endeavour aims at the economic analysis of the international data whereby the regularities of economic growth might be better understood, and their utilisation in planning increased.

3.4. Flow and processing of information

Information is the most important basic element of planning. Thus one of the most important duties in the organisation of planning is to ensure the "production", flow, and processing of information. This, in turn, requires labour division and connection buildup among the various organisations engaged in planning, and within the individual organisations concerned. Information required for planning is best produced and transmitted within the existing general information system, with appropriate modifications and completion, or else very much parallel work might be induced.

Organisation of the information flow is preceded by the construction of the system of information "production". The main sources of information are represented by statistical and accounting figures and by intelligence on technical and economic facts.

In Hungary, the system of statistical data collection is controlled by the Central Statistical Office, with the co-operation of all the institutions affected. In their own fields, bodies of national authority and competence, as well as those responsible for the control of regional units may also collect such data. System of data classification, definitions, periodicity of surveys are decided upon by the Central Statistical Office, in co-operation

with the State Planning Office, with respect to the requirements of planning as well as to the existing international statistical standards and surveys. After completion statistics are then regularly published with the most important international statistical data. Accounting and balance data are collected and made available to the competent planning bodies by the Ministry of Finances.

The system of technical information collection, documentation, and processing is under the authority of the National Board for Technical Progress. This information is being dealt with by an extensive network based on the National Technical Library and Documentation Centre which, in turn, is supplemented by sectoral and enterprise level documentation services. The NTIDC regularly issues a number of documentary publications and, in addition, undertakes special commissions. The sectoral documentation institutes carry out similar duties for their respective sectors.

A similar documentation network for economic information has not been established, as yet, although certain ideas are under discussion. Today, partly the technical documentation system collects such information, and partly the major economic libraries and institutes are engaged in the collection, systematization, and publication in various papers of such data.

Special information is supplied by the different market research studies performed in great number by the production enterprises, although there are, in addition, the central institutes available for market research assignments. A further important information source is represented by the different surveys supplementing statistical data

by collecting and processing opinions of the population and the enterprises on various problems, and forward the responses to the competent authorities. The number of such surveys has been considerably increased in recent years: both the various population groups and the enterprises are regularly interviewed on the problems the economic and political management is most interested in.

Statistical and documentary publications, as well as other written information are further processed by the planning organs. The results are then either recorded in the form of new documentation, or influence the attutudes and ideas of the planners, as such. Finally, they will be manifested in the determination of the targets and indicators of the plans.

Exchange of information among the different planning organizations is built partly on the exchange of written material and partly, which is not less important, on various consultations, committees and informal meetings, etc. In the information flow a significant role is played by the informal working linkages and channels.

The central planning agencies organize regular consultations with the enterprises, sectoral, functional, and regional bodies. Thus their ideas can be learned, such as how they see the possibilities, preconditions, and limitations of development. These working connections transmit, at the same time, information from the centre to the lower level planning organs. In the first stage of planning they exchange opinions on the experiences gathered through the analysis of the past period, on the conclusions arrived at, and on the evaluation of the period thus discussed. This is followed by an exchange of information on the most forecasts, the possibilities and conditions of future develop-

ment. Approaching the last phase of planning, the final step is to exchange information on definite plan concepts and figures, work will be focussed on their co-ordination, and the various formal methods of the latter will be thrust into prominence. The system of this activity is developed by the State Planning Office.

An important part of the exchange of information is related to international economic relations. The planning agencies of the socialist countries conduct direct co-ordinating consultations.

International cooperation of the CMEA-countries was based in the early 50-s mainly on long-term foreign trade agreements, and then mutual coordination of relevant production targets gained ground step by step. Standing committees have been established for all major branches and major fields of economic policy and activity /as e.g. finance, foreign trade, statistics, etc./ which opened new and efficient channels of systematic information and cooperation.

In 1971 the CMEA-countries adopted a detailed complex program of economic integration, guidelines both for long-term development and for cooperation in science and technology, production and foreign trade. Cooperation in planning includes the work on forecasts of economic, scientific and technological development, consultations on economic policy, coordination of long- and medium term plans, joint planning of some branches, products; exchange of experiences on methods of planning and economic guidance. Some of these forms rely upon past positive experience and work already smoothly, other ones e.g. the joint planning, are still in an experimental stage.

On the expected development of the relations with western and developing countries, the planning bodies collect information through channels like intergovernmental negotiations, foreign representation, foreign trade companies, enterprises in connection with partners abroad, etc. Information thus collected is then exchanged between the central planning organisations and the enterprises concerned.

The enterprises compose their respective plans in final form after they have been informed on the targets of the national economic plan. As information material for this work, now they have available not only the national economic plan proper as approved by the Parliament or by the Council of Ministers, but also its great number of documentary and calculation appendices, the various government resolutions, and ministerial instructions. The enterprise plans will not be approved by the centre. There are, however, other means to influence /as mentioned above/ and also to learn more precisely about the enterprise intentions and plans; to this latter end regular surveys are conducted. These, in turn, represent important information for the evaluation of the expected accomplishment, as well as for drafting the plan for the next period.

Information processing is increasingly built on computers. Thus processing of the statistical and accounting data has already been mechanised to a considerable extent, and significant progress can be observed in the mechanisation of the technical and economic documentation services, too.

3.3. Use of MCP and mathematical methods

In Hungary, there are 160 computers in operation at present, and they are used extensively for economic analysis

and planning. This is valuable assistance both in attempting to perform the traditional analysis and planning calculations in a simpler and faster way, and to employ methods requiring higher mathematics and much more arithmetic operations.

A number of institutions, above all the State Planning Office, are engaged in the establishment of a data bank that would store the most important data and algorithms necessary for plan calculations. It is expected to relieve the planning professionals from data retrieval and manipulation and provide, thereby, for further actual planning time.

Hungarian planners exhibit sincere interest in the application of mathematical methods, and thus a definite advancement can be observed in this field. In the preparatory analysis work preceding the actual planning process some sophisticated mathematical-statistical and econometric methods are increasingly employed, including different trend calculations, time sequence, correlation and regression analyses. The application of factor analysis, too, is experimented with. A number of studies make use of production and demand functions, flexibility calculations, sensitivity analysis, etc.

Special mention is deserved in this field by the application of input-output balances, in which respect Hungary has collected useful experiences. The first input-output balance was set up in Hungary by the Central Statistical Office for 1957. Since that time the Central Statistical Office has composed input-output balances of about 60 sectors in every third or fourth year, and aggregated ones of 20 sectors annually. The latter are made comparable continuously by eliminating the price and

organisational changes. Sectoral and product balances are also being prepared /the latter mainly for price calculations and modelling/, and also the conversion of balances at national currencies into world market prices was carried out. Usually static open type balances are set up by detailed breakdown of the bottom and lateral wings, and by completing the former with labour, capital and other data. The Central Statistical Office is dealing with calculations of dynamic input-output balances. Input-output balance has been produced by some major enterprises as well.

By making use of the input-output balances, an increased number of much more thorough analyses are being completed nowadays, than before, on the interdependence of the economy, with a clearer picture about these relations. Analyses based on the use of total input coefficients offered further application possibilities for studies on the structure of the price system as well as on relative level and changes in time of labour and total productivity. This method was often employed for economic efficiency calculations, for evaluating comparative advantages of foreign trade transactions.

Macro-economic planning makes good use of all the experiences of such analyses, while in direct planning the input-output interms are used mainly for checking the figures of the different parts of the plans produced otherwise and separately as for their consistency.

An important field of application of mathematical methods is programming. Initially, mathematical programming was attempted only in enterprise and sectoral planning, but in the preparation of the Fourth fiveyear plan attempts were extended to make use thereof in national economic planning as well, within the so-called two-level planning system.

Dealing with mathematical programming methods has rendered valuable assistance in systematization of the procedures and requirements of planning, the exact formalization and analysis of the variables, objective functions, constraints of planning. The actual acceptance of the results of these calculations is impeded by the frequent difficulties in providing basic calculation data. Practical professionals express anxiety in connection with the reliability of these basic data, their necessarily extensive aggregation, and the assumption of linearity. Although this type of programming has greatly helped the planners, above all through the sensitivity analyses, at least for the time being it still cannot replace the traditional planning techniques. Application of the mathematical methods was attempted also in long-term planning, mainly for a simpler production of the different variants.

Further ambitions foresee more extensive use of mathematical methods. Thus, among others, the idea to construct planning models for the annual plans and modelling the impacts of the "economic regulators" is being dealt with. /It would be of utmost importance to assess precisely the expected attitude and response of the enterprises upon the changes of taxation, income distribution regulations, and other parameters./ Experimentation is under progress in connection with application of macro-economic models, income and consumption models, and optimization of the pattern of foreign trade. All these require, of course, the application of computers as this is the only way to rapidly perform the calculations of otherwise an excessive labour demand.

At enterprise level mainly linear programming methods have been widely accepted in annual planning for the preparation of production programs. A relatively great number of companies conducted experiments to draft their medium-term plans with the help of mathematical programming. These experiments pointed out the lack of an adequate data basis, and emphasized the demand for the elaboration of methods suitable to deal with the necessarily high degree of uncertainty.

4. The implementation of the plans

The Hungarian system of economic guidance intends to ensure the implementation of the national economic plan instead of breaking down and assessing the aggregate figures of the plan to sectors /ministries/ and enterprises by incentives and regulators which should induce all economic units to draft and fulfil their plans in harmony with the targets of the national economic plan. The central agencies are entrusted with certain compulsory duties within the plan, just like councils and enterprises, too, have responsibilities, but the latter prepare their plans independently and primarily the exchange of information, and the system of incentives and regulators must create the appropriate connection between the different levels of plans.

The fulfilment of the plans is carefully followed by the Central Statistical Office and the State Planning Office in general and, over their professional areas, by the "branch" as well as functional ministries, and national authorities, the councils, and the enterprises proper. Current information on the implementation of the national economic plan is offered by the highly advanced statistical system but in addition the State Planning Office, too, has the duty of paying strict attention to the process of

plan accomplishment. The Hungarian statistical system collects detailed data monthly, quarterly, and particularly for each year /in the field of economic statistics, therefore, the periodic censuses in other countries are of no particular significance/. Data are published by the statistical services at a relatively rapid rate, and disseminated through a great number of publications containing economic analysis as well. The Central Statistical Office has also a separate Economic Research Institute which prepares both analyses and short-term forecasts.

The State Planning Office has a special responsibility to analyze phenomena, trends and prospects and execution of resolutions relevant for the implementation of the plan. The State Planning Office reports periodically to the government on the progress of plan accomplishment. In these reports recommendations, too, are submitted on measures beyond its authority required if the plan is to be implemented accurately and in due time.

Each ministry and other national authority and regional council pays systematic attention in its own area to the realization of the national economic plan and the associated other duties. This work is supported by national level and auxiliary statistical services, as well as other indications, reports, and field investigations.

Naturally, the enterprises also pay continuous attention to the fulfilment of their own plans. This includes control on the realization of the daily, weekly, and monthly production and other targets within the framework of the production control; continuous checkup on the adherence to planned measures involving a dead-line; repeated analysis within the same year of the expected accomplishment of the annual plan /with respect, among others, to the development of the profit

and the sharing fund/; and a thorough analysis at the end of the year on the work performed during the previous annual period, as well as on the expected fulfilment of the medium-term plan. Development of the profit and the sharing fund created therefrom is watched with particular attention by the enterprises since in the Hungarian system of economic guidance the personal incomes depend, to a great extent, thereon. However, the enterprises must not adopt undue means to increase profit; this is controlled by several supervisory, financial, and price authorities.

According to the general idea of the new system of economic guidance, a direct interference with the activity of the enterprises is restricted preferably to the narrowest possible scope. Naturally, however, if the safety of the national supply, the equilibrium of the foreign trade balance, or any other fundamental interest demands, the enterprises may be given direct instructions as well. A basic evaluation of the enterprise activities is performed each year, when the competent ministry will assess the work of the companies in a comprehensive manner on the basis of statistical and accounting reports, and supply the enterprises with new guidelines and suggestions for the next period.

On the expected accomplishment of the national economic plan a detailed analysis is made in the second half of each year. This represents, at the same time, a basis for the preparation and approval of the next year's plan. From short-term aspects the economic equilibrium is the most important requirement, adherence to which is very carefully observed. Problems in the accomplishment of the medium-term plan are analysed mainly during the approval of the successive annual plans, elaborating at the same time provisions to ensure the realisation of the medium-term plan projections and, if inevitable or expedient, certain modifications of these

medium-term projections. For the control of the realisation of the long-term plan no standard practice has been developed, as yet, but this probably will be connected to the analysis of the realisation of the medium-term plans, and to the preparation of the same for the next period.

There is a general endeavour to maintain the economic regulators unchanged for the entire period of the relevant five-year plan, although deviation from this principle may occasionally become necessary, and subsequent modifications might be introduced even within the same five-year-plan period. Another endeavour is to restrict the number of individual instructions and regulations, that is, if the accomplishment of the plan would require a different enterprise attitude, then rather general financial or other measures should be adopted for this purpose instead of a direct instruction.

[redacted]