STATE FORECASTING IN RUSSIA: THE PROCESS AND METHODS

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1. the Transition from the Centralized Planning System to the System of Forecasting

The national economic planning system in the former USSR was created in the 1920s. The planning system was in actuality based on annual plans, though formally they were developed within the framework of five-year plans. During the same period, two long-term plans were developed: in the 1920s, the widely known plan "GOELRO" (the state plan of electrification of Russia); and in 1940 and 1941, the 15-year plan, covering the period from 1943 to 1957. The latter plan was never implemented because of the Second World War.

During the first post war years the planning system remained virtually unchanged. Its main features were a rigid centralization of decision making and the allocation of resources.

Problems, which arose in various countries during the Second World War, demonstrated the necessity for centralized management of separate projects, and generated a program-target method of management. The Second World War also, however, gave a serious push to the development of the new technologies, which could not be implemented within the rigid framework of centralized planning because of the complexity and interrelatedness of the required decisions.

Beginning in the mid-1950's the concept of economic planning and management began to change; an understanding of the need to expand economic methods of management and to delegate decision making from the higher to the lower levels of management gradually emerged. During this period, an experimental switch from the industry pattern of economic planning and management to the territorial pattern was launched. However, since it ran counter to the usual technological and institutional economic structure, there was the return to the industrial pattern at the beginning of the 1960's.

Over the three decades from the 1960s to the 1980s, various experimental changes were made to the planning and management system, and the rights and opportunities associated with economic decision making were extended to the enterprises. However within the framework of the social, political and institutional structure existing at the time, the experiments were constrained by the general framework of centralized planning.

The main defect of the centralized planning system was the absence of any incentive for the manufacturers to increase the efficiency of production and to adopt new technologies. As economic development ran into increasingly severe resource constraints, this defect became more and more obvious as the gap between the planned indices and their actual realization widened. The planned indices assumed an increase in the efficiency of

production that never materialized. The absence of any incentives discouraged innovations and resulted in the very slow growth of efficiency.

Plans to reform the planning system in the 1960s and 1970s were spurred by the development of powerful mainframe computers and mathematical methods (including most importantly those of optimization). The newly available tools and methods capable of processing previously undreamed of volumes of information created the illusion, that modern technology would be able to breathe new life into centralized planning. In practice, however, this did not occur as the transition from centralized information processing and decision making to a distributed pattern had already began. This transition was facilitated by the spread of personal computers.

Nevertheless, the planning system still continued to develop and becoming increasingly complex and cumbersome in the 1980s. It included a forecasting stage and a plan development stage. The main results of the forecasting stage were the development of the Complex Program of Technological Progress and its Social and Economic Consequences and also of the Pattern of the Development and Accommodation of Productive Forces. These works covered a horizon of 15-20 years and widely characterized the various aspects of social and economic development. There were many volumes of these documents (more than 100 volumes on branch,

functional and regional questions). On the basis of these documents, the Concept of Social and Economic Development of the USSR for the 10-15 years period was developed. It contained the description of the main social and economic goals for the long-term and the means for their achievement. In the Concept, several variants of possible economic development models were developed. This document usually was 40-70 pages long.

At the first stage of the plan's development, proceeding from the Concept, the Main Directions of Economic and Social Development for a 10-year period was put together. This was based on the main principles of the Concept and only dealt with one chosen variant. The Main Directions was the long-term plan or program, which was approved by the Government, but involved no specific targets for individual production units. The development of the five-year plan proceeded from the parameters of the Main Directions. The parameters and indices of the five-year plan contained targets for the individual production units. In turn the annual plans represented the division of the five-year plan and each annual plan had concrete and detailed parameters.

In the course of developing the five-year and annual plans, there were extensive interactions between the center on the one hand, and the industries and regions on the other. During the first stage, the State Planning Committee of the USSR prepared the preliminary parameters, which were sent to the industry ministries

and regions (union republics). These parameters were specified in the course of the work conducted by ministries and regions with the enterprises and were then returned to the center. The nomenclature of parameters directed from the center as preliminary and that of the parameters received back from the branches and regions was about identical - developed nomenclature on physical characteristics of production, cost parameters, and parameters of social development. Then the State Planning Committee of the USSR also conducted its own clarification and balancing of the submitted parameters, worked with the representatives of the state ministries and regions on the final coordination of the plan. After that the plan was approved by the Government and affirmed by the state legislative body (the Supreme Soviet) as the law.

The last five-year plan, which the State Planning Committee began to develop, was the thirteenth plan, which was to cover the 1991 to 1995 period. However, the events, which took place in 1990 and 1991, dramatically changed the situation. A detailed analysis of these events is beyond the scope of this paper, but suffice it to say that the conflict between the Union and Russian Governments in 1991 resulted in nothing less than the total destruction of the previous system of economic management. An alternative or transition management system was never formed. In effect, the liberalization of economy was forced on the government, because except for the "invisible hand of the market" nobody was in a position to exercise control over the economy.

In 1990-1991 it became clear, that developed plans were not being fulfilled and that the production control from the center was losing its grip. So the first attempts to develop forecasts necessarily were begun. They had a rather "naive" character, as the approaches and the methods of their development were in many respects borrowed from centralized planning system. Furthermore, the organizational chaos of this period did not promote the precise distribution of responsibilities between the developers of the forecasts.

The situation changed after 1992, when independent states were created from the republics of the former USSR. Ministries and departments were formed: the Ministry of Economy as the body responsible for the development of forecasts of the national economy; the Ministry of Finance , as the ministry responsible for the development and implementation of the budget. This created an organizational basis for the development of the forecasts of national economy. At the same time, the forecasts for the 1992-1993 period were not very precise because of the great uncertainty and disruption associated with the transition process and the absence of any experience in the analysis and valuation of a market economy. However, at this time, experience was acquired with the organization of forecasting, and with the interaction between the federal bodies and regions. Numerous methodical problems were also solved.

Over the 1994 to 1996 period, the system of state forecasting was established in Russia. The structure of the development of the forecasts is determined by the Federal law on forecasting, adopted in 1995, according to which the Government organizes the development of the long-term, medium-term and annual forecasts. This happened for the first time in 1996, when the Government prepared a long-term forecast to 2005, a medium term forecast to 2000 and an annual forecast for 1997.

The first attempt to develop a long-term forecast was undertaken in 1994 by the Ministry of Economy of Russia. However, the results of this forecast were never used because of the great uncertainty of the economic situation and the emphasis on short-term priorities of economic policy over longer-term. As the economic situation stabilizes though, the need for the medium-term and long-term forecast will become more pressing.

The annual forecast currently has two main purposes. The first is to provide the Government with the information needed to make the required decisions in the field of economic and social policy. The second is to provide the parameters needed to prepare the state budget, which in a market economy is probably the most important tool for influencing the economy.

The development of the annual forecast follows a standard process. The forecasting begins under the decree of the Government

in the beginning of the year, immediately prior to the year to be forecast. The Ministry of Economy of Russia develops the main parameters of the forecast (including about 10 main macroeconomic parameters), which with some methodological materials are sent to ministries, departments and regions in the early spring. Based on these initial parameters, ministries, departments and regions develop their own detailed forecasts and send them to the Ministry of Economy of Russia by the end of spring - beginning of summer. At the next stage, the Ministry of Economy of Russia aggregates the returned information, specifies and balances the forecast parameters and prepares the forecast of socio-economic development. The forecast, which can be specified proceeding from the aims of the Government, is then submitted to the Government.

After that, the forecast is approved by the Government and becomes the basis for the development of the budget. This stage is finished in June. The Ministry of Finance of Russia develops the budget and also submits it to the Government. In the beginning of autumn, the complete set of the documents, including the forecast of socio-economic development and the federal budget is submitted by the Government to the State Duma. The Duma considers it, makes adjustments and then approves the parameters of the federal budget. Based on the already authorized budget and the most recent information on an economic situation, the Ministry of Economy of Russia makes some adjustments to the parameters of the forecast and in December of the year before the forecast year submits the

final document to the Government. So ends the forecast cycle.

The methodological approaches for developing the parameters of the forecast are mainly based on an accounting framework and expert valuations. Only certain blocks of parameters are formed with the help of simple, small-scale econometric models.

2. The Federal Law on the State Forecasting

Immediately after the beginning of the market reforms in Russia, the idea arose of establishing a law setting out the main principles guiding the development of the forecasts and the management of economy. The experts of the Ministry of Economy of Russia, representing the senior generation of the planners, who were former staff of the State Planning Committee of the USSR, were responsible for preparing the bill "on indicative planning."

Indicative planning as set out in this document differed greatly from the conventional concept. In effect, it represented an attempt to transfer various elements of the planning system over to the system of the forecast development and economic management. The annual forecast of socio-economic development was supposed to be approved by the legislature just as earlier the annual plan had been approved.

However, in the meantime the realities of economic management

had changed considerably. At the state level, there were no longer any direct instruments available to influence the volumes of production, its structure, or investment activity. The main channels of influence were limited by the fiscal framework set out in the budget. In the former USSR a significant amount of resources was redistributed through the budget (about half of the gross domestic product, see table 1, the figures are shown in percentage to the GDP of the former USSR).

Table 1

Revenues and Expenses in the Budget of the USSR

(Per Cent of GDP)

	1985	1986	1987	1988	1989	1990
Budget revenues	48	47	46	43	43	47
the union budget revenues	25	23	22	19	17	21
Budget expenses	50	52	52	52	51	51
the union budget expenses	26	28	29	28	26	24

Table 2

Revenues and Expenses in the Budget of the Russian Federation

(Per Cent of GDP)

	1992	1993	1994	1995	1996
Budgets revenues	28	29	29	26	25
federal budget revenues	16	15	14	14	12.5
Budgets expenses	31	34	38	29	29
federal budget expenses	21	21	24		15.8

After the beginning of transition to the market economy, the redistribution in the budget was greatly reduced, and by 1995 amounted to less than one third of GDP (see table 2, the figures are indicated as a percentage of the GDP of Russia).

During the budget crisis of 1996, revenues, and expenditures and the overall redistribution of the GDP through the budget system was reduced even more.

With the direct instrument of centralized economic regulation no longer at the Government's disposal and with shrinking budgetary resources on hand, the attempt to build the legislative base of forecasting on the same approach as under the old planning system was obviously condemned to failure at the outset. Nevertheless, although delayed by the political events of 1993, the work on the draft of the law proceeded.

Since 1994, experts of the State Duma, and the Ministry of Economy of Russia, and representatives of scientific organizations have participated in this exercise. Over time the project gradually adapted to the reality of the new Russian economy. A new purpose for the project was conceived. As the introduction of the indicative planning as a complete system was impossible, the main objective of the new law was to secure the legislative approval of the system of the state forecasting, as an important element in economic management. The title of the draft of the law was changed

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to "On state forecasting and programs of socio-economic development of the Russian Federation" and was approved and authorized in the summer of 1995.

According to the law, the Government is obliged to prepare state forecasts of socio-economic development for the long-term, medium-term and short-term.

The law specifies the perspective and target character of the forecasting and programming work, enhances its legitimacy, links the current and long-term, forecasting and goal determining documents, and specifies the requirement to develop forecasting materials on the different aspects of socio-economic and technological development.

The law provides for a system of state forecasts, which includes long-term, medium-term and short-term. The forecasts of socio-economic development are prepared for the Russian Federation, and for industries and regions of the economy.

The law coordinates the forecasting cycle with that of the election of the President of the Russian Federation. By law, the first formal address, which the President gives to the Federal Assembly after his inauguration, must contain a special section, devoted to the medium-term socio-economic development of the Russian Federation. This must be consistent with the forecast and

the long-term forecast of socio-economic development.

In accordance with a decision of the Government , the first annual forecasting and budgeting exercise under the new law got underway in 1996. Long-term, medium-term and the annual forecasts were simultaneously prepared. The annual forecast served as the basis for the development of the draft of the budget for 1997.

During this exercise, integrated dynamic macroeconomic models of the Russian economy were used in the Ministry of Economy of Russia. Results of the simulations with these models were used to produce a number of scenarios of long-term and medium-term development with detailed quantitative parameters for the separate variants. Experience with the models have proved them to be useful tools in organizing the Government's forecast and in determining the main methodological and organizational principles used in developing the forecast.

3. The Process and Techniques for Preparing State Forecasts

The forecasts of socio-economic development are produced based on the following methodical principles:

- the scientific validity of forecasting, meaning, that the forecasting is carried out on a scientific basis and is based on the appropriate research of scientific

organizations;

- the participation in the forecasting process of all
key economic actors including:federal executive bodies,
bodies of the executive authority of the members of the
Russian Federation, business associations, trade unions
and other;

- the interaction of all the participants in the
forecast to achieve the agreed concept on the prospects
of development (the interactive principle);

- the consecutive adjustment of the forecasts during the
interaction (iterative principle);

- the uniformity of the methodological approaches and
the information base of the forecasts, which ensures the
smooth transition from the parameters of the forecasts
with one temporal horizon to the parameters of the
forecast with another. This principle, if followed,
should also ensure the reproducibility of the results of
the forecasts when the same initial information and
methods of forecasting are used;

- the comprehensive character of the forecast, which
means that the coverage of industries, sectors, and

regions, and various patterns of ownership, is
sufficient to provide a detailed portrayal of the socio-
economic situation in the long term to support decisions
in the field of economic, social and innovation policy.
For different temporal horizons, the detailed portrayal
is achieved by the different agreed-upon sets of
parameters;

- the equations for the forecasting parameters and
temporal horizon of the forecast. There are more
variables for the short-term forecast and fewer for the
long-term forecast. The forecast structure also differs.
The financial aspects of development are of greater
significance for the short-term forecast, whereas
material-resources aspects are emphasized in the long-
term forecast;

- the continuous nature of forecasting and the sliding
time horizon of the forecasts, ensuring that in each
period a sufficiently long time horizon is available to
make key economic policy decisions;

- the combination of a positive and normative approach
to the forecast provides an appropriate framework to
address national economic and social problems through
programs of the various levels of government;

- the consideration of alternative forecast scenarios as an aid to decision-making about economic and social policy.

These principles guide the forecasting work for all time horizons.

The state forecast is based on the information collected by the appropriate federal executive bodies of the Russian Federation. The ministries of Russia are responsible to supply information on their areas of responsibility (including the information on money and credit from the Central Bank , on the budget from the Ministry of Finance , on customs statistics from the State Customs Committee , on taxation from the State Tax Inspection).

The approach to forecasting is based on the main methodological principles and results in the development of the long-term, medium-term and annual forecasts.

The long-term forecast and the concept of socio-economic development is produced once every five years for the ten-year period with an annual breakdown provided for the first half of the forecast period. The act regulating the development of the long-term forecast is the decree of the Government of the Russian Federation, which is adopted two years prior to the beginning of

the forecast period.

During the development of the long-term forecast, an initial analytical file of the required forecast information is provided to start the process off. The initial information for the previous 7-10 years is prepared by the State Committee on Statistics of the Russian Federation and the Ministry of Science and Technical Policy (in the format agreed upon with the Ministry of Economy). The appropriate sections are sent to ministries and departments, and the complete set - to the Ministry of Economy . Based on the information received, a description of the initial situation of economy and technology is prepared, an analysis of the economic situation and interactions of basic elements of socio-economic system is carried out. The analysis deals with the base characteristics of the economy and technology, but also takes into account the exigencies of transition. The analysis of the historical period provides a representation of the socio-economic system focusing on the main interdependencies and features that are critical for determining the economy's evolution over the forecast period. Aspects, which need further analyses, are identified and the required analysis is carried out with the participation of the appropriate ministries, departments and scientific organizations.

At the same time, the appropriate departments and organizations prepare materials and data, describing the external

conditions which shape economic prospects. The Ministry of Labor ,
the Center of Economic Conjuncture of the Government and the
State Committee on Statistics develop the demographic forecast.
The Ministry of Science together with Academy of Sciences of the
Russian Federation submit the forecasting-analytical materials on
technological potential, the prospects of its development, and
their influence on economic and social processes. The State
Committee on Geology submits the forecasting-analytical materials
on the country's resource potential. The Ministry of External
Economic Connections , the Ministry on Cooperation with the CIS
Countries and the Ministry of Finance determine the main
parameters of the outlook for world commodities and financial
markets.

   Based on the analysis and making an allowance for the
external conditions of the economic development, the Ministry of
Economy works out the generalized parameters of the base case
forecast. This forecast reflects the actual tendencies, factors
and constraints facing the economy.

   The results of the base case forecast are used by the
Ministry of Economy and by participating scientific organizations
to formulate objectives for future economic development. Based on
these priorities, a limited number (no more than 3-5) of
preliminary alternative scenarios are prepared. The scenarios
together with the necessary organizational and methodological

materials are sent to the federal executive agencies and to lower level executive agencies under the jurisdiction of the Russian Federation to provide a framework for the development of the mutlivariant forecast.

Federal executive agencies and lower level executive agencies develop multivariant scenarios for branches, sectors and regions as part of the long-term forecasts. Simultaneously, lists of socio-economic problems that must be dealt with are compiled. The Ministry of Economy aggregates these materials and produces a multivariant scenario forecast of long-term prospects. This document is submitted to the Government.

During the last stage of the work on long-term prospects, the Ministry of Economy with the participation of scientific organizations and federal executive agencies develops the project of the concept of socio-economic development of the Russian Federation. During the development of this concept (which is in fact is target forecast), detailed goals and priority, and means to achieve them are determined. Within this framework, and making allowances for the economic, social, ecological and other conditions and constraints, priorities for technological development are determined. At this stage, the Government might decide to carry out more analysis of one (or sometimes several) forecast scenarios.

Multivariant scenarios of the forecast and of the project of

the concept are provided to the Government at the same time as the preliminary package of official materials are sent for publication.

The Government considers the multivariant scenario forecast and the project of the concept and approves one of the variants, of the project of the concept. After the approval, the concept forms the basis for the development of the medium-term forecasts and programs.

The medium-term forecast is developed for the 3-5 years and adjusted annually.

The decree of the Government , which governs the development of the medium-term forecast, is issued a year before the beginning of the forecast period. As the medium-term forecast should be based on the approved concept, its development only begins after the completion of the cycle of long-term forecasting.

The important methodological feature of the development of the medium-term forecast is that at this stage the main goals of the socio-economic development have already been determined and the alternative medium-term scenarios have been determined by the decisions made as to how to achieve the agreed upon goals.

The development of the forecast includes several stages.

First, the analysis by the federal executive bodies and bodies of the executive authority of the members of the Russian Federation of the condition of the economy and the degree to which the goals set in the long-term forecast and the concept have been achieved, and also the analysis of the objectives and priorities, as determined for the previous medium-term period.

Second, the complex analysis of the socio-economic development and technological potential of the country by the Ministry of Economy with the participation of the executive authority bodies.

Third, the elaboration of the details of the scenarios by the Ministry of Economy (on the basis of the approved concept).

Fourth, the development of the appropriate forecasts by the federal executive authority bodies and bodies of the executive authority of the members of the Russian Federation.

Fifth, the development by the Ministry of Economy of the forecast of socio-economic development of the country with the allowance for the received industry, regional and technological forecasts.

The forecast materials are used to prepare the project of the concept for the intermediate term prospects (a section of the

message of the President of the Russian Federation).

The program of socio-economic development for the intermediate term is developed in accordance with the decree of the Government .

The stages of the development of the program are the following:

- The development by the interdepartmental working group chaired by the Minister of Economy of the project of the concept of the Program of the Government . This includes parameters for goals concerning economic conditions (including the goal for economic security), and the main decisions and measures in the field of financial, economic and innovation policy.

- Discussion of the draft of the concept of the Program by federal and regional executive authority bodies,

- The interdepartmental working group, after taking into account suggestions received by participants, completes the draft of the concept of the Program and submits it to the Government for approval. It then begins to work directly on the draft of the Program.

- The program is approved by a decree of the Government
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- After the acceptance of the Governmental Program, the federal and regional executive authority bodies develop the project of the Plan of actions needed for its implementation.

- The Ministry of Economy finishes the work on the project of the Plan of actions and submits it to the Government for confirmation.

- Once approved by the Government , the Program is sent to the Federation Council and State Duma of the Russian Federation.

The rationale for the programs which are supposed to be developed during the period is provided in the decree of the Government on the development of the forecast, concept and program for the medium-term period.

The medium-term forecast is adjusted for the short-term prospect during the development of the forecast of socio-economic development.

The forecast of socio-economic development in the short-term

is prepared annually in accordance with a decree of the Government . The forecasting process begins in the first quarter of a year, prior to the forecast year.

The stages in preparing the forecast are the following:

The preparation by the Ministry of Economy of studies, determining the goals and the problems, the system of forecasting parameters, and the scope of necessary data.

The preparation of analysis of national economic development and innovations by the Ministry of Economy , working together with the State Committee on Statistics and the Ministry of Finance , the Central Bank , the Ministry of Science and Technical Policy and other federal executive authority bodies.

The results of the analysis are reported to the Government . The results for the socio-economic development of the Russian Federation during the previous year are presented by the Government to the Federation Council and the State Duma.

The Ministry of Economy with the Ministry of Finance and the Central Bank develops a write-up on economic conditions and distributes it to federal executive authority bodies.

An adjusted write-up on economic development and innovation

is presented to the Government . Simultaneously the Ministry of Finance together with the Ministry of Economy and the Central Bank make recommendations on the main directions of the budget-tax and monetary policy.

The Ministry of Economy provides methodological materials on the development of the forecasts, a write-up on the national economy and other necessary materials to federal executive authority bodies and bodies of the executive authority of the members of the Russian Federation. Simultaneously, the Ministry of Finance provides federal executive authority bodies with methodological materials on how to apply for funding from the federal budget for programs consistent with the forecast. The State Committee on Statistics provides federal and regional bodies of the executive authority with the necessary statistical information.

The Central Bank presents to the Government information on its budgetary cash situation and on money in circulation.

Federal executive authority bodies and bodies of the executive authority of the members of the Russian Federation develop preliminary forecasts of the socio-economic development of industries and regions based on the aggregate parameters provided. The results are presented to the Ministry of Economy . Simultaneously federal executive authority bodies and bodies of

the executive authority of the members of the Russian Federation, and state customers must specify the resources required to implement the federal target programs and the budget appropriations required for the purchase and delivery of production to meet federal needs.

The Central Bank presents to the Government a forecast of the balance of payments.

The Ministry of Economy develops and presents to the Government and the Ministry of Finance the main parameters of the forecast of socio- economic development as a whole, and also the list of the federal and interstate target programs, supported from the federal budget, as well as the consolidated budget application.

The Ministry of Finance prepares and presents to the Government a draft version of the federal budget that is consistent with the main parameters of the forecast of socio- economic development.

The Ministry of Economy and the Ministry of Finance develop and present to the Government the main parameters of the forecast of socio- economic development, the consolidated financial balance, the list of the federal target programs, the list and the quantities of production for federal needs, the project of public

sector development and the draft of the federal budget.

Federal executive authority bodies, bodies of the executive authority of members of the Russian Federation, and the state customers of the federal target programs develop and present to the Ministry of Economy the revised forecasts of socio-economic development for the industries and regions. Allowance is made for the preliminary consideration by the Government of the preliminary forecast for the subsequent year and the estimations of the economic conditions for the current year. Simultaneously the above named bodies specify the costs needed for the implementation of the federal target programs.

At the final stage of the process, the Ministry of Economy presents to the Government the specified forecast of socio-economic development for the next year.

In preparing the forecast of the public sector development, the federal state enterprises provide the necessary information to the authorized federal bodies of the executive authority, which must aggregate the information and present it to the Ministry of Economy. Then the Ministry of Economy together with the federal executive authority bodies develops the forecast of public sector development.

The annual forecast of socio-economic development is revised

quarterly.

4. Methods of Forecasting

State forecasting utilizes the information, collected by the appropriate federal executive authority bodies of the Russian Federation. The main body providing the information is the State Committee on Statistics (GOSKOMSTAT), which through a network of regional bodies collects the primary information, processes and aggregates it and officially publishes it. Other ministries and departments are responsible for the collection of information in their areas of responsibility (on money and credit, the Central Bank; on the budget outcomes, the Ministry of Finance; on customs statistics, the State Customs Committee; on taxation, the State Tax Inspection).

Russian economic and social statistics have underwent fundamental changes. Previously they were based on the system of accounting maintained under the planned economy. Each ministry of the USSR was required to report to the GOSKOMSTAT of the USSR, each ministry of a republic reported to the ministry of the USSR, each enterprise reported to the responsible organization.

With the transition to the market system and the end of the centralized planning, the statistical reporting system encountered serious problems. Instead of dealing with 140 ministries and

departments as under planning, the GOSKOMSTAT had to deal with more than 2,5 million legal entities.

Whereas under the centralized system, enterprises overestimated the volumes of production (the so-called "additions")in their reports, under the market they began to underestimate the volumes of production to reduce their tax burdens.

Moreover the methods, the staff, and the working experience of the GOSKOMSTAT were adapted to a planned economy. However, in recent years GOSKOMSTAT has managed to adapt to the new circumstances and has adopted the methods and procedures of statistical agencies in market economies. Its success is indicated by the fact that its price statistics service was recently recognized by the IMF as the best in the world, alongside that of the United Kingdom.

The changes at GOSKOMSTAT were profound. First of all, it had to abandon its control functions. As well, it was necessary for GOSKOMSTAT to guarantee the confidentiality of the information provided to it as do statistical agencies in other industrialized market economies.

Even so, the Russian enterprises still do not fully trust that the confidentiality of their data will be maintained. The fact that many statistical programs are conducted by the

GOSKOMSTAT in cooperation with the State Tax Inspection does little to instill more trust.

To measure adequately the conditions of the Russian economy, the GOSKOMSTAT had to do four things: reconsider all techniques, connected with the valuations of private, small-sized and "shadow" sectors of economy; develop techniques for updating the data from the largest enterprises; create a prices statistics service to survey a rate of inflation; develop a set of macroeconomic accounts based on international standards (the system of national accounts).

The GOSKOMSTAT data on foreign trade and on the consumer market is produced using diverse techniques to calculate the additions to the volumes of the registered trade. As a consequence, it rather reliably takes into account the additional volume of unorganized imports or "shadow" production (the share of the latter in the GDP is estimated to exceed 25 per cent).

The money incomes accounts are based first of all not on official data on incomes (salary, pension and allowances), but on data on expenditures, estimated based on calculations of additional volumes of trade turnover and the amount of money turnover.

In Russia, where the highest degree of monopolization of

commodity markets was inherited from the USSR, the problems of valuing the activity of the largest enterprises are rather complex. The GOSKOMSTAT has significantly changed the method of accounting for the volumes of industrial production.

The newly created prices statistics service works effectively, determining not only the annual, quarterly and monthly rates of inflation, but also the weekly rate. The technique of measuring inflation is based on an the internationally accepted methodology for calculating consumer price indexes (CPI).

With regard to macroeconomic statistics, it had become obvious by the mid-1980s, that the then existing system of national economy balance could not adequately value economic activity. Moreover, the system of economic statistics in the former USSR was not up to world standards and made comparisons with other countries problematic.

At the end of the 1980s, the statistical bodies of the USSR began work on a system of national accounts. At this time as the underlying system of primary statistics and record-keeping remained unchanged, it was not possible to construct a system of national accounts. However, the work in developing national accounts picked up again at the beginning of the 1990s.

The increasing interest in the national accounts as a summary tool of economic analysis and forecasting was stimulated by the beginning of the radical market transformations in Russia. With the end of centralized planning, the role for physical indicators of production as a tool for management sharply diminished. The role of financial indicators and proportions become dominant. With the possibilities for state influence over market economy becoming more limited and indirect, the role for financial indicators grew immeasurably. From the point of view of the management of economic processes, under centralized planning financial indicators reflect material, and have very much a secondary role. In contrast in a market economy, the situation is the opposite. The physical indicators of production are in many respects determined by the financial proportions and indicators. This explains the need for a system of national accounts in Russia.

The system of national accounts is a tool for aggregating and summarizing economic accounts. It is also the nucleus for developing the country's forecast of socio-economic development. It provides a complete picture of economic processes, most importantly in the form of flows of financial resources, which adequately shows the structure of a market economy.

The system of national accounts permits economic activity in industries, sectors and institutional units of the economy at

various stages of the production process to be aggregated and shows the interrelationship among these sectors.

A separate account or group of accounts corresponds to each stage of production. This provides an opportunity to monitor the dynamics of the flow of commodities and services between the stages of production, and also of the value added through a whole cycle from production to consumption.

The aggregate national accounts tables can be used for macroeconomic calculations, and to integrate the separate sectors of the forecast into an overall forecast for the economy. The system of national accounts can serves two functions:

First, it can be used as a tool to develop the macroeconomic forecast. The level of aggregation of the forecast indicators can be different and is determined by the purposes and the stages of the forecast. During the preliminary forecasting round analyzing various scenarios, only aggregate national accounts data are used. During later rounds, more disaggregated national accounts data are used. The macroeconomic models for the various forecasting horizons are developed using the aggregate data.

Second, the disaggregated national accounts tables are used as the tool to coordinate and balance the data for the individual industries and sectors. This is especially important, for the

institutional sectors, which correspond to the special spheres of economic activity. In preparing the forecast, the technology parameters of the sectors and the parameters of the institutional units are aggregated within a national accounts framework and are checked to make sure they balance. The branch and sectoral forecasts and the forecasts of the activity of the institutional units cannot be agreed upon except through using the detailed system of national accounts, including the input-output accounts.

As the forecast is developed, the balancing process must be carried out several times. The inconsistencies it reveals necessitate modifications to the individual detailed forecasts.

The overall forecast of socio-economic development is formed of summary macroeconomic indicators, consumer expenditures and investment, public sector spending and the related financial flows between the sectors.

The main summary macroeconomic indicator is the gross domestic product. GDP is calculated by summing up the gross value added of the individual sectors. The GDP is calculated in market prices, including the net indirect taxes on products and imports. GDP is also equal to the sum of corresponding incomes including most importantly wages and salaries, profits and indirect taxes less subsidies. Finally, from the point of view of its use, GDP represents the sum of final consumption, gross accumulation and

net exports. The three ways of looking at GDP show how it integrates the various stages of production.

The system of national accounts includes separate accounts, describing the functioning of the various sectors, including households, enterprises, and government.

Macroeconomic forecasting suffers from weaknesses in the current system of national accounts. The methodology for preparing the national accounts is in many respects fragmented and does not provide a fully coherent representation of the flows of goods and services and incomes in a market economy. The absence of an entirely consistent system of national accounts makes it more difficult to validate and balance the forecast.

The available forecasting technology does not ensure complete consistency of macroeconomic, industries, and sectoral parameters of economic development and of the characteristics of the associated institutional units. The calculation of the macroeconomic, industry, and sectoral parameters and the parameters of the institutional units is carried out independently, and do not quite fully balance.

The forecasting accounts are inadequate for economic policy decision-making. The forecasting technology does not allow the forecasters to carry out complex valuations of alternative

scenarios. The scenarios are evaluated using parameters provided by forecast participants. Consequently, economic policy decision-making can not be based on the aggregated valuation of forecast results.

The financial aspect of the economic development and the system of financial accounts is poorly reflected in the national accounts. This is a major weakness in portraying market economic processes. It raises a serious question about the correspondence of the financial parameters of economic development and the parameters of the real sector development.

National accounts principles suggest that overall summary of the macroeconomic tables should be based on:

- the integration of services as a productive sector in system of accounts;

- the observance in the tables of the principle of double entry (the main principle of the system of national accounts is that the incomes of one sector must be the expenditures of another);

- the consistency of the various accounts, i.e. the availability in the different accounts of the corresponding parameters (in detailed or aggregated mode);

- a detailed description of the financial aspect of the economic development and of the financial flows.

The summary macroeconomic tables need to reflect:

- the main stages of the production process; and

- the interaction between the sectors during the production process and the flows of financial resources between them;

The first group of the tables shows the structure of the GDP from the point of view of the production of the value added, of the sources of the incomes, and of the use of products and services for consumption and accumulation. This group of the summary accounts, reflects the various aspects of economic activity and the main stages of the production process. In the GDP production table, the breakdown of the production of value added by industry is shown. The GDP income table displays the general incomes structure. The GDP use table provides the breakdown by expenditure category. These tables reflect the main parameters of the production process.

The second group of tables is more detailed and shows the economic activity of institutional units and functional directions.

The table presenting the income expenditures balance of households shows the sources of the incomes of the population, their use, and also the savings of the population, which is one of the main sources of investment.

The accounts of government revenues and expenditures are presented for federal budget and the budgets of the members of the federation. The aggregate revenues categories and a functional breakdown of expenditures in the federal budget and budgets of the members of the federation are shown. The balance between revenues and expenditures is the surplus or deficit of the federal government and other executive bodies.

The external economic account reflects the external economic relations, determined on the basis of the balance of payments. This account shows the economic relations between the national economy and the rest of the world. The balancing item of the account (net credit or net draw) corresponds to the volume of financial resources transferred to or received from the rest of the world.

The capital account provides gross savings and investment and shows the sources of the savings (population, enterprises, government and the rest of the world).

The money-credit account should reflect the financial

interaction of the sectors, including money flows and the credit
operations of the banking sector.

The development of an aggregate table of the incomes,
expenditures and financial flows, showing the flows of financial
resources between the institutional units would be useful.

The existing tables insufficiently describe the production
flows between industries and the interindustry interaction. The
solution to this problem would be to develop an input-output table
following the national accounts methodology.

In the former USSR much work was done on input-output tables,
but it was conducted based on the methodology of the national
economy balance, which covered only the material production
sphere. Highly aggregated input-output tables covering 18
industries were prepared annually, and every 10 years detailed
input-output tables for more than 100 industries were developed.
Work was also conducted on material (natural)-value input-output
tables for about 500 products.

Because of the major changes that the economy and society
underwent in the early 1990s and the related changes in the
availability of primary statistics, work on the development of
input-output tables was suspended. However, there is now a revival
of the interest in this tool and the work on the input-output

tables has resumed. The GOSKOMSTAT of Russia has already developed input-output tables for 1991, 1992, 1993 (for 23 industries) following the methodology of the system of national accounts. Work is now underway to develop a detailed input-output table for 1995 that will contain more than 200 industries and will correspond to the methodology of the national accounts. This table should be ready by 1997. The development of input-output tables consistent with the system of national accounts will provide an important tool for forecasting.

The forecasts for the different temporal horizons are organized around different parameters. The short-term and medium-term forecasts emphasize the financial aspects of economic performance, whereas the long-term forecasts are mainly focused on the problems of production, investments, the balance of fixed capital, and the dynamics of major material parameters. Therefore, for the short-term and medium-term forecasts the detailed system of macroeconomic tables of the national account, which could fully reflect the financial aspects of economic activity, provides the framework. For the long-term forecast (and sometimes for the medium-term), the major tools are the integrated production models, and also the input-output tables, which are useful in analyzing the interaction of industries, and the dynamics of the production structure.

5. Prospects for the Development of the State Forecasting

The forecasting process has borrowed much from the old planning process. First of all, there is the interaction between the Ministry of Economy and the other departments and agencies.

This element of the process must be developed and improved, as it is a very important tool for coordinating economic decisions. In the near future, public organizations (for example, trade unions), and representatives of the private sector must become active participants in the forecasting process. Two structures, will be created to facilitate their involvement: one of which will be made up of state bodies; and the other, which will be "tripartite", will include business and trade unions as well as state bodies.

Based on these new structures, the forecasting process will become more and more an exercise in indicative planning, coordinating the interests, requests and claims of the main economic agents.

In addition to creating these new institutions, the organization of the forecasting process must be improved within the Ministry of Economy. This will entail better interaction and coordination among the divisions of the ministry.

There are two different ways to produce an annual forecast:

the first is through a scaled-down exercise; the second is through a full-scale exercise. Under the scaled-down exercise, the macroeconomic parameters are forecast drawing only minimally on the information available from industries and functional divisions. The forecast of GDP is built up from forecasts of: industrial output, agriculture output, investments in fixed capital, construction of residential houses, retail trade turnover, the wages fund, export and import. Under the full-scale exercise, the forecast of the macroeconomic parameters draw on much more detailed information, which define the structure GDP and allow the construction of all the macroeconomic tables of the system of national accounts. For the annual forecast for a given year, the full-scale forecasting exercise could be carried out once, and a scaled-down exercise could be carried out quarterly to stay abreast of fast changing economic conditions.

The most promising way to improve the methodology of the forecast is through the wider application of modeling to produce better quantitative and qualitative results. Now most forecasting parameters are based on the expert valuations. As there is no formal procedure to generate the parameters, arbitrary changes can be made. This reduces the accuracy and reliability of the forecast. The more extensive use of modeling in the forecast would allow a coordinated valuations of all the parameters. If one parameter were changed, it would be possible to follow the induced changes in the other parameters. Such an approach would reduce the

opportunities for arbitrary changes in the forecasting parameters.

The important factor behind the expansion of modeling is the availability of the more information about the functioning of the economy of the Russian Federation under the market. In 1992-1993 it was impossible to build models, especially econometric, because not enough historical data existed. By 1996, however, much more data, particularly quarterly and monthly data, was available on the functioning of the Russian market economy. In addition, the process of transition to the market economy is complete, and it is becoming possible to use trend models.

There are three types of models that can be built:

1. Integrated one-sectoral models. These models are subdivided in two types: short-term forecasting models; and long-term forecasting models. In the model for short-term forecasting (econometric), greater attention is paid to financial and monetary parameters and prices. The model for long-term forecasting is based on the description of the production cycle, and the calculation of the efficiency of the used resources. Experience in developing such models already exists.

2. Detailed econometric models based on the system of national accounts. Such models can be used for short-term and the medium-term forecasting. They take advantage of the framework of

the system of national accounts to present the financial and spending flows in economy that drive production. Up to now such models have not been developed for Russian economy.

3. Models based on the input-output tables, which can mainly be used for the medium-term and the long-term forecasts. Such models reflect the inter-industry interaction and determine the parameters of production in a more detailed way, than the one-sectoral models. As the input-output tables are an integral part of the system of national accounts, such models can be considered as complements to econometric models based on the system of national accounts for producing medium-term forecasts. Experience in developing input-output models already exists, but it must be coordinated with the methodology of the system of national accounts.

Models could be used to produce the annual and medium-term forecasts in the following way. An integrated econometric model could be used to produce the initial first run forecast calculations to start the process off. The results of these calculations could be sent to the forecast participants to be used as assumptions in preparing their own more detailed estimates. Then after receiving the more detailed information back from the participants, an econometric model based on the system of national accounts and input-output tables could be used to integrate the information and make sure that the balancing constraints were met.

This would ensure the consistency of the forecast.

The construction and utilization of such models for the development of macroeconomic forecasts in a combination with the development of forecasting technology should go a long way to improving both the quality and reliability of Russian official forecasts.