JPRS-UEA-84-003

10 February 1984

USSR Report

ECONOMIC AFFAIRS

FBIS FOREIGN BROADCAST INFORMATION SERVICE

NOTE

JPRS publications contain information primarily from foreign newspapers, periodicals and books, but also from news agency transmissions and broadcasts. Materials from foreign-language sources are translated; those from English-language sources are transcribed or reprinted, with the original phrasing and other characteristics retained.

Headlines, editorial reports, and material enclosed in brackets [] are supplied by JPRS. Processing indicators such as [Text] or [Excerpt] in the first line of each item, or following the last line of a brief, indicate how the original information was processed. Where no processing indicator is given, the information was summarized or extracted.

Unfamiliar names rendered phonetically or transliterated are enclosed in parentheses. Words or names preceded by a question mark and enclosed in parentheses were not clear in the original but have been supplied as appropriate in context. Other unattributed parenthetical notes within the body of an item originate with the source. Times within items are as given by source.

The contents of this publication in no way represent the policies, views or attitudes of the U.S. Government.

PROCUREMENT OF PUBLICATIONS

JPRS publications may be ordered from the National Technical Information Service (NTIS), Springfield, Virginia 22161. In ordering, it is recommended that the JPRS number, title, date and author, if applicable, of publication be cited.

Current JPRS publications are announced in Government Reports Announcements issued semimonthly by the NTIS, and are listed in the Monthly Catalog of U.S. Government Publications issued by the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.

Correspondence pertaining to matters other than procurement may be addressed to Joint Publications Research Service, 1000 North Glebe Road, Arlington, Virginia 22201.

JPRS-UEA-84-003

10 February 1984

USSR REPORT

ECONOMIC AFFAIRS

CONTENTS

ECONOMIC POLICY, ORGANIZATION AND MANAGEMENT

GOSPLAN OFFICIAL DISCUSSES PRODUCTION INTENSIFICATION

Moscow PLANOVOYE KHOZYAYSTVO in Russian No 12, Dec 83 pp 29-36

[Article by Doctor of Economic Sciences V. Kirichenko, director of Scientific-Research Institute of Economics attached to Gosplan USSR: "On Certain Features of the Present Stage of Production Intensification"*]

[Text] It was emphasized at the June (1983) Plenum of the CPSU Central Committee that our country in the course of social development has reached that historical position where profound qualitative changes have become imminent and inevitable in productive forces and corresponding to this production relations. "The main way for a qualitative shift in productive forces," Yu.V. Andropov pointed out in his speech at the plenum, "is, of course, through a transition to intensive development and a union in fact of the advantages of our socialist system with the achievements of the scientific-technical revolution."[1]

The intensification of public production is the pattern of expanded socialist reproduction under conditions of developed socialism. It has been made ready by all the preceding development of the economy and the achievements and requirements of scientific-technical progress, is based on its potential prospects and corresponds to the foreseen objective conditions of providing the national economy with resources.

Transition to an intensive type of reproduction signifies such qualitative changes as a result of which production growth (rise of its end results) outstrips the aggregate volume of used resources, the share of growth of results increases, being formed in consequence of the growth of effectiveness of resource utilization, which becomes predominant. In other words, the process of intensification is aimed at ensuring further economic growth principally by improving and boosting utilization of resources rather than through growth of

---

* By way of formulation of certain questions.

1. "Materialy Plenum Tsentral'nogo Komiteta KPSS 14-15 iyunya 1983 goda" [Materials of Plenum of the CPSU Central Committee of 14-15 June 1983]. Moscow, Politizdat, 1983, p 10.

their volume. The transition to an intensive type of reproduction is marked by that part in growth of end economic results which results from increased effectiveness of production.

Intensification of production should result in higher over-all effectiveness of resource utilization. It cannot be judged solely according to the character of use of one of them inasmuch as success in economic utilization of one form of resources frequently requires additional outlays of another form of them. Thus, boosting of labor productivity and consequently reduction of labor intensiveness are achieved through a larger capital-labor ratio and, during periods of active replacement of live with embodied labor (incorporated in means of labor), reduction of labor intensiveness is accompanied by a higher capital-output ratio of production. Fuller utilization of raw and other materials and fuel and their thorough processing at certain stages require new technologies and consequently additional involvement of means of labor, as a consequence of which reduction of materials intensiveness may be accompanied by a higher capital-output ratio of production. Finally, at a high level of technical and technological perfection of production, with the attainment of its sectorial and intersectorial structure, reduction of the capital-output ratio of production with simultaneous reduction of its labor and materials intensiveness becomes realistic.

All these are different stages of production intensification with their own special features, specific accents in investment, technical, structural and social policy, in improving of planning and economic stimulation and in the direction of socialist competition. The present article makes an attempt to cast light on the basis of materials of research conducted at the Scientific-Research Institute of Economics attached to Gosplan USSR on certain economic features of the present stage of intensification of public production, the consideration of which is important in forming current and long-range plans of the country's economic and social development.

First of all, the attained degree of intensification and a trajectory of its change. The evaluations necessary for this were obtained as a result of calculations based on models of type of production function, where the growth of national income with the growth of combined outlays of resources (labor and capital) is interpreted as growth resulting from extensive factors and growth of national income above this mark as the result of operation of intensification factors. According to the calculations, the highest share of intensive factors in growth of national income was in the 8th Five-Year Plan (1966-1970), quite favorable on the basis of indicators of effectiveness and dynamics of economic growth. In the course of the subsequent two five-year plans, a certain reduction of this share occurred, which is connected to the tendency of reduction of average annual growth rates of the national income (2.1 points in the 9th and 1.1 points in the 10th Five-Year Plan in calculations based on used national income). The share of intensification factors in growth of the national income for the 10th Five-Year Plan amounted to slightly more than 20 percent. Thus by the beginning of the '80s, the process of intensification was in the initial stages. The transition to an intensive type of reproduction with a predominance of efficiency factors in the growth of its results is a long-term process. It retains its importance as the central task of economic policy for a considerable period of time.

The planned targets of the current five-year plan aim at significant economy of material resources, higher labor productivity, an advancing growth rate of end results compared to increased use of resources (manpower, capital investment, fuel and power resources) and consequently at a significant rise in the share of intensive factors in ensuring growth of the national income. The actual results of economic activity in 1981-1982 showed a tendency for its actual rise. Thus the beginning of the '80s was marked by a positive change in the dynamics of intensification of public production.

A special feature of this process at the present stage and in the immediate future is that the most important reserves for boosting of efficiency are to be found in existing production. The decisive means of intensification at this stage is improvement in the use of the already created potential. The most immediate goal is clear," Yu.V. Andropov said, "first of all it is necessary to introduce order in that which we have and to ensure the most intelligent use of the country's production and scientific-technical potential, including overcoming the lag of such sectors as agriculture, transport and the service sphere."[2]

An important economic reason operating against maximally effective use of the created production apparatus is the discrepancy between the dynamics of fixed capital and the number of persons employed due to the specific character of capital reproduction and to deficiencies in the use of live labor. Analysis shows that in the past 10 years about one-third of the growth of fixed production capital has not been utilized sufficiently effectively. The capacities of a number of enterprises engaged in machine building, chemistry, production of construction materials and certain kinds of production operations in the light and food industry are not fully supplied with raw-material resources. As a result, the degree of use of a number of various capacities of operating production is below the potentially possible. For this reason, expansion of the process of intensification is largely determined by the solution of such a very important economic planning problem as provision of balance of production at national-economic, intersectorial and intrasectorial levels. The main factor here is sound and rational distribution of existing resources, making it possible to "open up" tight spots, to raise the level of proportionality and to ensure fuller use of the already created potential.

At this stage, special importance is to be attached to those structural changes and measures for raising the technical level of the production apparatus which have for their aim the utmost economy of fuel, power, raw-material resources and materials. The targets of the 11th Five-Year Plan are revealing in this regard: economy of rolled ferrous metals in 1985 in industry and construction is to amount to more than three-quarters of the planned growth of rolled products output for the five-year plan and the size of fuel economy planned for 1985--two-thirds of the planned growth of its production. The scale of economy is becoming quantitatively comparable to the possibilities of additional production of many types of resources and with respect to capital intensiveness

---

2. Ibidem, p 11.

economy measures are more beneficial than expenditures providing for growth of production. Under present conditions, it is only possible to solve the problem of reducing capital intensiveness in the national economy through reduction of relative requirements for fuel and raw materials as highly capital intensive forms of production.

A special feature of the present stage of intensification of public production is that its expansion is achieved simultaneously with necessary measures for strengthening of such production elements as are highly resource intensive. For example, development of the infrastructure requires considerable outlays. During the current five-year plan, 6 superlong arterial gas pipelines with a total length of 20,000 km are being built at a cost of 25 billion rubles. Bolstering of the raw-material base of a number of sectors calls for significant investment.

The general conclusion is that the achieved level of intensification and the possibilities of the economy to provide for a transition to an intensive type of development are such that in the immediate future the process of reproduction and deepening of intensification will be carried out on the basis of simultaneous involvement in economic turnover of additional resources (albeit at lower dynamics than earlier) and higher efficiency of their use. The need for capital investment remains particularly high both for the solution of accumulated problems and for the development and expansion over the long term of production intensification. Providing for these needs remains a key problem of planning.

The situation is here complicated by a lower growth rate of capital-investment resources and, what is particularly important, by structural changes in sectorial distribution of capital investment.

Reference is made to the significant growth of the share of agriculture and of sectors of the fuel-power complex in the utilization of investment resources. The scale of this redistribution was quite considerable. The share of capital investment allotted to agriculture has grown from 19-20 to 27 percent. This process was most intensive in the 8th and 9th Five-Year Plans (1965-1975). After that, the share of agriculture in capital investment stabilized and will be retained in accordance with adopted political and economic planning decisions at the attained level in the immediate future.

During the 10th Five-Year Plan, the share of investment changed sharply in the sector of the fuel and power complex. After an extended period of decrease, it began to increase sharply: from 32 percent in 1971-1975 to 38.5 percent in 1976-1980 in the total volume of capital investment in industry. The 1981-1985 plan proposes its further rise.

The reasons for the need for such reorientation of the reproduction processes have been thoroughly disclosed and widely shown in the economic literature. It was socially and economically perfectly justifiable. But objectively this meant primarily directing reproduction resources into a production sphere characterized by a relatively high and growing capital intensiveness (for example, the capital intensiveness of production of sectors of the fuel-power complex significantly exceeds the average industry level). This has held back

the intensification process and the growth rate of end economic results. For example, if in the years of the 10th Five-Year Plan, the capital-investment structure had not undergone any change, it would have been theoretically possible to count on a higher than actual growth rate of utilized national income.

The high degree of concentration of capital-investment resources in capital-intensive sectors of the national economy limits the mobility of its distribution by sectors of the national economy. In particular, it limits the possibility of more rapid development of less capital-intensive sectors and forms of production, which is of decisive importance for the intensification process. For example, despite the above-mentioned significant changes of the capital-investment structure, the machine-building share practically hardly changed.

Capital-investment insufficiency for many sectors, which is inevitable with such a significant change of its structure in favor of agriculture and the fuel-power complex, intensified the accumulation of their unsatisfied need for dynamic and proportional development of a number of sectors and realization of intensification of the national economy as a whole. It should be particularly noted that planning practice runs into insufficiency of resources for the development of the infrastructure, reduction and elimination of production losses, mechanization of labor, renewal of obsolete equipment, overcoming certain weak spots in supplying capacities with raw and other materials, change of assortment of produced output in favor of its economical and progressive types. In the light of the requirements of intensification, these tasks cannot be postponed, they must be resolved. A marked accumulation is going on of "deferred demand" for investment resources.

At the same time, it should be pointed out that existing cases of insufficiently rational use of capital investment and growing insufficiency of investment resources have given rise in economic practice to the view that an essential condition for improved use of resources and regulation of further economic development is reduction of capital-investment growth.

Actually, there has been a slowdown in capital-investment growth during the 10th and 11th Five-Year Plans. This is due to the need to reduce tension in the national economy and to shift the center of gravity in investment activity from expansion of resources to raising their technical level and quality. But this practical economic maneuver has not been realized sufficiently consistently. Despite the reduced growth tempo of capital investment, the construction front (growth of aggregate estimated cost of facilities being simultaneously erected) continued to expand, the share of started construction has grown, scattering of capital investment has not been reduced over a large number of carry-over and newly started construction items and the cost of a newly started unit of capacity has risen. It therefore appears advisable to have a simultaneous implementation of measures for radically improving capital-investment use and for maintaining investment activity at an adequately high level.

The need not to reduce but to boost somewhat investment activity within objectively permissible limits is dictated by a number of circumstances, including

tasks of creating durable bases for deepening of production intensification. Thus production intensification presupposes acceleration of processes of renewal of the existing production apparatus and the replacement of actually obsolete fixed capital. According to our calculations, during the last 5-year period of the 20th century, the need for capital investment for replacement of retired fixed production capital is significantly growing compared to the 10th Five-Year Plan. There is a growing need for compensation of further reduction of the growth of labor resources engaged in material production and additional growth of the capital-labor ratio. The continuing tendency for growth of the capital intensiveness of the fuel industry and agriculture also requires additional resources. Moreover, in a number of sectors and regions, especially where significant labor resources are to be found, it will be necessary to carry out new construction. For growth of production efficiency, a significant expansion will be required of housing-everyday and social-cultural construction.

Under these conditions, further slowing down of the growth rate of capital investment would lead to a sharp and absolute reduction of resources for expanded reproduction and for an active structural reorganization of production. For this reason it would appear to be timely and important in determination of prospects of economic development to aim at finding possibilities for a certain rise in capital-investment growth rate. Naturally they would have to be aimed not at an extensive expansion of the production apparatus, bringing with it an increase in the number of work places but primarily at modernization, requipment and reconstruction of existing production and replacement of physically obsolescent equipment with new high-efficiency equipment and at increasing the volume and share of equipment as part of capital outlays without a significant increase of construction and installation work.

The solution of tasks of providing expanded reproduction and deepening of the process of intensification of production operations also requires the correction of structural policy and maneuvering of capital investment for the purpose of attaining as large as possible end economic results. The necessity of raising the technical level of the production apparatus and of wide-scale introduction of resource-saving technologies and, in the final analysis, of a significant rise of labor productivity bring to the foreground questions of further development and boosting of the technical level of machine building. It plays a decisive role in providing technical prerequisites for production intensification. This, like a number of other circumstances (for example, the need to expand the country's export potential) determines machine-building development (first and foremost manufacture of production equipment) as a priority direction in technical and structure development over the long term and in allocation of economic resources and the search for a more rational structure of capital-investment allocation allotted for the agroindustrial complex. A tremendous resource for increasing the end production of the complex lies in sharply curtailing losses of agricultural production. Measures for realization of this task are less capital intensive as a rule than measures relating to growth of agricultural production. In particular, increasing the volume of used grain through reduction of its losses requires almost one-quarter less in cost than its additional production (computed per production unit). Whereas 1 ruble of capital investment in agriculture during the 10th Five-Year Plan

results in 10-15 kopecks of growth of its production, that same ruble aimed at the elimination of losses could have produced end production of more than 80 kopecks for the agroindustrial complex. Thus curtailment of losses of agricultural production is a priority direction in boosting the effectiveness of expenditures within the framework of the agroindustrial complex.

Losses of agricultural production are frequently due to inadequacy of technical equipment in agriculture and to the lag of capacities for transportation, storage and quality processing of finished agricultural production.

The elimination of these causes would require improvement of the structure of the material-techical base of the agroindustrial complex. In the '70s, it (in terms of production capital) changed in the following manner: the share of the first sphere of the agroindustrial complex (the production of means of production for agriculture, food and light industry) and the second (strictly agriculture) grew while the share of the third (light and food industry) became smaller. As a result, somewhat more than one-fourth of the fixed production capital of the agroindustrial complex belongs to the first and third sphere, while somewhat less than three-fourths comes under the share of agriculture. At the same time, in countries with a highly-developed and effective agroindustrial sectors of the economy, the share of the first and third spheres amounts to roughly two-fifths and the third sphere (agriculture)--three-fifths. Higher effectivenes of the operation of the agroindustrial complex preupposes a change in the distribution of resources among the spheres of the complex in favor of production of the means of production and expansion and rise of the technical of capacities for processing of agricultural production.

For this end it makes sense, in our opinion, to use the portion of funds allocated for agricultural land reclamation. The total fund of improved land amounts to more than 35 million hectares and is a powerful factor for stabilization of farming, the source of production of one-third of the gross production of crop farming. At the same time, the capital investment allocated for land improvement is still not providing a full return. On improved land, there is a shortfall of roughly one-third of harvested production compared to the projected amount. This is primarily the consequence of the fact that considerably more attention (and funds) is being paid to new water-management construction and disproportionally little attention is being paid to the economic development and increased yield of reclaimed land. For its agricultural development, only about one-tenth of the total volume of capital investment for is allocated for land reclamation.

Major possibilities of raising production efficiency lie in increasing economic initiative and responsibility of primary production units--associations and enterprises. Realization of the decree of the CPSU Central Committee and the USSR Council of Ministers "On Additional Measures for Expanding the Rights of Production Associations (Enterprises) of Industry in Planning and Economic Activity and for Increasing Their Responsibility for Work Results" is of tremendous importance for the realization of reserves existing here for production intensification and higher efficiency. It is aimed at ensuring fuller correspondence between the production activity of associations and enterprises and social needs and strengthening of their interest in maximally full use of

their available production capabilities for raising the efficiency of existing production. At the same time a centrally organized system of economic levers is intended to create locally those economic conditions that would orient operational units to priority observance of nationwide interests in the process of plan development and fulfillment. This is most pertinent.

Practical operational experience shows that an uncorrected economic mechanism leaves them wide room for actions performed ostensibly in the interest of cost accounting yet resulting in impairment of national-economic interests. Here we have in mind washing out of a cheap assortment of many goods, pressure on wholesale prices (to which in a number of cases state price-forming organs yield in the final analysis), consistent overuse of wage and bonus funds whose growth is found to be insufficiently strictly connected to the end operational results of enterprises and associations and to the fulfillment of production volume plans, assortment of products and to labor-productivity plans, existence of above-norm stocks of physical assets (used by way of uncontrolled volume with other enterprises for nonplan obtaining of deficit resources) and the like. This means that the expansion of economic rights of enterprises and associations should be carried out in a single complex of measures relating to the improvement of the economic mechanism as a whole (planning, economic stimulation, organizational structure, current management and control) and balanced with measures for increasing the economic responsibility of enterprises and associations for the satisfaction of social needs and effective utilization of economic resources granted them for management.

The central question continues to be the problem of improvement of planning. The fact is that the plan is that core around which the system of economic mechanisms must realistically and reliably operate (economic norms, material provision of funds for the development and stimulation of enterprises and others). But repeated change in the course of a year of plan targets reaching ministries makes feverish the operation of enterprises and upsets the stable purposefulness of their work. For this reason, in addition to measures for eliminating petty surveillance of enterprises, it is necessary to prepare changes in the procedure of planning, making it possible to realistically include enterprises in working out of plans and providing for their stability.

Expansion of the process of intensification, broadening of associations' economic independence and growth of their role in the planning process presupposes a higher degree of concentration and the forming of an effective structure for associations reducing the number of external ties and strengthening internal ties necessary for the attainment of the end national-economic result.

The occurring process of forming associations (to the slogan of reducing the link character of management) has not definitively solved problems of creating an optimally built and organizationally strong primary unit of production. Many associations are such only formally. The reason is that this process goes on within the framework of departments and is subordinated to an already existing departmental structure. In many cases, it has been impossible to attain a truly effective organization for associations because of enterprises belonging to different departments.

In the forming and improvement of the association structure, in our opinion, we should be guided by the principles of concentration, specialization, cooperation and combination of production (while taking into account the shared character of production processes, similarity of production output, complexity of processing raw materials and so on). At the same time, it is necessary to keep in mind that a created association is intended to satisfy a certain end social need (for example, an association of the machine-building type should have for its objective not simply the production of a certain type of equipment but should also expand its functions to its installation at enterprises that are being built or reconstructed and to after-sale servicing of it at the user's site.

The question is repeatedly raised in the press on the forming of production associations on a nondepartmental basis. It is quite clear that its solution is becoming increasingly obvious. The attainment of such an approach will make it possible to weigh the efficiency of departmental structure and to increase or reduce the number of secondary and higher levels of sectorial management.

Thus, analysis of certain aspects of the present stage of intensification of public production shows that its further progress will primarily depend on the solution of such most important economic planning tasks as strengthening of balance in economic growth, improving the structural policy and scientific validity of priority directions in the use of limited production resources, raising the level of planning and improving the organizational structure of management.

7697
CSO: 1820/36

PRINCIPLES OF COMPLEX PLANNING REVIEWED

Moscow PLANOVOYE KHOZYAYSTVO in Russian No 10, Oct 83 pp 11-20

[Article by B. Smekhov, professor and doctor of economic sciences: "The Principle of Comprehensive Planning.]

[Text] One of the most important problems solved in working out plans for the country's economic and social development is the provision of plan integration. Developed socialism is characterized by an increased complexity of intersectorial and interrayon ties, and their disruption in one sector is reflected in the entire national economy.

In a speech presented at the June (1983) Plenum of the CPSU Central Committee, Yu. V. Andropov noted that we have accumulated definite experience in comprehensive planning, citing the Food and Energy Programs as examples. "However," he continued, "the shortcomings in our planning are also well known: the unsubstantiated dispersion of resources, the lack of plan balance, and the gap between the commodity goods and the income of the population."[1]

What is the essence of the principle of comprehensive planning and what are the means of its subsequent implementation?

Essence of the Principle of Comprehensive Planning

The basic method of socialist planning is the balance method. This follows primarily from the economic law of planned development, whose requirements are realized by means of planning. Establishing the correspondence between resources and their application within the entire system of interrelated material, labor and cost balances is objectively necessary and possible in socialist economic management.

Certain plan assignments, particularly those of an organizational character, do not require balance tie-in with resources. However, in the overwhelming majority of cases, the reality of plan decisions is conditioned by their provision with materials, labor and financial resources. Therein lies the generality of the balance method of planning at all levels of management.

Sometimes the balance method is also equated with such planning methods as the normative, target, etc. However, in a quantitatively determined form, neither a norm nor a target assignment can be established without a balance

tie-in of resources and their application. Moreover, and this is the main point, it would be wrong to reduce the balance method to the balance form. Specifically, scientific methods of balance work include the normative method, since progressive norms are the basis for coordinating resources with the demand for them.

The economic laws of socialism operate within their interrelation. If the balance form directly reflects the requirement of the law of planned development, then the content of the balance method represents a goal-oriented, most effective coordination of resources with their application, dictated by the requirements of the basic economic law of socialism and the law of continued increase in the productivity of social labor.

One of the scientific methodological bases for the development of balances is the application of the principle of comprehensive planning. It is closely tied with Lenin's idea of the unity of the entire system of plan decisions at all levels. "All the plans for individual sectors of production," said V. I. Lenin at the 8th Congress of Soviets, "must be strictly coordinated, tied together, and together must comprise that single economic plan which we need."[2] It is no accident that V. I. Lenin, dedicating his article to the GOELRO [State Commission for the Electrification of Russia] plan, entitled his article "On a Single Economic Plan."

The essence of the principle of comprehensive planning consists of the fact that in socialist economics, not a single plan decision should be adopted outside of its connection with the national economic whole. This principle not only does not contradict, but also presupposes economic management on the basis of democratic centralism. Undoubtedly, numerous questions of management and planning at the enterprises themselves do not require any changes in the basic inter-economic ties and must be resolved locally, on site. "We must fight," wrote V. I. Lenin, "against any sort of banality and efforts to establish uniformity from above... Unity is not disrupted in its basic, radical, essential form, but rather is ensured by multiplicity in detail, in local peculiarities, in means of approach to a matter...".[3] However, questions of the development of individual regions of the country and segments of the economy which touch upon other regions and segments must be resolved only in a coordinated manner and require comprehensive coordination with plans for the development of the entire national economy.

Comprehensive planning presuposes plan balance, but it not reduced to it. Balance means correspondence of certain indicators to others, for example, tasks for product production in certain sectors to the planned volumes of their consumption in others, tasks on the growth in labor productivity to the planned distribution of labor resources, etc. However, in each specific period such balance may be achieved with the most varied levels of effectiveness, depending on the end results of activity of the planned group of sectors or the entire national economy. However, the principle of comprehensive planning requires subordination of balance between the parts to the interests of the whole--the provision of maximally possible end results with minimum expenditures. This is unrealistic without plan balance, but only a comprehensive target approach to the variants of the latter makes it possible to realize the achieved

maximum in the end results.

The objective possibility of harmonic development of a multi-sectorial economy as a single whole first emerges on the basis of public ownership of means of production and is realized by means of planning. However, the planned nature of the socialist economy does not exhaust its integrity. The direction of the development is important. After all, balance in the economy is not an end, but merely a means toward attaining an end. Therefore, not all kinds of balance in the development of economic sections answer the integrity of socialist economics, but only those end results which are subordinate to a maximally possible degree to requirements of the basic economic law of socialism, the goal of increasing the public well-being.

At the same time, we cannot forget that we are speaking of the integrity of economic sections which, though interrelated, are nevertheless qualitatively different. First of all, the end results of their operation are qualitatively different, i.e., those results which satisfy the needs of other sections of the economy. Furthermore, the needs to which the development of the national economy is subordinate are qualitatively different. Therefore, complex planning of the economic system presupposes the substantiation of certain structural changes within the planned complex.

The coordination of the goals pursued by different sections for the purpose of the entire national economy represents a difficult problem. Its practical solution depends not only on the quality and balanced nature of the plan, but also on the efficiency of stimuli for fulfilling contract responsibilities to consumers.

Integration of Multi-Deadline Planning

Long-term, medium-range and annual plans, while differing significantly from each other, at the same time form an integral whole subordinated to a single purpose. Therefore, it is correct to speak of comprehensive planning for different time periods. The strategic and tactical tasks for socio-economic development are solved simultaneously in plans for any time period. However, the methods of their solution and not uniform and depend on the duration of the plan period.

Annual plans contain concretely defined tasks which are dictated by long-range problems. This relates primarily to programs in construction, geological survey and project design work, personnel training, etc. Such annual tasks may be substantiated only in the long-range plan from the standpoint of the ultimate goal of developing the socialist economic system. In particular, the accumulation fund cannot be substantiated either by volume or by material and physical composition without the aid of long-range computations for a number of coming years. The facilities and locations which will become operational in the course of the year are, as practice has shown, 97 percent predetermined by the inventory of semi-finished products created in past years. The reconstruction, expansion and new construction of production facilities begun in the current year will yield their effect on increasing the public well-being far beyond the limits of this year. Which variants of newly started

construction are the most preferable? Only comprehensive national economic computations for 10-15-20 years make it possible to answers this question.

At the same time, long-term plan projections develop by five-year and annual periods, since the sequence of implementation of long-range type work determines the dynamics of a balanced economy. In particular, it is necessary to foresee such deadlines for start and completion of construction of specific facilities as would ensure synchronous growth in capacities throughout contiguous sectiors and in the necessary proportions.

V. I. Lenin stressed that "it is impossible to work without having a plan computed for a long-term period and aimed toward serious success."[4] At the same time, he believed that the realization of such a plan requires maximum attention to the current plans. Referring to the GOELRO plan book, V. I. Lenin wrote: "When I have before me the people who wrote this book, I would point their noses not at the book, but away from it--toward the questions of current economic plans." Further there follows a specific indication of the distribution of forces in the Gosplan: "1-2 subcommissions on electrification, 9-8 subcommissions on current economic plans."5

Thus, the point is not in the "importance" and "unimportance" of plans for different periods, but in a comprehensive approach to their coordination. With such an approach it becomes evident that even in a five-year plan without specific computations for 10-15 years ahead, the construction program cannot be substantiated in a comprehensive manner more than half-way from the standpoint of the ultimate goal of economic development. The following computation is evidence of this fact.

In the 10th Five-Year Period, the volume of state capital investments comprised 568.3 billion rubles. Of these, no less than 346 billion rubles, or 66 percent, could not affect the satisfaction of ultimate needs within the limits of the 10th Five-Year Period. (This includes 108 billion rubles invested in unfinished construction for the end of the five-year period and around 238 billion invested in fixed capital placed into operation in the period from mid-1979 to the end of 1980). This means that in the five-year plan approximately two-thirds of the capital investments require substantiation of their distribution by sectors, rayons and facilities from the standpoint of needs for a future period beyond the planned five-year period.

One of the reason for underutilization of capacities in the processing sectors is the fact that growth in the capacities of raw material sectors has lagged. Such non-correspondences were noted in machine building and certain other sectors. The root of the disbalance in capacities lies in the absence of the required integration of plans for different time periods.

It would be a gross error to say that general predictions alone could suffice for 10-20 years ahead. The comprehensive program of scientific-technical progress for 20 years is intended for substantiation of plans for 10 years and for the forthcoming five-year period. Therefore, it must first of all be balanced and, secondly, sufficiently specific at least on the part of major capital construction.

There are questions whose solution does not require going beyond the limits of the yearly period in planning. For example, in planning the provision of balance in supply and demand, the center of gravity, naturally, is shifted to current planning--annual, quarterly and monthly. However, the possibilities of solving the problem of balance are generally limited by those proportions between the productive capacities of different sectors which are formed as a result of fulfillment of long-range plans for capital construction. It is only in that measure to which the same capacities allow the manufacture of products of different type and grade dimensions that current planning is free in selecting variants of production and consumption.

Long-range plans play a decisive role in formulating the proportions between non-interchangeable capacities. The nomenclature of such capacities is very great and encompasses approximately 60,000 aspects of production. However, this does not mean that all of them must be centrally planned and that their construction must be included in the state long-range plan. The limitations adopted in practical application are fully substantiated. The USSR Council of Ministers ratifies the title lists of only the most important construction sites of production purpose, while the USSR ministries and departments and the union republic councils of ministers ratify the title lists for construction sites with estimated cost of 3 million rubles or most in accordance with the USSR Gosplan. All other sites with estimated cost under 3 million rubles are ratified by the appropriate sectorial and territorial organs without coordination with the USSR Gosplan within the general limits of capital investments. However, regardless of which sites are ratified by whom, the long-term plan must be substantiated by a specific distribution of the production savings fund between different types of capacities. This is important in principle for ensuring comprehensive planning through time.

In connection with this we must speak of one of the manifestations of thought inertia. Sometimes the presupposition that the duration of the plan period determines the degree of specificity of plan assignments is encountered in the literature. This is true if we keep in mind, for example, the assortment of bakery products, the selection of fabrics by article, the assortment of ball bearings by size, and the specified grading of rolled stock. However, the plan for increasing productive capacities is quite another matter. Only in the long-range plan can specific sectorial proportions of increasing capacities and their location with distribution by year within the perspective period be substantiated. Without such substantiations, it is necessary to plan new construction starts and reconstruction as being approximate to a certain degree. The negative consequences of absence of necessary complexity in multi-deadline plans are expressed in the tension of balances for many means of production and in a certain non-correspondence of the newly created work areas with the possibility of their provision with qualified workers.

The absence of the necessary integration in multi-deadline plans often facilitates substitution of the plan by a prognosis. Here different questions are mixed together. The prognosis answers the question: "What will happen if?...", while the principle of integration in multi-deadline plans requires an answer to the question: "What must we do to move toward our goal more rapidly?"

Obviously, predictions of demography, scientific-technical progress, and mineral reserves are necessary for long-range planning, but the plans themselves, no matter what period they are compiled for, are programs of action. Academician S. G. Strumilin noted that "the longer the times of long-range planning, the less reliable the methods of long-range prediction appear, but the broader the perspectives for conscious attainment of the tasks presented by the plan in the presence of reliable management with long-term perspective."[6]

Five-year and annual planning objectively requires coordination with the long-term perspective. Therefore, a comprehensive program of scientific-technical progress for 20 years, in our opinion, should be augmented by a balanced long-term plan for the country's economic and social development and presented by five-year periods. Of course, the latter may in many sections be expressed by aggregated indicators, but it must be specific in terms of the construction of major facilities, scales and directions of geological survey and survey project work, and preparation of engineering-technical personnel and workers according to professions and specialties.

Integrating Sectorial and Territorial Planning

The objective basis for complex coordination of plans for the development of sectors and regions is unity of the ultimate purpose. However, the local goals of sectors and regions may not coincide. For example, for one sector it may be easier and more economical to set up a network of enterprises in settled regions, with ready communications and a developed infrastructure. At the same time, undeveloped regions require that the product of this sector be produced on site. From a social point of view--from the standpoint of the ultimate goal--it may be necessary to resolve the question in favor of the undeveloped regions. In other cases, the desire by local organs to develop primarily those sectors which are in some way more beneficial to the region must be curved if this detracts from the interests of sectors of all-union specialization. In such cases, all the regions and sectors ultimately "win out", since the improvement in the end results of social production on the whole increases the possibilities of satisfying the basic interests of the people.

In practice, the coordination of sectorial and territorial planning encounters certain difficulties. Evidence of this fact may be crossing and inexpedient shipments, delays in the development of a productive and social infrastructure by the sectors, particularly in newly developed regions, difficulties in providing newly operational enterprises with a work force, lack of coordination in times for creating capacities of contiguous sectors in the regions, etc.

The coordination of the country's interests with those of the union and autonomous republics plays a great role in ensuring integration of sectorial and territorial planning. In his speech, "Sixty Years of the USSR," CPSU Central Committee Secretary General Yu. V. Andropov said: "Modern productive forces require integration even when we are speaking of different countries. Moreover, they require close and skilled association of efforts by different regions and republics within the same country. The most prudent application

of natural and labor resources and climatic peculiarities in each republic and the most rational inclusion of this potential into the all-union potential--this is what will bring the greatest benefit to each region, to each nation and nationality, as well as to the state as a whole." For this, as indicated in the speech, "it will be necessary to further improve the location of productive forces, regional specialization and cooperation, schemes of economic ties and shipments. The task, of course, is not an easy one, but its time has come and its solution promises significant benefit."[7]

What are the means of solving this problem? We believe that the main point consists of developing and improving long-term planning. Significant changes in the geography of sectors and in the sectorial structure of economic management of union republics and economic regions require considerable time. In spite of the importance of reconstruction and technical re-tooling of operating enterprises, new construction sites cannot be rejected, particularly in the eastern and northern regions of the country. However, the question is: what construction should be begun, and where? In order to ensure a dynamic balance of the capacities of different sectors introduced into operation in a territorial cross-section, there is no other way but to work out current plans for new construction starts based on a long-term specific program of locating productive forces. Such a program is nothing other than a title list of capital construction planned for at least 10-15 years ahead.

Obviously, such a title list may be limited to major construction sites. These are relatively few, but the overwhelming portion of capital investments is directed toward them. At the present time, construction sites with cost exceeding three million rubles comprise one-third of all production facilities under construction, and by estimated cost--95 percent of all construction sites.

Stability of construction programs is necessary for ensuring comprehensive development of sectors and regions. It also depends on the concretization of long-range plans in the form of a list, time estimates, locations and cost of future major sites. However, this is only one of the conditions for plan stabilization. It is necessary to change the order of formulating title lists for capital construction in the five-year plans.

Correcting of the estimated cost of construction sites in the direction of increase significantly puts off the times of operational introduction of the facilities. It entails correction of plans in machine building, production of building structures and construction materials, metallurgy, etc. All this disrupts the coordination between the development of sectors and regions.

One of the main reasons for correcting plans for capital construction is that in the basic plan document--the five-year plan--most facilities under construction have only a preliminary noted cost estimate. As a rule, it is quoted lower to be more easily included in the title list proposed by the construction ministries. An analysis of the survey data for most enterprises placed into operation after 1970 showed that the cost of construction turned out to be 14 percent higher as compared with the estimated cost in the food and light industry, and 10 percent higher in the building materials industry, with a significant lag in the technical-economic indicators behind the planned

values. All this entails serious changes in the proportions laid down in the five-year plan, as well as a disruption in the integration of sectorial and regional development. Therefore, it is expedient to create guarantees of invariability of the basic parameters for building sites included in title lists for the five-year plan. One of the guarantees is seen as the prohibition of inclusion of sites and facilities not having ratified plan-estimate documentation in the title list for the five-year period (and not only for the one-year period). The five-year period is not such a long time that it is impossible to comprehensively substantiate the estimated cost of a facility even if its construction start is dated to the last year of the planned five-year period.

Aside from this, it is evidently necessary to intensify economic stimuli for increasing the accuracy of cost estimate computations at the planning stage. The low cost of our project plans, whose price comprises 1-2 percent of the cost of the planned facilities (as opposed to 10-15 percent in world practice) ends up with large additional expenditures in the process of building and operating the facilities, covering many times over the savings in planning.

Comprehensive Planning of Material, Labor and Cost Proportions

The objective necessity (and not only the possibility) of planning the national economy signifies the need for conscious determination of the best means of utilizing resources for maximally possible satisfaction of the people's needs. However, neither capacities nor needs show up directly in cost form. Only after the material-physical and labor connections in the national economy are established is it possible to substantiate the necessary changes in cost, commodity-monetary ties and to determine the dynamics of cost standards, rates, incentive funds, etc.

Thus, the development of a plan for ensuring integration of material, labor and cost forms of reproduction presupposes a certain sequence in establishing adequate indicators in accordance with their objective interdependence. The selection of the best variant for joining material-technical labor resources from the standpoint of the ultimate goal--this is the problem which is primarily solved in planning. This does not require specific cost forms. Obviously, comparable prices utilized for determining the dynamics of physical volume of certain material goods are not related to them. The entire system of specific plan cost indicators is subordinated to the task of fulfilling the material and labor assignments. The balances of income and expenditures by the state, organizations and the population are built on the basis of planned prices, tarrifs, labor wage standards, deductions to incentive funds, etc. All this may be determined for the planned period only on the basis of already established material and labor proportions of national economic development.

Any economic computations are bilateral: they represent computations of expenditures and computations of the effect obtained from the expenditures. Expenditures have different forms, but are alike in their essence. Therefore they are reduced to a single entity by means of a common unit of measure--expenditures of social work time, and with consideration for labor reduction--expenditures in a monetary expression. However, the effect from the expenditures

in the overwhelming majority of cases requires the comparison of different elements comprising this effect. Such a comparison may be performed, but only not according to the formula of "less-more", but by the formula "worse-better". If we are speaking of an industrial enterprises, the question arises regarding evaluation of the quality of the entire product assortment from the consumer's standpoint. If we speak of trade, the question arises regarding the evaluation of correspondence between structures of supply and demand. In order to determine effect in the scope of all social production, it is necessary to compare the entire totality of elements of final consumption with the complex of society's needs.

The desire to evaluate a plan decision in all cases and at all cost by means of a single universal unit of measure has no objective basis and leads to fetishization of the "gross" in its various manifestations. For example, what does an 81-time increase in the gross production of machine building and metal processing in comparable prices in 1982 as compared with 1940 mean? The production of ferrous metallurgy has increased by 13 times in this period, while the production of ferrous metal rolled stock has increased by 9 times. What, then, has been the reason for the gap in growth rates of the contiguous sectors? Could it be that the level of complexity and quality of machine tools and tractors has increased nine-fold in this period (81:9)? Of course not. However, the production of machine building has almost fully renewed itself, but the cost of processing new products computed per ton of utilized metal included in the comparable prices has increased several times over. For long-term periods, only the term "comparable prices" remains. How can we determine the real dynamics of production if its composition is renovated and its structure changed? Strictly speaking, the very formulation of the question is just as incorrect as the effort to determine how much greater or less an automobile is by consumer cost than a television set.

The dynamics of production and comparable prices is capable of reflecting only the changes in the mass of labor of identical productivity, personified in different combinations of consumer cost. This, of course, is an important indicator. However, first of all it cannot be given the meaning of a growth description of physical volume of production. Otherwise, we will never rid ourselves of the "gross" fetish. Secondly, the comparable prices for new products must be established with a significant price correction for its realization, which makes it possible to determine the cost of a new product under base year conditions. Third, and this is the main point for integration of natural and cost proportions--all the computations performed with the use of comparable prices must be verified by the system of natural, material and labor balances.

Comprehensive Satisfaction of Ultimate Demands

By ultimate we mean demands whose satisfaction is directly tied with the goal of socialism--with an increase in the people's standard of living. We must distinguish objectively existing demands (K. Marx called them absolute[8]), which do not depend on the available capacities for their satisfaction, and solvent demands. Absolute demands develop under the influence of mastering the production of new types of products. For example, color televisions have

entered the sphere of such demands only after their production became possible. However, at any given moment, absolute demands are subject to determination with the degree of precision which is required for working out a strategy of economic development. Scientifically determined prudent nutrition standards are a component part of absolute demands, and were the orienting factor in working out the USSR Food Program.

Solvent demands and demands in general, which are subject to full satisfaction in the given plan year, are a different matter. They depend on the productive capacities. Striving to move closer to the satisfaction of absolute demands, we at the same time determine that level of social production which conditions the level and structure of planned solvent demands, as well as free services.

What, then, does the problem of integration in planning the satisfaction of ultimate demands consist of? Absolute as well as solvent demands comprise a set of qualitatively different elements which are not comparable with each other by their benefit, and which at the same time form a single whole. The following two circumstances are important for planning methodology.

First of all, the set of ultimate demands cannot be expressed in a single number. Qualitative differences in demands cannot be reduced to quantitative ones. "What is the prerequisite for all quantitative differences in things? Their identical feature is their quality"[9], wrote K. Marx. From this it follows that a comparison of various complexes is possible only according to the formula "worse--better," and not "less-more." Usually the better complex requires greater expenditures. However, this does not mean that with a 10 percent increase in the expenditures the standard of living will also increase by 10 percent. The growth in per capita real income is an important indicator, but it does not reflect the structural changes in satisfying demands. Therefore it is clear that it is impossible to plan the national economy computing only for the maximal increase in the real income of the population, regardless of the change in the structure of goods turnover and services offered to the population.

F. Engels wrote that in a socialist society "the plan will be determined ultimately by weighing and comparing the beneficial effects of various objects of consumption with each other and with the amount of labor necessary for their production."[10] Some economists interpret this position as if it dealt with a direct quantitative commensuration of objects of consumption. In reality, however, weighing and comparing goods of different quality of non-productive function is done by the only possible method of comprehensive evaluation of various sets of these goods. With consideration for different urgency in the growth of consumption of components within the standard of living, a sequence is being noted toward the transition from worse sets or complexes of these components to better sets or complexes.

Secondly, an important circumstance for the methodology of comprehensive planning to satisfy ultimate demands is the fact that a significant, practically significant increase in the capacities for improving the standard of living cannot be turned to individual elements of the demand complex without consideration of all the other elements. As a rule, such consideration signifies

the need for planned change in the values of all components within the complex in proportions dictated by the transition from worse complexes to better ones. Of course, such a situation may also arise in which it is expedient to utilize additional capacities for increasing the values of those components which at some stage of planning could not be brought into correspondence with the others.

In speaking of increasing the living standard, we must remember that it is not reduced to the consumption of material goods, but includes all that which is worthy of being called socialist civilization, as Yu. V. Andropov said at the June (1983) Plenum of the CPSU Central Committee.[11] This includes also the growth of consciousness and culture, including domestic culture, behavior, rational consumption, exemplary social order, health, prudent nutrition, high quality of service to the population, and full use of free time from a moral-aesthetic point of view. Along with norms for the consumption of material goods, it is necessary to provide in the living standard complex also norms for average annual fixed capital in different sectors of the nonproductive sphere computed per capita of the population. From the standpoint of long-range planning, this is sufficient for the complex of living standard indicators to contain all the components of socialist civilization.

The problem of evaluating plan implementation is complex if it is better according to certain components but worse in others. The effort to establish a general percentage of plan implementation is non-uniform, as in all cases, when we speak of a totality of different quality elements. Here is a simple example: an enterprise, having fulfilled its plan on volume of production realization, has over-fulfilled the plan for delivery of some products and underfulfilled it for others. How do we evaluate the overall total of implementing the delivery plan? Strictly speaking, this evaluation can only be qualitative, with consideration of the consequences of allowed deviations from the plan. In exactly the same way, in evaluating deviations in the actual structure of consumption from that which was planned, specific qualitative analysis is required. Also, we do not exclude the possibility that the deviations may turn out to be necessary in some way and that life can correct the previously envisioned sequence of transition from worse to better indicator vectors.

Only certain aspects of comprehensive planning have been examined in this article. These and other aspects of plan computation integration are interrelated in the process of plan development. Modern electronic computers present great possibilities for comprehensive and effective application of the principle of planning integration. However, the application of these capacities requires strict adherance to a theoretically substantiated sequence in coordinating long-range plans with current plans, sectorial tasks with territorial ones, material and labor proportions with cost proportions, and subordination of target plans for improving the living standard for the entire set of consumption indicators and socialist civilization.

FOOTNOTES

1. "Materialy Plenuma Tsentral'nogo Komiteta KPSS 14-15 Iyunya 1983 goda", [Materials of the CPSU Central Committee Plenum, 14-15 June 1983], Moscow, Politizdat, 1983, p 12.

2. V. I. Lenin, "Polnoye Sobraniye Sochineniy," [Complete Works], Vol 42, p 154.

3. V. I. Lenin, "Polnoye Sobraniye Sochineniy," Vol 35, p 203.

4. V. I. Lenin, "Polnoye Sobraniye Sochineniy," Vol 42, p 153-154.

5. V. I. Lenin, "Polnoye Sobraniye Sochineniy," Vol 52, p 128-129.

6. S. G. Strumilin, "Na Planovom Fronte," [On the Plan Front], Moscow, "Nauka", 1980, p 438.

7. Yu. B. Andropov, "Shest'desyat let SSSR," [Sixty Years of the USSR], Moscow, Politizdat, 1982, p 11.

8. Cf.: K. Marx and F. Engels, "Sochineniya," [Works, Vol 26, pt 2, p 563.

9. K. Marx and F. Engels, "Sochineniya," Vol 46, pt 1, p 117.

10. K. Marx and F. Engels, "Sochineniya," Vol 20, p 321.

11. Cf.: "Materialy Plenuma Tsentral'nogo Komiteta KPSS 14-15 Iyunya 1983 goda," p 13.

12322
CSO: 1820/23

INVESTMENT, PRICES, BUDGET AND FINANCE

EXPERTS ANALYZE CURRENT NATIONAL INCOME TRENDS

Moscow PLANOVOYE KHOZYAYSTVO in Russian No 11, Nov 83 pp 31-39

[Article by F. Klotsvog, G. Abdykulova, N. Granovskaya, and L. Chernova, under rubric "Long-Range Problems: The Specialist's Opinion": "Certain Tendencies in the Development of Economic Proportions"]

[Text] The advancement of the Soviet economy during the years of the 10th Five-Year Plan and the first two years of the 11th Five-Year Plan led to the further growth in the country's economic might -- the reinforcement of its material-technical base, the considerable increase in the scope of production and rise in the qualitative level of the production and scientific-technical potentional, and the rise in the national welfare. In this direction one can sense an improvement that was achieved during the first half of 1983.

The volume of national income used for consumption and accumulation increased in 1982, as compared with 1975, by 29 percent, and industrial output increased by 32 percent. Four-fifths of the national income is used directly for the population's consumption, housing, and social and cultural construction. The real income per capita of population rose by 22 percent during 1976-1982.

At the same time, as was noted at the November 1982 Plenum of the CPSU Central Committee, our economy's changeover to the path of intensive development has been proceeding slowly. Under the changing conditions it is necessary to carry out a thorough analysis of the processes of intensification in order to ascertain the system of factors that have been affecting its development.

An effective instrument for carrying out this analysis might be the consolidated dynamic model of the interbranch balance sheet.

This article presents certain results of research dealing with the analysis of the development of the USSR national economy, which was carried out at the Sector of Dynamic Interbranch Balance Sheets at NIEI [Scientific Research Institute of Economics], under USSR Gosplan. On the basis of computations dealing with different versions, we studied the influence of the basic factors in the development of the economy -- shifts in the structure of the use of the national income and the final product, tendencies in the change of the effectiveness of the use of material and labor resources, fixed production assets, and the indicators of the external economic ties -- upon the rates, proportions, and structure of the national economy.

Evaluation of the Degree of Intensification of Economic Development

During the 10th Five-Year Plan and the first two years of the 11th Five-Year Plan, the growth rates for the national income slowed down because of a reduction in the growth rates of the primary production resources -- the labor resources and fixed production assets -- and the insufficient increase in the effectiveness of social production. Whereas in 1971-1975 the fixed production assets increased by 51 percent, during the years of the 10th Five-Year Plan they increased by 43 percent. There was a decrease in the growth in the number of persons employed in material production.

The slowdown in the growth of certain types of production resources during the two preceding five-year plans was accompanied by a change in the dynamics of the indicators of the effectiveness of social production. The increase in the productivity of social labor consisted in the 9th Five-Year Plan 25 percent, and in the 10th, 17 percent. In terms of usuable national income, the yield on capital dropped in the 9th Five-Year Plan by 15.8 percent, and in the 10th by 15.4 percent.

For a generalized analysis of the influence exerted by these processes upon the rates of expanded reproduction, we made an attempt to determine the dynamics of the aggregate production resources -- labor resources and fixed assets -- as the primary factors of economic growth.

The evaluation of the aggregate production resources was carried out by reducing the basic production assets to the labor measurement based on the extent of the specific economizing of labor resources that is obtained as a result of the increase in the capital-intensity of labor. Our computations indicate that the specific economizing of the labor resources on the average for the national economy constituted, in 1976-1980, 49 persons per million rubles of increase in fixed production assets channeled into the growth of the capital-labor ratio. Using that value as the conversion coefficient, it is easy to determine the dynamics of the aggregate production resources. According to our computations, the aggregate production resources increased in 1971-1975 by 17.4 percent, and in 1976-1980 by 15.7 percent.

Comparison of the dynamics of the national income with the dynamics of the aggregate production resources enables one to give a generalized evaluation of the growth of the effectiveness of the use of the production resources (Table 1).

Table 1
(in %)

	1971-1975	1976-1980
Usable national income	128.0	121.0
Aggregate primary production resources	117.4	115.7
Aggregate effectiveness of production resources	109.0	104.6

The predominating influence on the rates of growth of the national income was exerted by the dynamics of the effectiveness of the use of production resources.

The cited data constitute the basis for the evaluation of the intensification of social production, which is characterized by the share of the increase in national income that is obtained as a result of the increase in the aggregate effectiveness of the primary production resources. As is indicated by our computations, in 1971-1975 that share was 34 percent, and in 1976-1980, 23 percent. We might note that this share does not coincide with the computations made by other authors*. This is explained by the fact that, according to our method, the reduction of the fixed assets to the labor measurement was carried out for various periods on the basis of a stable value for the coefficient of replacement of the labor resources by the fixed production assets, whereas, in the computation made by other researchers, use is made of values that are differentiated for each period for the coefficient of interchangeability among those types of resources. In our opinion, in order to analyze the level and dynamics of the generalizing indicator of the effectiveness of social production, it is necessary to eliminate the influence exerted upon its level by a change in the effectiveness of the replacement of the labor resources by fixed assets. Otherwise the change that occurs in the economy with regard to the replacing capability of the fixed production assets artificially reduces the volume of the aggregate production resources and creates an overstated idea about the increase in the effectiveness of the social production.

The lowering of the levels of intensification of economic development can be overcome on the basis of a considerable increase in the growth rates for the effectiveness of social production, the acceleration of the growth of labor productivity, the reduction of material-intensity, and a substantial improvement of the yield on capital and the effectiveness of capital investments. During the remaining years of the 11th Five-Year Plan the efforts of the collectives at enterprises, sovkhozes, and kolkhozes have been directed at the resolution of these tasks. These tasks must remain in the center of attention when developing the economic strategy for the long-range period.

Influence of Capital Investments Upon the Rates of Economic Development

It is well known that the development of the economy in the 10th and 11th Five-Year Plans was typified by a reduction in the gap in the growth rates of national income and capital investments. Whereas, in the 8th Five-Year Plan, the increase in capital investments outstripped the growth of national income by 2 points and in the 9th Five-Year Plan the outstripping increased to 13, in the 10th the outstripping was reduced to 8 points. During recent years, capital investments have been growing at approximately the same rates as the national income. For example, in 1982, with a growth of national income by 3.9 percent, capital investments increased by 3.5 percent.

From the methodological point of view, it would appear to be more justified to compare the dynamics of capital investments during the five-year period not with the dynamics of the overall volume of national income, but with the dynamics of its increases during the corresponding five-year periods. It is desirable at such a time to consider not the overall volume of capital investments in the national economy, but the capital investments for production,

* See: A. G. Aganbegyan, "A Key Growth Factor," PRAVDA, 24 February 1982; D. A. Chernikov, "Tempy i proportsii ekonomicheskogo rosta" [Rates and Proportions of Economic Growth], Moscow, Ekonomika, 1982, p 77.

which have a direct influence upon the growth of the economy. This comparison provides a direct idea about the level and dynamics of the effectiveness of the capital investments for production.

During the period being considered, the reduction in the absolute increases in the national income was accompanied by a slowdown in the growth of the capital investments for production. In the 9th Five-Year Plan, as compared with the 8th, the effectiveness of capital investments dropped by 34 percent, and in the 10th, as compared with the 9th, by 29 percent.

The question arises: could the reduction in the effectiveness of capital investments have been compensated for by the preservation of higher rates of growth of capital investments in the national economy? Computations convince us that if, during the 10th Five-Year Plan, the dynamics in the capital investments for production that occurred in the 9th Five-Year Plan had been preserved, their actual effectiveness that had developed would have resulted in an additional 22 billion rubles of increase in the national income usable for consumption and accumulation. Under those conditions the average annual rates of increase in the national income could have constituted 4.9 percent, instead of the actual 3.8 percent. Society would have received an additional 9 billion rubles of resources for the consumption fund, and the average annual rates of increase in the consumption fund would have been 4.9 percent, instead of the actual 4.4 percent.

Consequently, with a slight increase in the share of production accumulation in the national income it would be possible to compensate almost entirely for the reduction in the effectiveness of the capital investments for production. But that is only one side of the question.

Computations prove that, in order to increase the norm of production accumulation in the real-life economy, there existed a number of objective obstacles that are linked with the possibilities of the expansion of the production of structural materials, as well as with the limited nature of the labor resources.

The additional resources of capital investments for production would increase the need of the national economy for output from ferrous metallurgy, the building-materials industry, and the timber and wood-processing industry. There would also be an increase in the need for fuel and energy resources. One cannot fail to take these factors into consideration.

At the same time, under conditions of a greater volume of resources of capital investments for production, there would exist an opportunity to increase the investments in the branches that produce structural materials and fuel-and-energy resources by approximately 20 billion rubles. With the level of effectiveness that actually developed with regard to the use of the fixed assets and capital investments, these additional capital investments could guarantee the necessary increase in the volumes of output in the appropriate branches.

The buildup of capital investments is being restrained by the limited nature of the labor resources. As has been shown by the computations, an increase in the overall volume of capital investments in the national economy, with

the level that has actually developed with regard to the labor productivity would require an additional increase in the number of persons employed in the material production sphere by approximately 5 percent. Putting it another way, with the actual number of persons employed, it would be necessary to increase the labor productivity by the same amount.

This level of labor productivity could be achieved if the capital investments were channeled not into increasing the number of work sites, but into the increasing of the capital-intensity of labor.

From the statements and computations that have been cited, it follows that the slowdown in the growth rates of capital investments, in and of itself, is not a factor in raising the level of intensification of the economy and it is desirable only to the degree that it can be accompanied by an increase in the effectiveness of capital investments and by an increase in the return on each rule of newly activated fixed assets. The slowdown of the growth of capital investments can exert a positive influence upon the level of intensification and the balanced state of the social production only if there is a substantial reorganization of the structure of capital investments, a considerable increase in the share of the resources channeled into the remodeling and modernization of the production apparatus and into the replacement of the physically obsolete and obsolescent equipment by new, more productive equipment.

Capital-Intensity of Social Production and Its Influence On the Rates and Proportions of Economic Development

During the past 15 years a tendency toward the growth been noted in a number of branches of the national economy.

In the 10th Five-Year Plan the capital-intensity of production increased considerably as compared with the preceding one. In terms of the produced and used national income, and gross social product, the indicators are not identical, inasmuch as the gap in the growth rates for social product and produced national income, on the one hand, and the used national income, on the other, was noticeably reduced during the 10th Five-Year Plan.

Table 2
(in %)

	1966-1970	1971-1975	1976-1980
Capital-intensity in terms of:			
gross social product	103	112	116
produced national income	102	115	115
used national income	105	119	118

A more concrete idea concerning the limits of the change in the proportions between the growth of the fixed production assets and the increase in the scope of social production will be provided by a consideration of the dynamics of the capital-intensity of the basic branches of the national economy and industry (Table 3).

Table 3
(in %)

	1966-1970	1971-1975	1976-1980
Industry, total	101	106	116
including:			
electrical-energy engineering	107	101	104
fuel energy	108	108	128
ferrous metallurgy	115	112	123
chemical and petrochemical industry	100	96	117
machine-building and metal-processing	92	93	106
timber, paper, and wood-processing	110	112	127
building-materials industry	101	109	124
light industry	104	116	115
food industry	109	110	122
agriculture	112	151	132

During the years of the 8th Five-Year Plan the capital-intensity of industrial production as a whole was almost stable. If one considers that during the period that preceded the 8th Five-Year Plan the capital-intensity was substantially growing, one can easily see the directedness of the economic development toward the overcoming of the tendency to the growth of the capital-intensity of social production. For many branches of industry, such as electrical-energy engineering, ferrous metallurgy, the chemical industry, machine-building and metal-processing, this favorable tendency was also preserved during the years of the 9th Five-Year Plan.

In the 10th Five-Year Plan, despite the substantial limitation of the scope of buildup of capital investments in the national economy, for purposes of improving the balanced state and increasing the effectiveness of social production, there was a sharp intensification of the tendency toward the growth of the capital-intensity of industrial production. The rates of increase of capital-intensity for most of the branches of industry (petroleum and gas, coal, food, timber, wood-processing, and woodpulp and paper, the building-materials industry) increased. In the chemical industry and machine-building, where, prior to 1975, capital-intensity dropped during the years of the 10th Five-Year Plan it began to rise. The rise in the capital-intensity of output occurred in construction and in transportation.

The increase in capital-intensity in industry and in the other branches of the national economy was partially compensated for by a slight slowdown in the growth of capital-intensity in agriculture, although its size (factor of 1.3) remained extremely considerable. Nevertheless that promoted the stabilization of the dynamics of capital-intensity for the national economy as a whole.

Analysis shows that the shifts in the branch structure of material production in the 10th Five-Year Plan -- the increase in the gross social product of the share of such capital-intensive branches of industry as electrical-energy engineering, the petroleum and gas industry, the chemical industry, and transportation -- did not exert a substantial influence upon the dynamics of the capital intensity of social production. As a result of the change in the

branch structure, the capital intensity of social production increased during the five-year plan by 0.4 percent. This constitutes 2.5 percent of the overall increase in the capital intensity.

It follows from the computations that, if there had been a stabilization of the capital intensity of output in the branches of the national economy and industry during the 10th Five-Year Plan at the 1975 level (all other conditions being equal), a national income that is greater by approximately 30 percent would have been obtained in 1980.

Obviously, the task of overcoming the tendency toward the increase in capital intensity cannot be resolved within the confines of a single five-year period. However, the intensification of the attention to the indicator of the capital intensity of social production is an absolutely necessary condition for increasing the growth of the effectiveness of social production and the rates of economic development.

When channeling capital investments into the development of a particular branch, it is necessary to compare the expected increase in the fixed assets with the concomitantly achieved increase in output. The increase in the effectiveness of capital investments should be positively influenced by the intrabranch distribution of capital investments, by their preferential channeling into those projects and construction sites where their greater return can be guaranteed, in the form of an increase in output or the economizing of material and labor resources. At the same time the increase in the effectiveness of capital investments presupposes the increase in the demands made on the effectiveness of the newly activated technology and technological processes, and the overcoming of the outstripping growth of the cost of the machinery and equipment as compared with the increase in their productivity.

The Influence of a Change in the Structure of Interbranch Ties Upon the Proportions of Economic Development

The national economy uses, in the form of objects of labor, as much as 60 percent of the social product. Therefore an increase in the effectiveness of the use of the material resources that function in the process of production is one of the basic ways to intensify social production. A change in the level and structure of the use of material resources manifests itself more concretely in a change in the structure of the interbranch ties of the national economy. With all the obviousness of the great importance of this problem, it is extremely important to establish a quantitative evaluation of the influence exerted by the shifts in the system of interbranch ties upon the basic indicators of the development of the national economy. Shifts in the system of interbranch ties occur under the influence of scientific-technical progress in the process of reproduction and are expressed in a change in the level of specific expenditures of the output of branches of the national economy and industry.

As was shown by the analysis, among the processes that occur in the structure of interbranch ties the one that exerts the most substantial influence upon the rates and proportions of economic development is the reduction of the metal-intensity of the machine-building output. Computations attest to the fact that a reduction in the specific expenditure of ferrous metals for the

output of machine building during the 1976-1980 five-year period made it possible to obtain additionally during the last year of the five-year plan 6.3 billion rubles of national income, including 3.7 billion rubles for the consumption fund.

The economizing of resources of ferrous metals during the production of output of machine-building reduced the need for the production of ferrous metals by more than 10.4 percent and simultaneously made it possible to expand the production of industrial output by 3.4 billion rubles.

In addition, as a result of the economizing of metals in machine-building there was an increase in the resources of capital investments in the national economy by 4.6 billion rubles. This result made it possible to channel additional investments into the branches of the agroindustrial complex. It is important to emphasize that the reduction of the metal-intensity of machine-building made it possible to reduce the need in other branches of the national economy for capital investments for a total of more than 8 billion rubles.

In the 10th Five-Year Plan the course aimed at the replacement of coal by petroleum and gas fuel was continued, and that guaranteed a certain reduction in the total coefficient of consumption of fuel in electrical-energy engineering.

It has been computed that the change in the level and structure of the consumption of fuel in electrical-energy engineering in the 10th Five-Year Plan made it possible to produce approximately one billion rubles of additional national income, including 0.5 billion rubles in the consumption fund. The replacement of coal by petroleum and gas fuel reduced the need in the fuel branches for capital investments, as a result of which additional resources arose for increasing the capital investments in the other branches of the national economy.

The change in the structure of the interbranch ties in the 10th Five-Year Plan is also characterized by the further replacement of natural raw materials by chemical ones in light industry.

The integral evaluation of the change in the level and structure of the interbranch ties in the national economy in the 10th Five-Year Plan indicates that as a result of these processes the national economy received more than 5 billion rubles of additional national income, or 7 percent of its total increase during the five-year period. The gross output for industry as a whole as a result of this factors rose by 1.2 percent of the overall volume of industrial production, and the need for the output of agriculture dropped by 7 percent of the actual volume of its production. Correspondingly with the change in the need for output, the shifts in the structure of the interbranch ties influenced a change in the branch structure of the capital investments in the national economy, guaranteeing for the national economy as a whole an economizing of them in the amount of 9.5 billion rubles during the five-year period.

Thus, the shifts in the structure of the interbranch ties not only contributed to an increase in the effectiveness in the use of the material resources, but was also a substantial factor opposing the growth of the capital intensity of

social production. Therefore it is necessary to make more active use of the change in the structure of the interbranch production ties as one of the effective trends for the further intensification of social production.

Shifts in the Structure of the Final Product and Their Influence Upon the Basic Indicators of the Development of Social Production

The final result of the functioning of the entire economy as a whole is the final product of the national economy. The share of the final product in the gross product increases gradually in proportion to the reduction in the materials-intensity of social production. At such time the final product increases slightly more rapidly than the usable national income.

As a result of the structural shifts caused by changes in the makeup of the social needs and the production resources, there are substantial changes in the relationships among the functional elements of the final product. During the years of the 10th Five-Year Plan in the structure of the final product there was an increase in the share of the fund for nonproduction consumption, and also export. Simultaneously there was a reduction in the share of capital investments; this was the result of the previously discussed policy of limiting the growth rates of capital construction.

Considerable changes are observed in the branch structure of the basic elements of the final production as a result of the increase in the resources being channeled into the satisfying of the public's needs. During the years of the 10th Five-Year Plan the increase of the share of nonedible commodities in the consumption fund continued. That was influenced chiefly by the rise in the level of the population's material welfare, which welfare is naturally accompanied by an increase in the demand for commodities for cultural and everyday purposes, household articles, and other nonedible commodities. At the same time, the reduction in the share of the edible commodities, particularly the output of food industry, which occurred during the 10th Five-Year Plan was linked with the fact that the development of the agroindustrial complex was lagging behind the public's needs.

An increase in the share of the nonedible commodities being consumed is determined by changes in the public's needs and by the capabilities of satisfying them. In 1976-1980 there were sufficiently high rates of increase in the consumption of the output of machine-building and metal-processing, the petroleum and gas industry, the chemical industry, the building-materials industry, and electrical-energy engineering. The share of the output of light industry in the structure of consumption, practically speaking, is preserved at a stable level.

The shifts in the branch structure of the consumption fund that occurred during the 10th Five-Year Plan, as has been indicated by computations, assured an additional increase in the national income (by approximately 4 billion rubles); this was influeneed primarily by the increase in the share of the nonedible commodities, for which the complete national-economic expenditures per unit of output are lower than for the edible commodities.

The shifts in the branch structure of the consumption fund caused a slight increase in the needs of the national economy for production fixed assets (by

2 billion rubles). However, that contributed to an improvement in the indicator of return on investment, inasmuch as the additional need for assets as a result of this factor increased by approximately 0.2 percent, and the resources of the national income, by 1 percent. At the same time, the shifts in the structure of the consumption fund made it possible to carry out a slight economizing of the number of persons employed in material production (by 0.5 percent) and thus were an additional factor in the increase of labor productivity.

The steady tendency of modern economic development is the outstripping growth of the consumption fund as compared with the growth of the nonproduction capital investments. During the previous periods the shifts in the structure of the resources for raising the national welfare in favor of the consumption fund contributed to a slight increase in the overall rates of those resources, inasmuch as the complete national-economic expenditures for the consumption fund were slightly less than the corresponding expenditures for the nonproduction capital investments. However, as was indicated by the computations on the dynamic model of the interbranch balance sheet, in the 10th Five-Year Plan those shifts did not exert any noticeable influence upon the final national-economic results. This is linked, obviously, with the increase in the capital intensity of agricultural production, as a result of which the complete expenditures for the creation of a unit of consumption fund and a unit of nonproduction capital investments became approximately identical.

To a greater and greater extent, the proportions of economic growth are influenced by foreign trade. The USSR has trade and economic relations with more than 140 countries. In 1976-1980 the volume of foreign-trade turnover in comparable prices increased by a factor of 1.3. The increase in foreign-trade turnover outstripped the growth of national income; this reflects the expansion of the Soviet Union's participation in the international division of labor. The development of the country's foreign-economic ties was characterized by definite structural shifts. In the structure of export there was an increase in the share of the fuel and energy resources. In the structure of import there was a slight increase in the share of the edible commodities and the raw materials for producing them, and the share of chemical products. The further development of the foreign-economic ties should, obviously, be used to a greater extent in the long-term view for national-economic development.

The basic conclusion from the analysis that has been cited consists in that, in order to accelerate the turning of the economy to the path of the chiefly intensive development, it is necessary to carry out a purposeful structural policy, important features of which are:

-- the maintaining at the optimal level of the investment activity of the economy, with the preferential channeling of the capital investments not into the expansion of the number of work sites, but into the increasing of the rate of provision of labor with technical equipment for purposes of increasing its productivity;

-- the overcoming of the tendency toward the outstripping growth of the fixed assets as compared with the growth of production, by means of the concentration of capital investments in the areas and projects that guarantee the obtaining

of the fastest and highest return, and the increasing of the requirements with regard to the effectiveness of the technology and technological processes being newly introduced;

-- the more intensive change in the structure of the interbranch ties of the national economy, which is channeled primarily into the reduction of the energy-intensity and metal-intensity of social production, and into the increase in the effectiveness of the use of agricultural raw materials, with the substantial acceleration of the growth rates of the chemicalization of the branches of the national economy and industry;

-- the carrying out of a purposeful change in the structure of the final product in conformity with the needs of society and a consideration of the level of the national-economic expenditures for its constituent elements.

The stabilization of these directions, undoubtedly, will promote the most rapid resolution of the socioeconomic tasks confronting the national economy, the further rise in the national standard of living, and the reinforcement of the country's economic, scientific-technical, and defense potential.

5075
CSO: 1820/31

GOSPLAN ASSOCIATE UNDERSCORES NEED FOR MATERIALS CONSERVATION

Moscow PLANOVOYE KHOZYAYSTVO in Russian No 10, Oct 83 pp 77-82

[Article by V. Palyutin, candiate of economic sciences and senior scientific associate at the Scientific Research Economics Institute of USSR Gosplan: "Condition for the Effective Utilization of Material Resources"]

[Text] Among the most urgent problems in the development of the economy, the problem of how to reduce material-intensivenesss and increase the utilization effectiveness of material resources is acquiring very great significance. As K. Marx pointed out, the theoretical basis for the increasing economic significance of this problems lies in the fact that "as the productive force of labor develops, the cost of raw materials forms an ever increasing component of the cost of a commodity."[1]

Since the very first days of Soviet power the Communist Party has devoted concentrated attention to the careful expenditure of all available resources as part of its work in developing the bases of economic construction. V.I. Lenin attributed great significance to the establishment of conditions for the conservation of material resources at every work place. "Communism begins," he noted, "where there appears the self-sacrificing concern--a concern which overcomes heavy labor--of the workers for increased labor productivity, a concern for the conservation of every pound of bread, coal, iron and other products which do not go to the workers personally or to their "close ones" but to their "distant" ones instead, i.e., to society as a whole...."[2]

This Leninist teaching has particular significance at the present time. Each day raw and secondary materials, fuel and energy worth nearly 1.7-billion rubles are expended in our country. With the given structure of public production,

---

1. K. Marx and F. Engels, "Soch." [Works], Vol 25, Part 1, p 121.

2. V.I. Lenin, "Poln. sobr. soch." [Complete Collected Works], Vol 39, p 22.

the proportion of material expenditures is reaching 80-85 percent and 90 percent in certain sectors. Reducing material expenditures by only 1 percent provides a 6 billion ruble increase in national income and makes it possible to save 30 billion rubles in capital investment, to obtain 10 billion rubles worth of additional output and to implement a 1.3 percent increase in the productivity of public labor. However, the actual effectiveness will prove to be even greater because in the process limited and nonrenewable natural resources are saved and environmental pollution is reduced, etc.

The importance of this problem is also determined by the fact that in the last 10 years material-intensiveness has hardly declined at all. In 1970 material expenditures in comparable prices per ruble of national income amounted to 1.26 rubles, in 1975 they were 1.33 rubles and in 1980 they were 1.34 rubles. And this is despite the fact that during the last two five-year plans material-saving equipment has been introduced on an intensive basis. It is obvious that the effect of the existing economic levers has not created the necessary interest in the efficient utilization of this equipment.

The urgency of implementing expanded reproduction in a resource-saving form is becoming increasingly obvious if one takes into account the fact that in recent years there has been a steady trend toward an increase in the share of national wealth which takes the form of material reserves in working capital, in incomplete production and construction, or the form of delayed public demand. In 1965 this "diverted" portion of national wealth amounted to only 10 percent, while in 1981 it came to 14 percent. Attention is called to the fact that during this period the size of the diverted portion increased nearly 4.3-fold, at a time when national income increased only 2.5-fold and national wealth grew 3.2-fold. In this way, the consumption of reified labor resources--because of the effect of various factors--has increased much faster than national income and national wealth, and this provides evidence of the presence of many still unresolved problems in the work of increasing the national economic effectiveness of the utilization of resources, especially material resources.

An analysis of public production shows that substantial reserves do exist in the area of material resource conservation. In the 10th Five-Year Plan savings of these resources amounted to about 13 billion rubles. Savings of raw and secondary materials, fuel, energy and other objects of labor in the national economy amounted to 3 billion rubles (0.6 percent of current material expenditures) in 1981 and in 1982 they amounted to approximately 5 billion rubles. At

the same time savings of material resources can be significantly greater than what has been achieved.

The experience of the GDR is instructive; the growth of production here is carried out with an unchanging and sometimes even declining consumption of raw and secondary materials. The average annual reduction in the per-unit expenditure of economically important energy carriers and raw and secondary materials amounted to approximately 3.9 percent in the years 1976-1980. Moreover, the decline has accelerated from year to year, reaching 5.9 percent by 1980. From 1981 through 1985 the planned reduction in the per-unit consumption of economically important material resources was to average 5-5.5 percent per year. The main way to resolve this task is through the efficient utilization of recycled raw materials and industrial wastes and by bringing them up to the point at which they constitute 12 percent of the country's raw material balance.

Other no less important reasons for shifting to the efficient utilization of material resources are the limited nature of the supplies and their nonrenewability, which have an increasingly stronger effect on the development of the economy with each passing year. Losses of mineral resources, which amount to 30-40 percent for coal mining, up to 20 percent for metallic ore mining, up to 50 percent for gas production and up to 70 percent for petroleum extraction are particularly great. Today the scale of material resource conservation is becoming comparable with the possible volumes of additional production, while measures to conserve resources are more profitable than measures to increase them. For example, technical-economic calculations have shown that capital investment expenditures per savings of 1 ton of standard fuel are 3-6-fold less than they are to extract, transport and process that fuel.

The 11th Five-Year Plan calls for fuel-energy savings to be made throughout the national economy amounting to more than 200 million tons of standard fuel, 10.6 million tons of rolled ferrous metal products, 7.4 million tons of cement, etc. In general, savings are to satisfy approximately 40 percent of the increase in the needs for fuel, rolled ferrous metal products and cement during the five-year period. This will make it possible to improve the proportions between the raw materials and processing sectors. Given a 26 percent increase in the production of industrial output during the five-year period the increase in the fuel sectors will amount to 13 percent, 15 percent in ferrous metallurgy, 20 percent in electrical power engineering and 40 percent in machine-building and metal working.

The following are among the basic directions for increasing the utilization effectiveness of material resources in industry: improvement in the structure of production, scientific-technical progress and conservation in the consumption sphere. At the same time there has recently been an increase in the role of economic methods of influencing efficient resource consumption. In many cases the use of economic methods makes it possible to obtain an effect within sufficiently short time periods without substantial capital investment and contributes to the mobilization of the economy's internal reserves at all levels.

In recent years much has been done to increase the effect of the economic mechanism on the conservation of material resources. The centralized formulation of targets for the average reduction in the norms for the expenditure of the most important types of material resources has received significant development. A number of sectors have included in the system of capital-formation indicators an indicator of production costs (expenditures per 1 ruble of commodity production), which has as its purpose the increasing of attention given to the effective utilization of all expenditures for production. The development of special systems of bonuses for saving certain types of material resources (with consideration for sector characteristics) has become widespread.

An important step on the way to creating the essential conditions for raising the effectiveness of resource utilization was the adoption of the 30 June 1981 decree of the CPSU Central Committee and the USSR Council of Ministers "Concerning the Strengthening of Work on the Conservation and Efficient Utilization of Raw Material, Fuel-Energy and Other Material Resources," which calls for a set of measures aimed at increasing the level of planning-economic work on resource saving. The purpose of these measures is to increase the level of conservation and to create in all sectors of the economy the economic conditions necessary for the accelerated growth of production results in comparison with material expenditures.

Improvements in machine building are of particular significance for the reduction of the material-intensiveness of production. First of all there must be improvements in the structure and effective utilization of the metal working yards; they are to be achieved through increases in the output of highly productive special and standard-unit machine tools, progressive equipment, automatic lines and units. This will make it possible to substantially reduce metal wastes, which in machine building alone exceed 14 millon tons per year (of this about 7 million tons are

shavings) due to the predominant use of cutting; this amount of waste comes to 13.5 percent of the steel smelted in our country. Here is another example which indicates the possibilities for savings to be derived from structural changes. At present about 19 percent of the trucks produced by industry have diesel engines, but it is only conducting experimental work with respect to passenger vehicles. The dieselization of motor vehicles provides a significant fuel savings because diesels expend approximately 30-40 percent less fuel; moreover, it is cheaper than a carburetor engine, while the load capacity of the vehicle is doubled. Improvements in the system of indicators constitute one of the most important directions in the work on the conservation and efficient utilization of material resources. In order to increase the utilization effectiveness of all production expenditures, beginning in 1983 the five-year plans and annual plans of the construction and transport ministries, associations, enterprises and organizations will again establish targets for the production costs of output (work), and as part of these targets they will set a limit (a maximum level) of material expenditures in monetary terms per 1 ruble of output.

The successful application of these indicators presumes an improvement in the methodology for the planning, accounting and calculating of output costs. At the present time the planning of this methodology proceeds from an interpretation of material expenditures based on four consolidated elements: raw materials and basic materials; auxiliary materials; fuel; energy. This does not make it possible to fully take into account the influence of scientific-technical progress, structural shifts and factors in price changes for output and raw materials (stemming from their quality and supply conditions) on the volume and structure of the consumption of material-technical resources. As for calculating output production costs, many associations and enterprises use the obsolete "boiler" method, which does not provide the necessary control over the consumption of material resources. Planning and accounting for expenditures in such a consolidated form prompts difficulties in determining the influence of planned targets for the saving of material resources (which are usually established as percentages of the average reduction in the expenditure norms expressed in phtsical terms) on the level of output production costs. In our view, it is advisable to make the calculations for basic forms of output in terms of the more detailed elements of expenditures, singling out in particular those expenditures for resources in use which are now dispersed throughout many items.

One of the directions in the work to increase the validity of the planning of production costs and the determination of the limits of material expenditures for the production of output (work) is the universal transition to the normative method of accounting and calulating those costs. Unless this method is introduced, it is impossible not only to determine internal reserves with sufficient accuracy, but also to establish effective control over the expenditure of all material and financial resources in the process of production.

In order to create opportunities to provide for a comprehensive approach to the reduction of expenditures, proposals are more and more frequently made concerning a transition to planning an indicator for the material intensiveness of output. However, this indicator does not reflect industrial wastes, losses of material resources or their inefficient utilization. With the existing methodology of accounting for the utilization of material resources, these losses remain hidden in items of production expenditures--in the consumption of basic materials and purchased intermediate products. In addition, the indicator under consideration is subjected to the influence of a number of factors, which do not have a direct relation to the characteristics of raw and secondary material utilization and which distort the actual state of affairs (expenditure norms, price levels, cooperation, etc.). The basic principle for determining the level of effectiveness is lost here: the comparability of the result with the expenditures to achieve it. And, finally, the shift to planning material-intensiveness presumes technically and economically grounded norms for the expenditure of material-technical resources in the products list, which encompasses the predominant mass of output and resources which are consumed, as well as the development and systematic updating of the product lists and the price lists for materials.

For this reason the application of this indicator is hardly advisable at the present time. After all, even now, when Gosplan USSR has increased from 39 to 60 the number of the most important material resources for which it develops expenditure norms and establishes average reduction targets, the proportion of these resources in many sectors does not exceed 20-30 percent of the cost of all resources which are used. Moreover, these same targets do not fully take into account the specific features of individual sectors which have a high proportion of resources which are not part of the list of centrally planned resources. In our view, one can talk about the transition to planning the indicator for the material-intensiveness of output only after all the negative phenomena have been eliminated.

Shifting the national economy to an intensive path of development presumes the efficient expenditure of all forms of resources. For this reason it is advisable to make broader use--along with the generalizing indicators in planning--of the indicators which characterize the consumption effectiveness of a particular form of material resources--their utilization coefficient. While the material intensiveness correlates resources with the output which has been created and the useful final effect, the utilization coefficient directly describes the degree of intensiveness (effectiveness, completeness) in the realization of specific resources. On the basis of this indicator one can also judge the improvement in technology, the level of norm setting, the size of wastes and losses and their proportion of the total volume of resources. However, the application of this indicator presumes the development and practical application of product-range planning and the setting of norms for wastes; this will make it possible to determine more clearly the category to which an enterprise's production wastes belong: to the commercial, recovered or utilizable categories.

One of the ways to strengthen conservation is through the ever-expanding practice of bringing recycled material and fuel-energy resources into economic circulation. In the current five-year plan the state plan for the economic and social development of the country has included for the first time a section in which "address" targets for the improvement of recycled resource utilization have been established for all levels of economic management. At present recycled resources have been included in the material balances and distribution plans as a source of the resource portion, while USSR Gossnab organs have obtained the right to regulate deliveries depending on the degree to which consumers use these resources.

The country has enormous resources of recycled raw materials. In machine building the volume of commercial metal wastes are 2-3-fold greater than what is used. In sawmill operations wastes amount to 35 percent of the timber which is processed, including 25 percent in the manufacture of cross ties, 60 percent in the production of veneers and 65 percent in the production of matches. The country's consumption of fuel-energy resources is accompanied every year by the formation of approximately 350 million gram calories of secondary energy resources, etc. Calculations show that bringing the wastes of many forms of resources into production involves expenses which are significantly less than they are to obtain the latter. In machine building, for example, the cost of providing for metal conservation during consumption is one-sixth to one-

seventh the cost of organizing addition production. In this regard, it is machine building among all the branches of industry which has priority as a source of savings. However, the measures which that sector is taking to increase the utilization level of secondary resources are is not always effective. For example, the enterprises of the Ministry of Heavy Machine Building have not equipped a single one of their open-hearth furnaces with a boiler to utilize heat, although, on the basis of estimates, the enterprises of this sector could satisfy 40-60 percent of their heat needs through the utilization of recycled resources.

In view of the importance to the economy of secondary-resource utilization, there is in the 11th Five-Year Plan a gradually expanding circle of ministries and agencies for which the corresponding plan targets are being established in a centralized manner. In 1981 targets of this kind were established for only seven ministries and agencies with respect to 23 forms of wastes, but in 1983 targets were set for 39 USSR ministries and agencies and all the union republics for 30 forms of wastes. In the future, USSR Gosplan and USSR Gossnab intend to include targets for about 130 types of production and consumption wastes in the national economic and sector plans.

However, not all economic organs devote attention in equal measure to the process of bringing secondary resources into economic circulation. In many sectors capital investments to establish the material-technical base to recover and utilize these resources are being reduced. Meanwhile the existing capacities do not provide for the recovery of wastes.

But even the available opportunities are not fully utilized. In the past year the plan targets for the recovery of worn tires were only 76 percent fulfilled, for shale and shale resins the figure was only 75 percent (USSR Ministry of the Petrochemical Industry), and for wastes from logging, sawmill operations and woodworking it was 83.6 percent (USSR Ministry of the Pulp and Paper Industry) and 72 percent for lignin (Main Administration of the Microbiological Industry). From this one can conclude that bringing wastes into economic circulation remains for producers a secondary matter at present. In this regard it seems that the utilization of production and consumption wastes must find reflection in the plans for the basic activities of associations and enterprises. For this the volume of secondary resources could be included in the volume of saleable output and taken into account when evaluating fulfillment of the plan for deliveries.

One of the main conditions for improving the balance work and raising the effectiveness of material resource utilization is the development and introduction of progressive, technically grounded norms for the expenditure of raw and secondary materials, fuel and energy. As the basis for the conservation of all forms of resources this direction is developing, but it is not developing quickly enough. The primary reason for this is the poor organizational work which is carried out in the ministries, agencies, associations and enterprises on the setting of norms for material resources and monitoring the conservation of these resources. In addition, in machine building alone there are about 500 different normative-technical documents, which frequently are not coordinated among themselves; they concern the use of rolled ferrous metal products in machinery and equipment parts, which leads to a significant over-expenditure of metal.

Large reserves are to be found in the actual mechanism for reducing the expenditure norms for a majority of resources. At present the first priority is for targets which are being set for the reduction of expenditure norms and then, on the basis of these norms, funds for material resources are being reduced. In practice these targets do not reduce the actual expenditure of material resources; instead, they reduce the calculated expenditure, as a result, savings of this type are calculated in nature. Moreover, this creates interest on the part of enterprises in overstating the needs for resources. In this regard, the following example is instructive: In 1979 the Revda Ferrous Metal Processing Plant used 140 kg of fuel per ton of rolled metal products; however, the 1980 plan stipulated 151.77 kg, while in fact only 135.83 kg was expended. At the same time a norm of 150 kg was approved for 1981. Of course, this practice of overstating the norms for the consumption of material resources cannot contribute to their effective utilization.

A no-less-important factor which is holding up the efficient utilization of material resources is the presence of a large number of obsolete expenditure norms. In a number of cases this creates an artificial shortage of resources and gives rise to the possibility of fictitious savings of material valuables.

A significant reserve for increasing the utilization effectiveness of all resources lies in the introduction of progresive technology, the elimination of causes of resource losses and the application of progressive norms. Even in the Ministry of the Electrical Equipment Industry, where a comprehensive system for the management of material resource savings during the 10th Five-Year Plan, given a 5.3 percent reduction in lead consumption and an 8.4 percent reduction in tin consumption, a 4.2 percent growth in the consumption of rolled ferrous metals and a 2.2 percent increase in copper consumption, led to a 30.6 percent increase

in production volumes, not all the reserves for saving resources have been put into effect.

In this sector (as throughout industry as a whole) one can observe a substantial difference between the level of production technology and the level of output which is produced. About 50 percent of the output which is produced is judged to be in the highest quality category, while the respective indicator for the technology hardly exceeds 15 percent. In addition, when the Mark of Quality is obtained, there is no requirement that the material- and labor-intensiveness of an item must correspond to the level of the best foreign models or that they should be less, i.e., the cost of the output is not taken into account, only its consumer qualities are. And, after all, the formula for effectiveness is primarily a comparison between the result and expenditures. For this reason it is essential that the normative documents which regulate the procedure for awarding the Mark of Quality include a clause about taking the level of material- and labor-intensiveness into account.

The low level of norm setting led to a situation in which the associations and enterprises of the Ministry of Electrical Equipment had accumulated by 1 January 1981 above-norm reserves of commodity-material valuables, which had not been credited by a bank, worth 100 million rubles (an inspection showed that nearly one-third of them proved unnecessary for further production). This, as well as other factors have led to approximately 1.5-fold growth in the presence of commodity-material valuables, given a 1.3-fold increase in the volume of commodity output during the years of the 10th Five-Year Plan.

The planned management of public production under socialism requires an increase in the interest and responsibility for the maximum possible conservation of resources. For the most part it was after the economic reform of 1965 that industry began to award bonuses for saving material resources. However, this system did not bring a fundamental improvement in the utilization of material resources. The reasons are seen first of all in the fact that the indicators, for the fulfillment of which the incentive was provided, were established without consideration for the specific features of the particular production unit, while the bonus scales were not differentiated according to categories of employees or types of work, and they remained unchanged over an extended period of time. However, in terms of amounts, the bonuses were insignificant, and they did not exert a substantial influence on the employees' level of interest. Measures of material responsibility for the wasteful storage and expenditure of materials were also poorly applied. Many enterprises did not carry out enough work on the establishment of suitable conditions for monitoring and taking account of material resource expendi-

tures without which the efficient organization of the bonus distribution is impossible.

The adoption of the decree "Concerning the Strengthening of Work on the Conservation and Efficient Utilization of Raw Material, Fuel-Energy and Other Material Resources," as well as the Regulations Concerning the Procedure and Size of Direct Payments into the Economic Stimulation Funds for the Conservation of Material Resources in 1983-1985 in Industry constitute a significant step in the development of incentives for saving resources. In accordance with these documents, the economic stimulation funds of ministries and agencies, associations, enterprises and organizations are made dependent not only on the growth of labor productivity, the quality of output and the volume of deliveries, but also on the level of material expenditures per 1 ruble of output. Beginning in 1983, direct payments have been made from the amount of savings obtained through the reduction of material expenditures in comparison with an established limit, and in case that limit is exceeded the deductions are reduced.

Since 1982 the bonus system has been expanding for blue-collar workers, master craftsmen, technologists, designers and other engineering-technical employees for saving specific resources against the established, technically-grounded norms for their consumption. The bonuses are stipulated as an amount up to 75 percent of the amount of saving depending on the type, cost and scarcity of the resource. They will be paid out to workers in amounts above the maximum bonuses established on a sector by sector basis. Since 1983 bonuses have been introduced for management personnel and white-collar workers of production associations, enterprises and organizations depending on the level of material expenditures per 1 ruble of output (work) in comparison with the established limit (taking into account the fulfillment of the targets for production costs). Beginning in 1982, the profits obtained from the sale of consumer goods and items for production-technical purposes manufactured from production wastes, remain completely or partially (up to half, depending on conditions) at the disposal of associations, enterprises and organizations and they are included in the consumption fund.

At the same time improving the system of bonuses for saving resources requires the resolution of a number of fundamental questions. For example, in our view, paying bonuses for saving resources is unjustified if it is not related to the fulfillment of the production plan and the observance of economic-contract obligations on the delivery of output. After all, saving resources is not a production goal, it is a form or a method of achieving it. It is more correct to establish a procedure under which the size of the bonus for saving resources is reduced if the plan for production or deliveries is not fulfilled.

Another important question concerns the relation between bonuses for saving resources and basic earnings (in the form of tariffs, salary or wage rates), as well as other forms of bonuses. It arises because bonuses for resource savings will be determined in terms of percentages which are not derived from basic earnings, but rather from the total of the obtained savings. Of course, there must not be any factors to restrain demonstrations of initiative in the area of efficient resource utilization but, taking into account the fact that norm setting for the consumption of material resources has not reached a satisfactory state in all places, some kind of limit to the size of the bonuses should be adopted, if only temporarily, as it should with regard to basic earnings. The incentive role of earnings, and especially, its foundation, which is the tariff, wage or salary rate, depends largely on the relationship between basic earnings and bonuses. And if the bonus portion of earnings is increased excessively, this sharply reduces the role of the tariff, salary or wage rate and creates disproportions in labor payments. One can hardly agree with the predominance of bonuses for resource savings over bonuses for the fulfillment of the plan for production or deliveries. Using production tasks as the basis, it seems that the two types of bonuses should constitute equivalent proportions in the total amount of bonuses.

A significant obstacle on the road to creating the necessary concern for the effective utilization of material resources is the presence of a multitude of bonus systems, which are frequently not coordinated with each other. Often the conservation of each material or form of energy is promoted on the basis of a special regulation, which is not coordinated with the entire system of bonuses. The large number of indicators and conditions for bonuses has led to a significant fragmentation of incentives and to the excessive complication of the incentive system, making it sometimes contradictory and difficult for both participants and administrators to understand. For this reason it is very important to make available the existing experience in this area and to develop a comprehensive system of stimulation, which would link all forms of incentives with the final results of work.

In shifting the economy to a primarily intensive path of development, the Communist Party makes increased demands for the conservation of material resources. In the the CC CPSU Report to the 26th Party Congress, it was noted that the core of economic policy is a matter which would seem to be simple and very ordinary--to use wisely everything that we have.

Speaking at the November (1982) CPSU Central Committee Plenum, Yu.V. Andropov, general secretary of the CPSU Central Committee, said: "Today the economy and a conscientious attitude toward the people's property--this is a question of the reality of our plans."[3]

For this reason the mobilization of all available reserves, the utilization of all levers for influencing the effective utilization of material resources is becoming one of the urgent tasks of the planning and economic organs at all levels.

---

3. "Materialy Plenuma Tsentral'nogo Komiteta KPSS 22 Noyabrya 1982 goda" (Materials of the CPSU Central Committee Plenum of 22 November 1982, Moscow, Politizdat, 1983, pp 10-11.

8543
CSO: 1820/14

IMPORTANCE OF RIGHT METHODOLOGY IN REGIONAL PLANNING UNDERSCORED

Moscow EKONOMICHESKIYE NAUKI in Russian No 10, Oct 83 pp 32-38

[Article by V. Arzamaskin and V. Kanov, docents and Candidates in Economic Sciences, Tomsk: "Improving Regional Planning: Questions of Methodology and Methodics"]

[Text] Under conditions of a mature socialist society created in the USSR, the ever-current problem of combining sectorial and territorial principles in the management of the socialist national economy takes on new aspects. Of course, the advantages of sectorial management associated with the implementation of a single scientific-technical and economic policy within the framework of functional segments in social division of labor determine its priority even under modern conditions. At the same time, in the course of expanding the scope of production, intensifying its specialization and complicating its economic ties, the significance of the territorial aspect is not only retained, but even increases. The role of comprehensive territorial plans in combination with the system of sectorial plans consists of facilitating the increased effectiveness of social production and transferring the economy to a primarily intensive type of expanded reproduction. With the aid of the indicated plans, inter-sectorial questions concerning the economic development of the appropriate territory are resolved. The utilization of labor resources is improved, the activity of enterprises and organizations within various ministries and departments is coordinated with implementation of measures for environmental protection and improved standard of living for the population.

An important step in improving territorial planning was the adoption in March 1981 of the resolution by the CPSU Central Committee, USSR Presidium of the Supreme Soviet, and USSR Soviet of Ministers, "On Further Increasing the Role of Soviets of Peoples Deputies in Economic Construction." In May of 1982 the USSR Gosplan [State Planning Committee] confirmed standard methodological directives for compiling plans on the economic and social development of autonomous republics, krays, oblasts, okrugs, rayons and cities. Many new questions were resolved in these documents, and important and necessary measures were provided which created an organizational-legal basis for improving territorial planning and for its fuller coordination with sectorial planning.

The systemic approach to improving regional planning presupposes the consideration of all of its components: methodology, organization, personnel make-up,

provision with information, technical means of processing, and storage and transfer of information. From the standpoint of a systems approach, all the directions and means for improving planning are closely interrelated in the achievement of a single clearly defined goal. However, it must be kept in mind that the roles of functional components of planning in the overall process of its improvement are not identical. The role of planning methods based on scientific methodology is the most active. It is specifically from methodics that the process of improving planning begins in its general form. The application of new methods in solving problems on increasing the scientific substantiation of plans predetermines the need for also improving the informational provision in restructuring the organization of planning, in utilizing means of computer technology, in increasing the level of training of plan workers, etc. Of course, this does not mean that all components of planning except method (and thus methodology) are given merely a passive role. Each of them may under certain circumstances becom the leading one in the scheme of improving planning. Nevertheless, the process of improving planning, no matter which component begins this process in one situation or another, must be reflected in improving the method of planning, which once again underscores its leading significance. Thus, the efficiency of regional planning depends primarily on the scientific substantiation of its methodology. Outside of this basis, measures on improving regional planning and management may turn out to have little or no effectiveness. Therefore, in our opinion, the achievement of qualitative changes in methodology and method in regional planning is particularly important today. This fact was also pointed out in the economic literature.[1]

In this article we will attempt to substantiate the main directions in improving methodology and methodics of regional planning under modern conditions.

A most important task and direction in improving planning is the intensification of its target character. With a systems approach to the development of a plan decision, it is important first of all to clearly formulate the main goal of development of the planning object for the long-term perspective. The plan must be aimed toward ultimate national economic results.

What, then, is the main goal in the development of a region's economy? Our economic literature does not as yet give a singular answer to this question.[2] It would seem that the chief orienting factor in the search for such a solution must be that under conditions of developed socialism the social goal must be put in first place. In the 80's, as determined by the 26th CPSU Congress, the party will sequentially continue the implementation of its economic strategy, whose highest goal is the constant increase in the material and cultural standard of living of the people and the creation of better conditions for overall personal development.[3] This is fully regular.

The accumulated experience in socialist planning shows that a properly worked out prospective plan for the development of a region must consider its specific as well as all-state interests, which must predominate. Based on this undoubted position, it is necessary in our view to believe that the main goal of economic development of a region consists of ensuring the greatest contribution to the solution of national economic problems based on comprehensive

development and in accordance with specialization in the territorial division of labor.

Under conditions of a developed socialist society, in our opinion, the dialectic interdependence of all-people's and regional interests is more fully reflected in the goal of regional development. This interdependence is realized in the economic mechanism by means of fuller utilization of cost accounting relations. This, evidently, means that society must generally establish retributive relations with the region so that the allocated resources, particularly for the satisfaction of regional interests, would correspond to its contribution to national-economic results. The latter, as we may assume, should be determined, contrary to certain recommendations given in the literature,[4] not by the degree of satisfaction of needs of the superior level system and the country as a whole in terms of specific types of products (services) whose production in the region is the result of its national economic specialization, but rather by the portion of the region and its specific importance in the production of the national income (net production). First of all, this indicator considers the effect of national-economic specialization on production, as well as the comprehensiveness of the region's economic development. Secondly, net production determines its share in the production of the basic source of the country's economic development--the national income. Clearly, the greater this share, the more important the region's contribution to the national economic results.

As we have already noted, there is a cost accounting dependence between a region's input into the national economic results and the resources allocated to it for the reproduction of capital and consumption by the workers. However, the retributive nature of society's relations with the region should not be overestimated. Along with the increase in the country's national income, there is also an increase in that part of it which is subject to redistribution, in connection with which the possibility of rendering substantiated aid to those regions whose specific importance in all-state production is relatively low is increased.

The target character of planning is the most important condition in realizing the principle of comprehensive planning. This is associated with the fact that the basis for increasing a region's contribution to the national economic results is primarily the development of the sectors of its national economic specialization. However, they obtain the most favorable conditions for effective functioning only with comprehensive development of the region.

There is a dialectic interrelation of the general and the specific between specialization and comprehensive development of a region's economy. [This interrelation] determines the specifics of the law of planned, proportional development which is manifested here. Coordinating the activity of all the sectors and enterprises of a region is implemented from the positions of realizing the main goal of its development--maximalization of production and increased input into the national economic results. Therefore, the sectors of specializations have and must have priority in the structure of the region's economy, but only on the basis of multilateral, interrelated development of all sectors, ensuring the fullest, most economically effective utilization

of labor and natural resources, and the social-domestic and productive infrastructure.

In regional planning, it is important to determine the level of comprehensive development of the economy at a given period and for the long term. The structural-sectorial approach is usually used in solving this problem in the economic literature. This approach defines the structural dependences between groups of sectors, for example between specialization sectors and service sectors, between the non-productive sphere and production, working to supply the population with goods for public consumption. The purpose of this approach is to determine the structural dependences which must respond to the problems of comprehensive social and economic development of the region. However, it is necessary to consider the fact that to ensure comprehensive development of a region's economy, structural proportions alone are insufficient. The structural-functional approach is more acceptable in analyzing and planning regional economics. In this approach, the region's economy is viewed as a system function according to the laws of expanded socialist reproduction. The implementation of this approach makes it possible to determine the proportions and functions of interacting elements in the region's economy from the standpoint of expanded reproduction and to clarify their specifics, which are formed depending on specific historical, socio-economic and production-technical conditions in the region.

The structural-functional approach has been used in recent years in the analysis and planning of regional economics.[5] Unfortunately, there are certain informational difficulties here which require the regular compilation of regional intersectorial balances on production and distribution of products in order to be overcome.

The system of indicators of the level of comprehensive development of a region's economy has an important significance in realizing the principle of comprehensive nature in regional planning. The absence of a strict scientifically substantiated system of such indicators at the present time creates additional obstacles to the realization of this principle.

In our opinion, the generalizing indicator of comprehensiveness, synthesizing all aspects of interrelations in the region's economy, may be the relation of the gross produced product in the region to the consumed gross product (reproductive resources). Here the situation, when the ratio of the produced gross product to consumed resources is greater than one, is characteristic for economically developed regions with increased portion of industries in the processing sectors, developed productive and social infrastructure and with a higher level of economic development on the whole. In Tomsk Oblast, for example, the relation of produced gross product to reproductive resources comprised 0.74 in 1966, 0.70 in 1972, and 0.76 in 1977. That is, for every 100 million rubles of consumed resources, 74, 70 and 76 million rubles of gross product were produced. This testifies to an insufficiently high level of comprehensiveness in the development of the oblast's economy, which is conditioned by a number of factors, as analysis shows. Primary among these factors is the high level of extractive sectors of industry (15 percent) as well as of sectors and industries with detailed specialization, lag in the development of auxiliary

production, and insufficient scope of the social infrastructure.

An analysis of the system of indicators is necessary for a fuller description of comprehensiveness and for clarification of tasks associated with increasing it. In our opinion, a special place among these indicators belongs to the relation between the level of development of the region's productive forces (production of net product per capita of the population) and the level of consumption (real income per capita), as well as the structure of the gross product and reproductive resources.

An important aspect in realizing the principle of comprehensiveness in regional planning is the reflection of all aspects of socio-economic life in the plan with isolation of the most important complexes of mutually interrelated sectors, territorial-production complexes, industrial units, and comprehensive target programs.

Improved planning of a region's economic development further conditions the need to ensure the optimal nature of plan decisions. At the present time, in connection with the need for further increase in the effectiveness of social production and its transition to a primarily intensive path of development, this problem is being given particular attention. However, we must remember that the possibility of optimizing plan decisions at the regional level is limited by the directives of all-state economic policy. As we know, a significant portion of plan decision variants is worked out in the central planning organ, which has at its disposal possibilities of selecting variants based on national-economic interests and may therefore give to its best selected variant the character of a directive issued to the regional planning organs. This, in particular, concerns the development of sectors of the region's national economic specialization based on the utilization of its natural, labor and other resources.

Optimization, which is implemented with overall planning of a region's economy, must concern primarily specific problems whose various means of solution under conditions of limited resources do not disrupt the general goals of the plan. In other words, we are speaking here of variants, any of which, with all other conditions being equal, may be selected as a means of attaining an end. The development of variants of individual plan elements also becomes necessary when the future parameters are unknown or when the ultimate decision is not yet on the agenda.

As we know, the solution of the problem of optimizing plan decisions is based on the application of mathematical methods and models. A number of economic-mathematical models which have been developed at the present time (for the optimal development and location of individual sectors of industry, agriculture, intersectorial complexes and intra-regional territorial production complexes, and others), as well as the regulations and schemes of preparation, substantiation and adoption of plan decisions makes it possible already at the present time to improve the regional plan and to bring it closer to the optimal variant. The broader application of these methods in regional planning is associated with the creation of automated systems of planning and management.

With all the limitation of possibilities for plan optimization at the regional level, their application has important significance for increasing production effectiveness and is an important task of local plan organs. For this they must know what the level of effectiveness of the region's economic development is, what factors determine it in the given period, and what can and must be done to increase the effectiveness of the regional economy.

In the opinion of numerous authors, the effectiveness of a region's economic development must be determined as the ratio of results (effect) to expenditures. However, both the results obtained by a region and the expenditures for the development of its economy are determined differently.[6]

We believe that the formula according to which the effectiveness indicator is determined as the relation of net production produced in the region to the reproductive resources most fully considers the requirement of comprehensiveness in approach to evaluating the effectiveness of the regional economy. This indicator is then corrected based on the relationship of available data on the population's standard of living on the whole throughout the country and throughout the examined region in order to exclude the effect of possible relative reduction in the population's standard of living in the region.[7] This approach to the evaluation of the effectiveness of the regional economy seems to be most substantiated and rightful, primarily because the economic effectiveness of the regional economy is evaluated from the positions of the entire regional reproductive process. The region is examined as a single subsystem, as a living monolith organism with all its internal interrelated and mutually conditioned processes, when the economic results of development are formulated thanks to the achievements in production-economic activity of each individual enterprise as well as due to the rational territorial organization of the national economy, including commodity turnover and the development of the non-productive sphere. Secondly, this approach has the advantage that the effectiveness of the region's reproductive process is viewed as the result of qualitative structural changes in the region's economy and the socio-economic shifts taking place in it over a certain time interval.

Ultimately, the task of planning increased effectiveness of a region's economic development consists of clarifying and bringing to action the intraregional factors of growth in net production with the best utilization of all reproductive resources.

Among the current problems in improving planning is also the expansion of the planning horizon, i.e., the development of long-term (10-15 year) plans for socio-economic development based on scientifically substantiated predictions.

This task has particular significance for regional planning. It must be long range by its very essence, since the problems of comprehensive development of regions are usually such that their solution bears a long-term character. This, as a rule, is caused by change in the formulated structure of the economy in connection with an increase in the role of sectors of national economic specialization based on the broader application of effective natural resources, with the creation of new sectors based on the resources involved in the national economic turnover, with demographic processes whose cycle does not fit into

a five-year time period, and with certain other factors. Territorial planning must be brought into unity with a strict system of continuous planning developing under conditions of a developed socialist society and applicable to the entire national economy. For this, territorial planning must begin with a formulation of the concept of development for 25-30 years. Its formulation for any territorial unit is the first step in regional planning. It is the basis for building a scientific model of regional economic development in a long-range perspective.

Based on the goals for a region's economic development--increased input into the national economic results, in developing the concept it is necessary to consider its basic determining factors. Among these are primarily: the achieved level of development of the region's productive forces; the need for involving natural resources in the national economic turnover, including raw material sources, their comprehensive utilization and preservation; the long-term provision of labor resources; predicting the results of scientific-technical progress. The concept must define the general principles and directions for the region's development based on the formulated goal and its capacities.

The second step in regional planning must be a scheme of development and location of the region's productive forces for 10-15 years. It must organically stem from the concept of the region's development and be its logical continuation and clarification. While in this concept the determination of prerequisites and capacities for the region's development is of primary importance, in the scheme of development and location of productive forces the main emphasis must be on clarifying the need for resources. Determined as needs for the development of various sectors and subsectors of the national economy, they do not always correspond with each other, and sometimes are even contradictory. Summarized needs for economic development must be reflected in the scheme for development and location of a region's productive forces. Here, any contradictions between the needs of various sectors and between the sectors themselves and the needs of the population must be eliminated, and the needs brought into correspondence with the resources. In summary we may say that the task of the scheme for the development and location of a region's productive forces is the clarification and detailization of principles and basic directions for the development of the economy which were worked out in the concept indicated above.

The development of the five-year plan forms the third step in the system of regional planning. At this stage, specific tasks for the development of the economy and increased well-being of the population are resolved. At this stage of planning, needs as well as capacities may be determined precisely in a cross-section of local and all-union needs and capacities. Therefore, an important task here consists of ensuring the satisfaction of needs established in the compilation of the concept for the region's development and the scheme of development and location of its productive forces. This is done with the aid of rational utilization of resources and in such a way as to most quickly reach the perspective goal within the framework of the available resources and capacities. Along with the compilation of the next five-year plan, work on the preceding stages of territorial planning is also subject

to clarification, i.e., the concept of the region's development and the scheme for development of its productive forces.

The introduction of the presented scheme into the practice of regional planning would facilitate the increased role of territorial plans and would ensure their fuller integration with plans for sector development.

The provision of a balanced character in national economic plans is also among the important tasks of improving planning at the current stage. As we know, it is determined by two types of economic processes: first, the formulation of resources; second, the clarification and formulation of needs. Achieving balance requires a broader utilization of balanced methods in regional planning than is currently being used. This is true for summary general economic as well as for specific balance in the utilization of individual resources.

In planning the development of a region's economy, the following are presently compiled: the balance of labor resources, the balance of local building materials, the balance of monetary income and expenditures by the population and individual material balances for agricultural production. The first of these is the only general economic balance. Its data on the number of persons engaged in social production make it possible to only indirectly characterize the sectorial structure of the region's economies and to evaluate the proportions between the sphere of material production and the non-productive sphere. However, a complete understanding of a region's economy in the process of social production and balance of its economics may be obtained only by knowing its general economic characteristics. Therefore, at the regional level it is also expedient to compile a balance of production and distribution of the social product, a balance of production, distribution, redistribution and final utilization of the national income, and a balance of fixed capital and capital investments.

The compilation of these balances would also significantly facilitate the development of intersectorial balances of production and distribution of the region's products, which is currently implemented for numerous regions by the efforts of the scientific organizations. The intersectorial balance is the most informative and not only reflects the process of formulation and utilization of the end product--the natural base for formation and utilization of accumulation and consumption funds--but also gives a complete picture of the intersectorial ties in the region's economy. It may be used to substantially examine numerous processes of reproduction of the social product in the region: the realization of all-union resources of gross social product and national income in the given territory, the production of gross product and net production in the region, the formulation of a sectorial structure for material production, of a cost structure for the entire social product in each sector of the regional economy, of the structure of current production consumption, of the structure of reproductive resources, etc.

The system of specific balances also has significant importance for increasing the degree of balance in regional plans. This includes balances such as those characterizing the presence and utilization of natural resources (mineral raw material, timber, water, land resources), balances of production and distribution of individual types of production, balances of productive capacities in mutally interrelated sectors, etc.

It should be noted that a number of balances (balance of construction organization capacities, certain natural economic balances, etc.) may be compiled on the basis of presently effective statistical and plan documentation. The compilation of other balances, however, (social product, national income, water resources, etc.) requires the introduction of changes into the system of territorial statistics and planning.

In conclusion we must note that the improvement in regional planning depends not only on the scientific substantiation of its methodology and methods, but also on the effectiveness of the economic mechanism, on its effectiveness of stimulating the development and implementation of the plan for a truly comprehensive development of the region. In our view, withholdings going to the local budgets from enterprise profits, regardless of the departmental subordination of these enterprises, is a significant step in the direction of increasing such effectiveness. Incentives to workers of local plan organs for high indicators achieved by all the organizations in the territory's jurisdiction would also have great significance.

FOOTNOTES

1. Cf: Orlov, B. P., Shniper, R. I. "Ekonomicheskaya Reforma i Territorial'noye Planirovaniye" [Economic Reform and Territorial Planning], Moscow, 1969, p 3; Granberg, A. G. Granberg. "Optimizatsiya Territorial'nykh Proportsiy Narodnogo Khozyaystva", [Optimization of Territorial Proportions of the National Economy], Moscow, 1973, p 27.

2. Cf, especially: Kossov, V. V., "Metodologicheskiye Aspekty Optimizatsii Territorial'nogo Planirovaniya. Ekonomika i Matematicheskiye Metody", [Methodological Aspects of Optimization of Territorial Planning. Economics and Mathematical Methods], 1972, Vol 8, No 6, p 803; Koychuyev, T. K., "Vosproizvodstvo Obshchestvennogo Produkta v Kirgizskoy SSR" [Reproduction of the Social Product in the Kirgiz SSR], Frunze, 1977, p 26-27; Paalberg, Kh., System of Territorial Planning and its Application. In: "Upravleniye i Planirovaniye Narodnogo Khozyaystva" [Management and Planning of the National Economy], Tallinn. 1981, p 128.

3. As Comrade Yu. V. Andropov indicated at the June (1983) Plenum of the CPSU Central Committee, the formula of "standard of living" cannot be interpreted in a simplified manner, referring only to the growth in the population's income and production of consumer goods. In actuality, this concept is much broader and richer, encompassing also the constant growth in the consciousness and culture of the people, the exemplary social order, healthy and prudent nutrition, high quality of service to the population, and the full utilization of free time from a moral-aesthetic point of view. In short--all that which together is worthy of being called socialist civilization (cf: "Materialy Plenuma Tsentral'nogo Komiteta KPSS 14-15 iyunya 1983 goda" [Materials of the Plenum of the CPSU Central Committee, 14-15 June 1983], Moscow, 1983, p 13).

4. Cf: Malakhov, V. I. The Contribution of a Region to the Development of the Economy and the Effectiveness of its Economic Development. In: "Sovershenstvovaniye Planirovaniye Narodnogo Khozyaystva i Razmeshcheniye Proizvoditel'nykh Sil Povolzhskogo Ekonomicheskogo Rayona", [Improving National Economic Planning and Location of Productive Forces in the Povolzhye Economic Rayon], Kuybyshev, 1979, p 4.

5. Cf: "Mezhotraslevyye Svyazi i Narodnokhozyaystvennyye Proportsii Sibiri i Dal'nego Vostoka", [Intersectorial Ties and National Economic Proportions in Siberia and the Far East], Novosibirsk, 1974; Dobrynin, A. I. "Regional'nyye Proportsii Vosproizvodstva", [Regional Proportions of Reproduction], Leningrad, 1977; Yegorov, Ye. G., "Problemy Regional'noy Ekonomiki (Na Primere Severo-Vostoka SSSR)", [Problems of Regional Economics (Based on the Example of the Northeast USSR], Novosibirsk, 1979; Arzamaskin, V. I. "Sovershenstvovaniye Planirovaniye Kompleksnogo Razvitiya Khozyaystva Oblasti", [Improving Planning of Comprehensive Development of the Oblast Economy], Tomsk, 1981; and others.

6. Cf, for example: Demenev, R. I., Morozov, G. B. et al. Methodological Bases and Methodical Principles for Determining the Economic Effectiveness of a Regional Economy. In: "Problemy Politicheskoy Ekonomii i Regional'noy Ekonomiki", [Problems of Political Economics and the Regional Economy], Sverdlovsk, 1978; Zykin, B. N. "Effektivnost' Regional'noy Ekonomiki", [Effectiveness of the Regional Economy], Moscow, 1981; Kistanov, V. V. Generalizing Indicators of Regional Production Effectiveness, PLANOVOYE KHOZYAYSTVO, 1976, No 8.

7. Cf.: "Mezhotraslevyye Svyazi i Narodnokhozyaystvennyye Proportsii Vostochnoy Sibiri i Dal'nego Vostoka", [Intersectorial Ties and National Economic Proportions of Eastern Siberia and the Far East], Novosibirsk, 1974, p 52.

12322
CSO: 1820/16

END