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# USSR Report

ECONOMIC AFFAIRS

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27 March 1985

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ECONOMIC POLICY, ORGANIZATION AND MANAGEMENT

REFINING OF ENTERPRISE RENOVATION, RETOOLING POLICY URGED

Moscow PLANOVoyE KHOZYAYSTVO in Russian No 10, Oct 84 pp 78-81

/Article by I. Traynin: "Retooling and Reconstruction in Expanded Reproduction"/

/Text/ Our country has a vast production and technical potential, whose constant maintenance and renovation are some of the urgent tasks. The retooling and reconstruction of existing enterprises on the basis of new technology and equipment contribute to the intensification of public production and increase in its efficiency. K. U. Chernenko, general secretary of the CPSU Central Committee, chairman of the Presidium of the USSR Supreme Soviet, said the following at a meeting with workers at the Moscow Serp i Molot Metallurgical Plant: "The retooling of sectors and introduction of the latest achievements of science and advanced experience acquire special importance at the present stage. This is an urgent demand of the time, the command of the era, one can say. This is also pressing, because with the existing demographic situation we cannot expect the flow of labor resources that we have had until now."<sup>1</sup>

The decree of the CPSU Central Committee and the USSR Council of Ministers "On Improving the Planning, Organization and Management of Capital Construction" notes that the reconstruction and retooling of existing enterprises on the basis of the introduction of highly efficient technological, new processes and equipment should be the foundation of the policy in the area of increase in production capacities for the next few years and the future. It is recommended that capital investments be allocated primarily for the realization of measures connected with the introduction of the latest scientific and technical achievements into the national economy and renovation of production facilities.

The planned performance of work on the retooling and reconstruction of enterprises and acceleration of their rates makes it possible to most fully utilize existing production capacities and fixed capital, to increase the output and improve the quality of products, to lower material expenditures and the

1. K. U. Chernenko, "Narod i partiya yediny. Izbrannyye rechi i stat'i" /The People and the Party Are One. Selected Speeches and Articles/, Moscow, Politizdat, 1984, p 462.

production cost of articles and to save fuel and power resources. At the same time, labor productivity growth is accompanied by much lower specific expenditures of funds as compared with the expansion and, moreover, construction of new enterprises.

Under the conditions of developed socialism, when all industrial sectors have available large volumes of fixed capital, it becomes objectively necessary to overallly plan existing production facilities and new construction as a single whole. This was stressed in the decisions of the 25th party congress and in the decrees of the CPSU Central Committee and the USSR Council of Ministers on improvement in the economic mechanism and capital construction.

The essence of this situation is that funds for the construction of new and expansion of existing enterprises can be allocated only if the needs of the national economy for a given item cannot be met by existing production facilities with due regard for their retooling and reconstruction. The decree on capital construction draws attention to the fact that the construction of new enterprises can be envisaged in the plan provided that the capacities of existing production facilities of a given sector, with due regard for their renovation, are utilized fully. This stresses the special significance of the retooling and reconstruction of enterprises in the planning of expanded reproduction.

However, many ministries still try to solve problems of sectorial development primarily through the establishment of new and expansion of existing production facilities. For example, for 1983-1985 USSR ministries and departments and councils of ministers of the Union republics proposed that the annual plan for newly begun construction projects for production purposes (at an estimated cost of 3 million rubles and more) include, on the average, more than twice as much as the 1982 plan. At the same time, in the draft plans for capital construction for the 11th Five-Year Plan submitted by them capital investments for the retooling and reconstruction of existing enterprises were envisaged with a negligible growth as compared with the 10th Five-Year Plan.

Moreover, the technical level of a number of production facilities is insufficient and expenditures of raw materials and energy per unit of output are substantial. As noted at the November (1982) Plenum of the CPSU Central Committee, labor productivity rises at rates that cannot satisfy us. The latest achievements of science and technology--the main potentials for economic intensification--are introduced into production slowly and with certain difficulties.

The acceleration of the rates of reconstruction and retooling is connected with the involvement of vast resources of live and embodied labor in the production sphere and with the need for their more efficient utilization. However, no matter what the possibilities and suggestions for retooling and reconstruction in the localities may be, the actual efficiency and the biggest saving of labor resources are attained by means of cooperation and work organization based on their concentration on directions most advisable for the state.

Without an orientation toward public interests and without the realization of their priority the main and determining success of retooling as a whole cannot be attained. However, the experience of work during the current five-year plan shows that, despite the growth of capacities and of the output of a number of articles, as well as the significant increase in capital investments (bigger than envisaged by the plan), it is not yet possible to carry out the entire set of retooling operations in a sufficiently effective manner.

Many enterprises, associations and scientific research and planning organizations have made considerable efforts to carry out and refine the retooling and reconstruction of existing production facilities. However, their general overall development has not yet attained a level, at which in the next few years retooling and reconstruction would become some of the major factors in technical policy ensuring a more extensive introduction of the achievements of science and technology, application of highly efficient technological, new processes and equipment and a better utilization of the available production apparatus.

What are the reasons for the situation that has been created and what will have to be done to eliminate existing shortcomings?

We will begin with problems of a methodological nature. In 1975 the USSR State Planning Committee and the USSR State Committee for Construction Affairs defined the general concepts of some types of the reproduction structure of capital investments--new construction, expansion, reconstruction and retooling of existing enterprises. USSR ministries and departments, as well as state planning committees and state committees for construction affairs of the Union republics, were guided by them when they prepared plans for the development and placement of sectors of the national economy and industry, planning estimates and plans for capital construction and when they took their fulfillment into account.

Meanwhile, as practice showed, the rights to the performance of a number of necessary, in the opinion of specialists, enterprises and ministries, measures and types of operations were excessively limited in the definitions of concepts of retooling and reconstruction. In particular, it was not permitted to expand individual buildings and structures for basic production purposes even in cases when highly productive, improved, new equipment could not be placed in old buildings. During retooling it was forbidden to build new and to expand existing projects for subsidiary and auxiliary purposes.

Such limitations hampered the rates of reconstruction and retooling to some extent. As a result, plans for the expansion of enterprises were often developed without any special need, although in the structure and nature of operations they should not have been included in this type of expanded reproduction.

Clarifications had to be made in these and other concepts in order to enable associations and enterprises to envisage the necessary measures during the development of retooling plans and reconstruction projects. These measures

should contribute to a buildup of capacities, increase in the volumes of production and services, labor productivity growth, reduction in work places, decrease in the material intensiveness and production cost of output and saving of material and fuel-power resources.

Until recently there was no single general method of developing plans for the retooling of enterprises and consolidated plans for a sector, a USSR ministry, a USSR department and a Union republic.

In May 1984 the USSR State Planning Committee, the USSR State Committee for Construction Affairs, the USSR Bank for Financing Capital Investments and the USSR Central Statistical Administration gave general definitions of the concepts of new construction, expansion, reconstruction and retooling of existing enterprises. In particular, they take into consideration proposals by associations (enterprises), ministries and Union republics for an expansion of the list of measures and types of operations, which it is permitted to implement during the renovation of a production facility, and remove the above-mentioned limitations to a significant extent.

At the same time, reconstruction and retooling remain as individual types of expanded reproduction. In their content they have a great deal in common and, essentially, the same task, that is, to ensure a constant renovation of fixed capital, primarily of its active part, on the basis of utilization of the latest achievements of scientific and technical progress and to improve the organization and management of production. The basic difference is that a set of measures for refining the equipment and technology of individual production facilities, shops and sections through the replacement of obsolete and worn out equipment with more advanced, new one and through the mechanization and automation of labor intensive processes, as well as of projects for auxiliary and service purposes, with the aim of eliminating disproportions and bottlenecks, is implemented during retooling.

Planning estimates and title lists of measures and individual types of operations connected with retooling, regardless of their cost, are approved by managers of production associations (enterprises). The financing of expenditures on these purposes is envisaged basically with the capital of the production development fund. Thus, managers of production associations (enterprises) are given complete independence in the solution of problems connected with the designing, planning, financing and performance of retooling operations.

An overall plan and a consolidated estimate for an enterprise as a whole or its stage approved in accordance with the procedure established by a USSR ministry, a USSR department or councils of ministers of the Union republics (for enterprises of republic subordination) should be developed for the reconstruction of an existing production facility. The enumerations and title lists of enterprises, at which reconstruction is to begin during the planned period, are subject to approval in accordance with the procedure established for newly begun construction projects for production purposes. Expenditures should be financed with internal capital (except for the capital of the production development fund) and in the missing part, with bank credit.

There are still considerable shortcomings in the planning, material and technical provision and organization of work on the retooling and reconstruction of existing enterprises. The decree of the CPSU Central Committee and the USSR Council of Ministers on refining the economic mechanism made it incumbent upon USSR ministries and departments and councils of ministers of the Union republics to develop and, as part of the draft of the five-year plan, to submit consolidated plans for the retooling and reconstruction of production facilities. It envisages their immediate and full provision with limits of capital investments and of construction-installation and contract work, material resources and equipment. However, these requirements are not fulfilled completely.

In practice, capital investments for these purposes are allocated after the completion of the built enterprises and projects, primarily start-up ones, of the planned and following year. Since there are many newly built and expanded enterprises and equipment resources are limited, the latter are allocated for reconstruction and retooling in insufficient volumes.

New production facilities, whose planned capacities, owing to a number of reasons, especially the lack of staffing with worker personnel, are not mastered during the planned period, continue to be established in the country's individual regions. Nor are many existing enterprises staffed with manpower, as a result of which their capacities are not utilized fully. The shortage of modern equipment hampers the realization of measures for an increase in labor productivity and a release of workers, who could be utilized at a given or newly built enterprise.

The development of plans for retooling and reconstruction for 1985 and the 12th Five-Year Plan in accordance with the decree of the CPSU Central Committee and the USSR Council of Ministers "On Improving the Planning, Organization and Management of Capital Construction" will contribute to the elimination of existing shortcomings. At the same time, it is very important that it precede the preparation of the draft of the five-year plan for economic and social development so that their indicators may be taken into account in the planned balances of production capacities and fixed capital, in material and labor balances and, especially, when setting assignments for the five-year plan for the commissioning of new production capacities. It is also necessary to strictly fulfill party and government directives on immediately and fully providing retooling and reconstruction needs with the necessary limits of capital investments, construction-installation and contract work, materials and, especially, equipment.

For the purpose of creating more favorable conditions for the renovation of existing production facilities during the 12th Five-Year Plan, it is necessary to examine the problem of limiting the scale of new construction and even a temporary stoppage and postponement of the construction of some projects to later dates if there is no immediate need for them. The resources released as a result of this can be allocated for the retooling and reconstruction of enterprises, where they can be utilized more effectively.



Considerable potentials lie in the study and dissemination of positive experience in the mobilization of resources. For example, many associations and enterprises have organized in their structure shops for the manufacture of special and nonstandardized equipment and some facilities for production mechanization not manufactured by machine builders.

The successful fulfillment of retooling plans largely depends on the organization of the entire set of operations. Practice shows that under the conditions of existing production it is possible to carry out with the forces of an association (enterprise) many construction and installation operations, in particular the placement of foundations under simple equipment and its assembly, delivery of power supply sources to it, partial internal reconstruction of existing buildings and so forth.

Depending on the volumes of such operations they can be carried out by repair-construction shops, services of the chief mechanic and chief power engineer and the economic method. Contract construction and installation organizations now operate within many large production associations. Experience confirms the advisability for their establishment. However, they need a better provision with construction machinery, equipment and other resources. At the same time, construction ministries should perform construction and installation work on retooling significant in volume and complex in nature.

Along with the renovation and technical improvement of the production potential an important role in the intensification of public production is assigned to an improvement in the system of management. For this experiments are now conducted, including a large-scale economic experiment on expanding the economic independence of enterprises and associations and increasing their responsibility for the end results of work.

Beginning in 1977, instead of volumes of centralized allocations and noncentralized funds, volumes of state capital investments with an allocation of expenditures on the reconstruction and retooling of existing production facilities in them are approved for capital expenditures. In connection with this many enterprises complained about the limitation of independence in the expenditure of the production development fund--one of the basic sources of financing retooling measures. Such an opinion was motivated by the fact that the capital of this fund (like of the fund for social and cultural measures and housing construction in the part allocated for capital construction), being the source of financing noncentralized capital investments, was used as an additional source of financing expenditures on the establishment of new and expansion of existing production facilities and that, essentially, these funds lost their importance.

The economic experiment envisaged the restoration of the rights previously granted to associations and enterprises and even a certain extension of these rights in the planning, financing and implementation of retooling measures. Beginning with the 1984 plan limits of centralized financing and the volume of construction and installation work are approved for the production collectives participating in the experiment. Noncentralized capital investments on retooling financed with the production development fund and on nonproduction

construction, with the fund for social and cultural measures and housing construction, in accordance with the appropriate assignments for an increase in capacities and commissioning of projects for nonproduction purposes, are allocated separately in the structure of state capital investments. The capital of these funds is not taken into account in the general sources of financing capital investments. As it is formed, it is entered in special accounts in banks and enterprises use it independently according to its direct purpose. Capital not spent during the planned year is not withdrawn and it is permitted to use it the following year in excess of the limits of capital investments envisaged in the plan. Furthermore, enterprises are permitted to incur expenditures on retooling in excess of the plan at the expense of the funds for capital repairs. At the same time, it is envisaged that construction and installation work can be carried out only in volumes necessary for the installation and assembly of equipment.

Now many enterprises participating in the experiment attach exceptionally great importance to problems of renovation of production facilities. For example, the Moscow Dinamo Plant, with an active participation of divisions, shops and various services, developed a plan for the retooling of a production facility with specific measures and an indication of the periods of and individuals responsible for their fulfillment. Taking into account the increasing volume of work on retooling at the plant, the Ministry of the Electrical Equipment Industry transferred a special construction and installation administration to it.

At present preparations are made for the popularization and further development of new conditions of management, which undergo an experimental check. As of 1 January 1985 the conditions of this experiment are to be extended to associations and enterprises of a number of Union, Union-republic and republic ministries.

Its success will largely depend on the organization of the retooling of existing production facilities and on the rates of implementation of these operations. It is impossible to attain a sharp improvement in the technical and economic indicators of production and an increase in its efficiency without the mastering of new technological processes, mechanization and automation of production and renovation of fixed capital on a new technical basis.

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## INVESTMENT, PRICES, BUDGET AND FINANCE

### BACHURIN ON ECONOMIC EFFICIENCY, VALUE, PRICE CONCEPTS

Moscow PLANOVYE KHOZYAYSTVO in Russian No 11, Nov 84 pp 3-13

[Article by A. Bachurin, doctor of economic sciences, professor: "National Economic Effectiveness, Use Value and Cost"]

[Text] With the transition of social production to the intensive path of development, economic science is faced with a number of theoretical problems on increasing national economic effectiveness, among these the correlation of its economic and social aspects, the qualitative and quantitative criteria for improving the end result of socialist production, and the role of use value and cost in its evaluation.

National economic effectiveness is an economic category of socialism. Its essential traits are determined by the presence of public ownership of means of production and by the character of effect of economic laws. Increased effectiveness (whether it relates to new technology, to the activity of an enterprise, or to the development of a sector or all social production) is reflected in the end results of social production. In evaluating the work of individual enterprises (sectors), it is necessary to consider their input into increasing production effectiveness and meeting the demands of the national economy or the population for the production of the given enterprise (or appropriate sector). Therefore, in evaluating the results of economic management activity, the role of the indicator on delivery of products of the appropriate quality and within the times specified in the contracts drawn up with the consumer takes on increased importance. This indicator directly reflects the connection of the end result of the enterprise's (sector's) activity with the interests of the consumers or of society as a whole. Timely and complete fulfillment of mutual responsibilities is the most important prerequisite for the planned and continuous growth of social production, which is balanced with the demands of society. In the future the requirements for discipline of mutual deliveries in accordance with concluded agreements will increase.

Regardless of the production management level at which this category is examined, the increase in national economic effectiveness is characterized primarily by a more complete and better quality satisfaction of the public demands. This is achieved due to a planned increase in production of products of the necessary assortment and quality. The leading plan indicator at the enterprise level

must be the production of products in their natural expression with a description of their consumer properties. This indicator must be planned on the basis of orders by consumers, considered in a centralized and decentralized order (in concluding the agreements). The cost indicators (commodity or realized production, profits, etc.) must be determined based on the predicted growth in product production in a natural expression and on the structural shifts in its output.

In order to plan an increase in national economic effectiveness, it is important to know what price is ensured for the growth of production of the necessary quality. Thus, the full effect of enterprise (sectorial) operation is measured by the correlation of manufactured products of the necessary quality or obtained income with the expenditures of living and reified labor. Within the scope of the entire national economy, it is customary to express effectiveness in terms of the relation of derived national income to the expenditures of social labor for its production or to the volumes of all the utilized resources. This generalizing indicator also considers the increase in quantity and the improvement in quality of the manufactured product, as well as the reduction in current and one-time expenditures for a unit of growth in production or a unit of national income. The higher the growth rate of the national income and the lower the monetary expenditures per unit of its growth, the higher the national economic effectiveness of social production. There are various modifications (absolute and relative) of the national economic effectiveness indicator, which characterize the increase in the work quality as well as the improvement in application of the utilized resources.

In order to make decisions which are in line with the general public interests in the process of enterprise management, it is necessary to have a good mastery of the methods of computing the national economic effectiveness. This is true whether we speak of new technology, capital investments, or production as a whole. Unfortunately, many economic management and planning workers have mastered these methods in theory, but do not always apply them in practice.

The 12th Five-Year Plan, as indicated at the February (1984) Plenum of the CPSU Central Committee, must be the five-year plan for deep qualitative changes in production. We must achieve a decisive break in the intensification of all sectors of the national economy, and this means also in increasing production effectiveness. This sets higher requirements for the quality of plans and for the scientific substantiation of economic management decisions.

One of the most important principles for improving economic management which must be firmly maintained in all sectors of social management is the increase in the national economic effectiveness of adopted decisions. For this, a strengthening of the all-state approach to plan compilation is necessary, as well as the application of natural, labor and material-technical resources, whose main criterion under current conditions is the full consideration in plans and economic management decisions of the factors for accelerating intensification of production.

The intensive type of expanded reproduction is inherent to developed socialism. However, it is not automatically ensured and not granted simply due to the advantages of the socialist social order. These advantages must be skillfully

combined with the latest achievements in the current scientific-technical revolution, integrally improving all the segments of the economic management mechanism. At the 26th CPSU Congress and subsequent Plenums of the CPSU Central Committee, a number of the resolutions adopted by the party and the government outlined specific means of attaining a higher level of intensification in social production and increasing its effectiveness. Much attention was given to measures for accelerating scientific-technical progress and increasing the technical level and quality of the manufactured products.

At the present time, the improvement in quality of machines, equipment, construction materials and consumer goods is the most important direction in increasing the effectiveness of production. Therefore, product quality must necessarily be reflected in the criteria and indicators of national economic effectiveness. Such a formulation also corresponds to the theory of socially necessary expenditures, which must consider not only quantitative, but also qualitative changes in social production.

Under socialism it is not the law of cost that regulates the rate and proportions of production development, but primarily the basic economic law and the law of planned, proportional development. The end result of socialist production (and consequently also its effectiveness) is not reduced merely to obtaining profits, as is the case under capitalism. Socialist production strives to an ever greater degree to the fullest, and this means the highest quality, fulfillment of society's demands. The constant growth of these demands is the impelling motive and one of the motivating forces in the growth and development of production. However, demands have a quantitative and a qualitative characteristic. In increasing the quality of production, it is possible to satisfy certain industrial (personal) demands with a lesser quantity. For socialist society it is in many cases more expedient from an economic and social standpoint to improve the quality of products rather than to increase the volume of their production.

Cost indicators are widely used for measuring effectiveness. However, they generally do not characterize quantitative changes. At the same time, the increase in national economic effectiveness reflects primarily qualitative shifts in the development of production. Therefore, certain economists make efforts to clarify the criteria and indicators of effectiveness by adding to them the indicators of social effectiveness and coefficients of product quality. However, the complexity of the problem consists in the fact that economic and social indicators are often incommensurate, while the indicators of product quality cannot be placed together with its cost evaluation. The solution, in our opinion, consists of improving the system of prices and elevating the role of wholesale, purchase and retail prices for accurate reflection of the socially necessary labor expenditures as well as for improving the accounting of consumer value of production. This presupposes a full evaluation of social benefit of material goods along with their cost (including also public use funds). In this case, the national income more fully reflects the end result of social production, including the input of sectors in the material sphere into increasing the quality of the manufactured means of production and the consumer goods. At the same time, the results of work of enterprises who improve the quality of their manufactured products, sometimes at the price of a certain reduction in quantity, are being evaluated more objectively.

This is also justified from the theoretical standpoint. The social order of socialism and the economic laws of its development alter the socio-economic nature of use value and cost.

Price development in our country takes place not only in the direction of a more correct consideration of socially necessary expenditures in each sector under average normal production conditions, but also in the direction of reflecting the qualitative parameters in prices on new products. This tendency in the sphere of price formation testifies to the increased significance of consumer product properties in increasing the effectiveness of social production and the strengthened unity of cost and use value. This tendency also corresponds to the character of effect of law of value in socialist economic management. The latter, reflecting the development of commodity-monetary relations in socialist production, has taken on new traits, while the forms of value have altered their function under the influence of objective conditions of functioning of social economic management and its specific economic laws.

The law of value affects to a certain degree the proportions in planned distribution of labor between the individual sectors, even though it is the growing needs of society which have the decisive influence. The relative proportionality between production and demands of society is always present. It is another matter that under capitalism this proportionality is often disrupted, since every capitalist is interested primarily in the cost of goods, or rather in the amount of profit. However, ultimately even the capitalist is forced to adapt himself to the market requirements, and this means also to changing demands. In socialist economic management it is not the cost of goods or the amount of obtained profit which is placed at the forefront, but rather the use value necessary for society, with its appropriate qualitative characteristics. The effect of the law of value is also considered, which determines the movement of prices in accordance with the dynamics of socially necessary expenditures for production of the products. Otherwise, the national economic and intra-sectorial proportions would not be formed at a sufficiently effective level, with relatively lower expenditures.

Socialist production does not presuppose the possibility of any individual expenditures, regardless of the production and economic management conditions under which they are incurred. Even in agriculture and in the mining industry, where due to natural conditions there are significant differences in the end results of production with identical labor expenditures, in price formation (cost determination) it is necessary to proceed not from the worst land sectors, but from the relatively worse (averages in the least favorable zone in terms of natural conditions). There is no economic sense in exaggerating the income of numerous farms (and in a certain sense creating false value), equating the estimates to the worst sectors. It is more expedient to direct capital investments in such a way that these sectors may be used with sufficient benefit for the farms and for society as a whole on the basis of introducing the latest achievements in science and leading technology.

In regard to the other sectors of material production, the concept of socially necessary expenditures is totally inappropriate. These expenditures are formed, as posited by certain proponents of optimal planning, stemming from the long-run marginal costs [zamykayushchiye zatraty],

or highest labor expenditures under the worst objective conditions. The prices based on this principle are often called optimal planning prices, since efforts are made to deduce them from the proportions defined by this plan. However, it is unclear how this can be accomplished in practice if the optimal plan is understood to be not a single economic-mathematical model of growth in social production, albeit a very complex one, but rather a plan for economic and social development which has been worked out in the sectorial and regional cross-sections and which considers the changing directions in scientific-technical and structural policy. Even if it were possible to build such a model, what would be the orienting factors for the clearly inflated prices formed according to long-run marginal costs. It is not difficult to see that they would prompt an extensive growth of the economy and would create the appearance of high effectiveness of any new, even low productivity, technology. Formulating value and prices at the level of the greatest expenditures does not stimulate the absolute majority of enterprises to reduce their production costs or to save their production resources. Such prices are often called "hothouse" prices, artificially creating success and not motivating the enterprises to utilize intensive growth factors.

Plan optimization on the basis of long-run marginal costs by far does not stem from the law of value, whose effect under socialism is recognized by the proponents of optimal plan prices. In this case, the law of value would not have any regulating significance and would not serve the interests of technical and economic progress. After all, if we are logical and proceed from the limited availability (short supply) of resources, then we would have to set both the labor standards and the standards for expenditure of material resources at the level of long-run marginal costs. Such measures are oriented not toward acceleration, but toward inhibition of growth in labor productivity, which clearly contradicts the needs of the developing socialist society.

The effect of the law of value objectively determines the need to proceed from average, or more precisely, average progressive expenditure norms. This is the essence of its positive significance. The law of value operates under conditions of the law of labor economy and combines with the forms of its manifestation. The higher the level of labor productivity and the lower the cost of a unit product, the more fully satisfied is the ever increasing demand of society. Conscious application of the law of value helps to eliminate the disproportions in the national economy. Its real effect on expenditures and proportions is manifested in practice through wholesale, purchase and retail prices.

The importance of the law of value is the fact that it necessitates accounting and control by ruble for the production and application of resources, equivalent exchange of labor products, and development of finance-credit relations. In this case, all the cost economic levers and stimuli appear as an organic part of the plan-regulated economic management mechanism. Under these conditions, even the price, which expresses social value, serves as one of the economic instruments of planned management of the national economy. It acts not only in the function of measuring value, but also as one of the levers for improving the use value and means of economic application of material resources. The price fulfills these functions under the influence of the basic economic law, the laws of conformity to plan, economy of labor, and the law of value.

Integrated multi-sectorial and multi-product social economic management, while satisfying ever increasing needs, must be objectively considered to an ever greater degree in establishing prices with consumer properties of labor products. In order to ensure correspondence of production proportions (division of labor in the sphere of material production) to changing needs, as well as for purposes of effective satisfaction of the latter, it is necessary to regulate expenditures in a systematic manner not only based on the conditions of production of various types of products, but also by more complete and economic satisfaction of social demands. The labor expended for an unnecessary or useless product is lost labor. It does not answer the principle of socially necessary expenditures, and consequently also the effects of the law of value. Even K. Marx pointed out this aspect of the effect of law of value.<sup>1</sup>

Under socialism, the accounting for the commodity price of consumer products is extremely important. The labor expenditures, and correspondingly also the prices, are planned based on the objective need for obtaining a definite socially beneficial effect, i.e., creating a certain use value necessary to the society. Therefore, socially necessary expenditures should be computed also for unit of useful effect (for example, per unit of tractor capacity). This makes it possible to compare analogous or mutually interchangeable types of production not only by their cost, but also by their qualitative characteristics. Without comparing the use value with the expenditures, it is impossible to determine the national economic effectiveness of new technology or any other production.

In the political economics of socialism, use value is still to this day not viewed as a specific economic category. It is considered a subject of merchandising. In holding polemics with the bourgeois theory of "ultimate usefulness," which stems from a strictly subjectivist interpretation of use value, some economists totally ignore its social role. Nevertheless, under socialism use value is created for meeting the needs of all society on the basis of an expedient productive activity of people and directly characterizes not only the quantity, but also the quality of expended labor. Improving the consumer properties of products facilitates the more complete satisfaction of social needs with the condition of reducing expenditures per unit of useful effect. Therefore it is correct to say that the increase in the quality of production is one of the forms of labor economy or growth of its productivity. Based on this, the improvement in the qualitative characteristics of machines, equipment, instruments, or goods of cultural-domestic or other function, as well as various types of raw goods, materials, fuel and agricultural products, must necessarily be considered in the practice of price formation. This is also determined by the fact that, as a rule, more highly trained and complex labor is expended for the output of good quality products. This complex labor creates a great consumer value as well as a higher social cost.

In noting the contradiction between cost and use value, K. Marx repeatedly pointed out their unity and the necessity of considering the qualitative and quantitative correspondence of the result of labor to the public need in socially necessary labor.<sup>2</sup> In considering the labor expenditures without a corresponding evaluation of the product quality, the principle of equivalence in exchange of corresponding commodities may be disrupted.



At the present time, when the role of the contract agreement, as well as the responsibility for product delivery, are increasing, the requirements for product quality must be equally applicable to all industrial enterprises and other sectors of the national economy. Thus, in presenting legal pretensions to the quality of agricultural technology and fertilizers, the sovkhozes and kolkhozes must both adhere to the standards in regard to the quality of agricultural products.

The economic management agreements concluded between the cost accounting state enterprises (as well as the contract agreements between the state and cooperative organizations for purchase of agricultural products from kolkhozes and kolkhoz farmers) reflect the relation of commodity buying and selling for goods having use value and cost. As a result, not only cost, but also the use value of the goods receive public recognition. Only under this condition is it possible to speak of adhering to the principle of equivalence. Disruption of this principle by cost as well as by quality of the products leads to an unfair distribution of income between the enterprises and undermines the basics of cost accounting.

Obviously, in practice there are cases of deliberate deviation of prices from cost for certain goods. However, on the average (and herein is the regularity), prices are computed and ratified on the basis of socially necessary labor expenditures which satisfy definite needs of a personal or productive character. The resolution of the CPSU Central Committee and the USSR Council of Ministers (1983) entitled "On Improving Economic Interrelations of Agriculture with Other Sectors of the National Economy" provides, on the one hand, the need for periodic alignment of the level of purchase prices with the changed cost and quality of agricultural production, and on the other--the maintenance of equivalence in the computations of kolkhozes and sovkhozes with other enterprises and organizations. An analogous approach is mandatory also in planned regulation of wholesale prices used in accounting between industrial enterprises for products supplied to each other. Their mutual deliveries must also be performed with adherence to the principle of equivalence.

With frequent disruption of this principle in regard to cost as well as in regard to product quality, it is impossible to create a reliable economic basis for strengthening the cost accounting relations and stimulating the end results of production. The latter are characterized by an increase in the quantity and improvement in the quality of products supplied to the consumer, as well as by a reduction in the cost of unit production or unit of its useful effect (with stable or even declining prices per unit of useful effect, the enterprises and society as whole realize net income sufficient for expanded reproduction and satisfaction of social needs).

The theoretical positions presented above are directly related to improving the effective practice of price formation. In establishing wholesale, purchase and retail prices, it is necessary to constantly evaluate the increase in useful effect of the production with the expenditures for attaining it. This means that prices based on a purely cost approach and prices which are based only on accounting of consumer properties should not be used. Such an arrangement is incorrect is only for the reason that it is probably impossible to compare the usefulness of funds used in economic turnover or objects of labor as being removed from the expenditures for their production. The level of expenditure

of socially necessary labor is the most objective criterion in evaluating the different usefulness of products developed in the process of social production.

Let us take, for example, two tractors: one which had been manufactured earlier with capacity of 75 hp, and the new one with capacity of 150 hp. It took 5,000 hours to produce the first tractor, and 7,500 hours to produce the second (living and reified labor).<sup>3</sup> Let us assume that the other consumer qualities change proportionately to the capacity indicator. The wholesale price for the tractor produced earlier is equal to 5,000 rubles. In this case, the proponent of net usefulness might propose a price on the new tractor set at 10,000 rubles, while the proponent of the cost approach would propose 7,500 rubles. However, in the first case the consumer would not have any advantages. A prudent manager who knew how to compare expenditures with results would be in no hurry to buy the new, higher capacity tractor. In the second case, the manufacturer would not risk making the new tractor, from whose sale he would receive no benefit. In this case, it would be more economically expedient to set the price, for example, at 8,700 rubles. This would suit both the supplier and the consumer.

Thus, the essence of the problem is that it is necessary to compare the expenditures of socially necessary labor per unit of use value or usefulness of production. Such an approach to prices for new products in which the level of wholesale price is reduced per unit of useful effect is in line with acceleration of scientific-technical progress and stimulation of the growth of the national economic effect. This principle must be maintained in the practice of price formation. It fully meets the requirements of cost accounting, since it orients both the suppliers and the consumers toward achievement of the greatest end result with the least expenditures.

The classics of Marxism-Leninism pointed out not only the contradiction, but also the mutual connection between cost and use value. "The cost of a thing includes both factors," wrote F. Engels, "...cost is the relation of production outlays to usefulness. The nearest application of cost occurs in solving the question of whether a given thing should be produced at all, i.e., whether its usefulness covers the production outlays... If the production outlays for two things are identical, then the usefulness will be the decisive factor in determining their comparative cost."<sup>4</sup>

Increasing the quality of production must serve as the decisive factor in determining its comparative cost. Improving the consumer properties of production is determined by the basic economic law of socialism. Improving quality ultimately leads to economy of labor and material resources in the national economy and facilitates the growth of the national income. However, here we must also remember the other aspect of goods--their cost. The quality of products must not be increased at the price of excessively high outlays, just as cost benefit should not be obtained while reducing the consumer value of the goods. Considering this fact, it is necessary to learn to have better control over both the use value and the cost and to more skillfully utilize the law of saving time and the law of value in the interests of increasing the effectiveness of social production. Under conditions of planned economic management this task may be resolved with full realization while setting

wholesale, purchase and retail prices, whose level must correctly consider the relation of social outlays to the usefulness of the products of labor.

The development of wholesale and purchase prices is not reduced to ensuring each enterprise a uniform level of profit. Prices which are oriented not toward average sectorial but toward individual production costs might lead to technological stagnation and would not stimulate the reduction of production costs at numerous enterprises. At the same time, the economic sense of cost accounting and one of the functions of prices consists of stimulating the reduction in production cost at enterprises which are lagging behind as well as at average and leading enterprises. In this case, such an economic category as profit (or profitability) is subordinated to production effectiveness to a greater degree.

The indicated positions find application in the practice of price formation. The existing order of establishing wholesale prices introduced in December 1982 provides for an intensification of interest on the part of developers, manufacturing enterprises and customers in the development and introduction of a highly effective new production into the national economy, which by its parameters would meet the best domestic and foreign standards. Prices per unit of ultimate useful effect of new products must decline in comparison with those for previously assimilated production. The stimulating role of mark-ups to wholesale prices for new, highly effective production has been increased. Provision has been made for a more complete reflection of the consumer characteristics of production in the standards and technical directives (including material consumption, power consumption, etc.). Wholesale prices are set based on the economically substantiated (standard) expenditures with consideration for the technical level, quality and economic effectiveness of the new production.

This does not mean that there are no shortcomings and unsolved problems in the practice of price formation. Many consumers have good grounds for complaining about increased prices as compared with improvement in the consumer qualities of the manufactured products. There are also many cases of the opposite order. Therefore, along with good methodology it is always important to have strict adherence to state discipline in the sphere of price formation. This is also one of the factors in increasing production effectiveness. Specifically, the formulation of the question on the responsibility of the parties for correct computation of production cost and effectiveness of new technology deserves attention. This computation is often overstated by 30-50 percent.<sup>5</sup> At the same time, it is necessary to strengthen the role of price forming organs in control over improving the consumer properties of production and reducing its cost. Price may be used not only to stimulate the output of new highly effective technology, but also to hinder the production of products which have a high cost per unit of useful effect.

Wholesale prices on means of production and consumer items are the most important link in the system of prices. They have great significance not only for the development of industry, but also for strengthening its economic ties with other sectors of the national economy. Wholesale prices are the basis for retail prices. Their unsubstantiated increase will sooner or later cause an increase in retail prices. Therefore, one of the tasks in the sphere of

wholesale prices is to adhere to the principle of their general stability, and for a number of sectors, and primarily machine building--their periodic reduction (on the basis of reduction in production cost and increase in the profitability of production.)

The stability of wholesale prices is an important condition in the reality and effectiveness of plans, in the stability of economic standards used in planning and economic stimulation of production, as well as in increasing the role of cost accounting levers and finance-credit relations in the national economy. In connection with this, the decision was made to combine necessary changes in wholesale prices with the compilation of the next five-year plan and to perform this work no more frequently than once every 5 years.

With stability of the general level of wholesale prices, the principle of stability of retail prices and equally beneficial economic ties of industry with agriculture and the sectors serving it may be ensured. If the wholesale prices on means of production are stable, while they decline per unit of useful effect of new machines, then there will not be any real reason for increasing the purchase prices for agricultural production. This does not exclude the possibility that wholesale prices for individual means of production may be increased due to deterioration of natural conditions or for some other objective reasons. However, this necessitated increase should expediently be covered by a reduction in prices for other means of production. The economic basis for such a course in the sphere of wholesale prices is the broad application of intensive factors in development of productive forces on the basis of technical progress and accelerated growth rates for productivity of social labor under conditions of developed socialism.

The case is somewhat different with state retail prices. While maintaining the principle of stability of their overall level, their flexibility must also be achieved for individual groups of goods. This flexibility is objectively determined by a comparatively rapid change in the assortment of manufactured goods, their use value and their production costs. The law of supply and demand operates in retail trade, and it must be considered in the same way as the law of value.

State retail prices represent a rather complex instrument in economic and social policy. Their correct definition with consideration for the socially necessary expenditures and stimulation of an assortment meeting the demands of the population facilitates an increase in the economic and social effectiveness of production. The planned sale of goods and the continued satisfaction of solvent demand of the population stimulate the labor activity and the growth of labor productivity and reduce the time spent by workers and employees for buying goods. And, on the contrary, shortcomings in price formation often serve as the reason for non-uniform sale of goods and for unjustified redistribution of income between individual groups of the population. This has a negative effect on the economic and social effectiveness of labor and production.

The main advantage of the planned system of retail prices consists of their centralized regulation, which when taken together with the planned growth of

production of goods and services makes it possible to ensure price stability for the basic foodstuffs and industrial goods and a certain mobility for new goods and products which are not objects of primary necessity. However, in order to maintain a stable general level of retail prices which would create favorable prerequisites for increasing the real income of the population under conditions of continued growth of monetary income and solvent demand by the population, it is necessary to continuously increase the production of goods and services and to ensure increased growth in labor productivity as compared with the increase in the average wage of workers and employees and income of the kolkhoz farmers.

We must admit that in a number of cases retail prices are still not used effectively enough as a means of optimization of the structure and volume of consumption. Socialist production is called upon not only to satisfy the growing demands, but to actively influence the change in the structure of demand. In connection with this, the proper differentiation of the level of retail prices is of great significance, including the establishment of temporary increased prices for new goods, which should facilitate the planned growth of consumption and at the same time stimulate an increase in production.

The higher the quality of the given commodity item, the relatively higher the price for it (as compared with goods of analogous function, but with poorer qualitative characteristics). However, the price may remain the same or even be reduced per unit of useful effect. Such prices are of benefit both to the producers and to the consumers. They not only do not reduce, but rather increase the level of well-being, create prerequisites for expanding the production of good quality goods, and consequently also for the growth in the level of demand satisfaction. However, the objective criteria for improving quality have still not been worked out for many groups of goods. The solution of this problem "by feel" often leads to abuses. Therefore, it is necessary to establish proper statistics for improving quality. Without having the necessary accounting and statistics of quality, it is difficult to determine the proper substantiation for altering prices.

In connection with the growth in the standard of living and culture of the population, the improved quality of goods is one of the main problems in the further development of state and cooperative trade. Technical progress and increased production culture have a decisive importance in its implementation, but a major role also belongs to the economic mechanism, including the system of prices, as well as to other quality stimulators. The solution of this problem in the near future must lead to the economy of raw materials along with the growth in level of consumption, as well as to a savings on expenditures for repair and reduction of costs for obsolescence. Improving the quality of consumer goods is one of the most important directions in the further growth of the economic and social effectiveness of socialist production.

Thus, improvement of the quality of means of production and consumer items, as well as reduction in the expenditures of social labor per unit of useful effect of the corresponding products are two mutually related tendencies in increasing the effectiveness of socialist production. The resolutions adopted by the CPSU Central Committee and the USSR Council of Ministers and dated

14 July 1983 dealing with the implementation of the large-scale economic experiment in industry and 18 August 1983 dealing with measures for accelerating scientific-technical progress in the national economy are directed toward the solution of these cardinal problems.

The party and the government are directing the efforts of all the ministries, associations and enterprises toward solving the key problems in scientific-technical progress and increasing the effectiveness of the entire economic management activity. This is facilitated by the development of the initiative and enterprising nature of the labor collectives in the technical development of production, improvement of the quality of manufactured products, and organization of labor and production. Higher requirements are being presented for the quality of prospective and current plans, as well as for strengthening their orientation toward increasing the effectiveness of social production.

The role of the principle of national economic effectiveness in the planned management of the economy is increasing. Any economic management decision outlined by the plan must be comprehensively substantiated from the standpoints of increasing the effectiveness of the entire national economy. This requires a strengthening of the national economic approach to planning and distribution of capital investments, location of new enterprises and facilities, distribution and application of material-technical resources, and adherence to progressive norms and standards.

#### FOOTNOTES

1. In the third volume of "Kapital" he wrote: "Let us say, for example, that a disproportionately large amount of cotton fabric has been produced, even though in all this product, in all this fabric, only the necessary work time under the given conditions has been realized. However, in general too much social labor has been spent on this sector, i.e., part of the product is useless. Therefore, the entire product will be sold only as if it had been produced in the necessary proportion. This quantitative margin of those portions of social work time which may be expediently spent on various special spheres of production is merely a more well-developed expression of the law of value in general, even though the necessary work time takes on a different sense in this case. A certain fixed amount of work time is necessary to satisfy the public demands. The limitation here is manifested through use value. Under these given production conditions for a product of a certain type, society may spend only a certain amount of its total work time" (K. Marx and F. Engels, "Sochineniya" [Works], Volume 25, Part II, p 186; Ibid, Vol 26, Part I, p 221).

2. Cf. K. Marx and F. Engels, "Sochineniya", Volume 23, p 49; Volume 25, Part II, p 186.

3. Conditional figures are taken in this example.

4. K. Marx and F. Engels, "Sochineniya," Volume 1, pp 552, 553.

5. Cf: "Sistema upravleniya ekonomikoy razvitogo sotsializma," [System of Managing the Economy of Developed Socialism], Moscow, "Ekonomika", 1982, p 118-147.

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INVESTMENT, PRICES, BUDGET AND FINANCE

NATIONAL INCOME GROWTH FACTORS ANALYZED

Moscow PLANOVOYE KHOZYAYSTVO in Russian No 10, Oct 84 pp 16-23

/Article by V. Loginov, doctor of economic sciences, professor: "National Income: Growth Factors"

/Text/ The national income is one of the generalizing indicators of the level of the country's economic development. It reflects the results of society's economic activity much more than many other indicators and is the measurer of the efficiency of public production. Correlated for a number of years with the number of workers employed in material production, it indicates the dynamics of growth of national labor. The ratio of its physical volume or incremental part to resources shows the degree of utilization of the latter expressed through the output-capital and output-materials ratio, fuel and power intensiveness and so forth. Therefore, national income growth factors at an invariable level of expenditures, at the same time, serve as factors in an increase in the efficiency of public production.

In the last few years the rates of growth of the national income have been determined to an ever greater extent by the utilization of intensive factors in economic development, that is, factors leading, in K. Marx's expression, not to an expansion of the field of production, but connected with the utilization of more efficient means of production.<sup>1</sup> This means that the economic growth of the intensive type of reproduction is attained by the introduction of new equipment and technology, saving of raw materials, power and fuel, improvement in the quality of output, upgrading of the skills of personnel and a higher loading of equipment and production capacities. Does this not contradict the well-known and fundamental conclusion of Marxist political economy that new value is the result of the effect of live labor? As more productive equipment is mastered, labor productivity, as well as the mass of transfer value, grows. This directly affects the growth of the total volume of output, because the share of  $c$  in the value of a unit of output and in the gross national products ( $c+v+m$ ) increases. However, does the share of net output ( $v+m$ ) increase respectively, or does it decrease relatively? This question is of theoretical, as well as practical, importance for the formation of a specific planning strategy and scientific and technical policy.

1. K Marx and F. Engels, "Soch." /Works/, Vol 24, p 193.



When solving it, the following should be taken into consideration. First, the replacement of live labor with embodied labor, ultimately, is of a relative nature and is examined in connection with the value of output, not the absolute mass of labor utilized by society. K. Marx wrote the following: "This decrease is relative, not absolute and, in practice, has nothing in common with the absolute magnitude of labor set in motion and surplus labor."<sup>1</sup>

In the USSR the average annual number of workers in the national economy increased from 23.9 million in 1940 to 64.9 million in 1970 and 80.4 million in 1982 and, although the rates of involvement of new labor resources in material production, owing to a number of reasons, have slowed down, the absolute mass of labor utilized in public production is growing constantly. The rates of growth of the national income outstrip the increase in the number of workers. For example, in the 1970's they were approximately 40 percent higher, which points to the growth of national labor productivity. At the same time, the proportion of wages in the structure of expenditures on industrial output was lowered from 16.1 percent in 1970 to 14.5 percent in 1982.

Second, any saving of material expenditures leading to a reduction in the value of a unit of output with an increase in its total mass is possible only on the basis of labor productivity growth. "In brief," K. Marx wrote, "the same development that increases the mass of constant capital in relation to variable capital decreases the value of its elements owing to the rise in the productive force of labor and, consequently, prevents the value of constant capital, although it increases constantly, from growing at the same ratio as the material volume of fixed capital does..."<sup>2</sup>

The nonuniform transfer of elements of embodied labor to the value of output is also connected with the characteristics of growth of the productivity of live labor and the different degree of its effect on these elements. A rise in the productive force of labor brought about by the growth of the technical structure of production should be accompanied by an increase in the mass of transfer value from means of production to output, as a result of which the share of depreciation grows. A higher level of equipment and advanced technology and an improvement in workers' skills contribute to a better utilization of raw materials, supplies and energy consumed in production. Although the total mass of subjects of labor and power drawn into production increases as the productive force of labor grows, the indicated tendency contributes to a decrease in the specific input of elements of embodied labor in a unit of output. For example, in the structure of expenditures on industrial output the share of depreciation during the period from 1970 through 1982 increased from 5.1 to 7.6 percent and the share of raw materials in basic materials, despite the repeated increase in their total mass, was reduced from 64.6 to 61.8 percent.

Third, as labor productivity grows, a relative reduction in the expenditures of necessary labor is observed. This process is the result of the saving of embodied labor, as well as of the decrease in the cost of manpower reproduction.

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1. K. Marx and F. Engels, "Soch.," Vol 25, Part I, pp 237-238.

2. Ibid, p 258.

A high technical level of production enables the worker to produce a bigger amount of consumer goods in a unit of time and, consequently, to embody a smaller mass of live labor in each of them.

The growth of national labor productivity, that is, the return on all labor resources utilized by society (live and past labor embodied in means of production) is the main national income growth factor. Methodologically, it is considered correct to calculate the productivity of national labor as the ratio of the produced national income to the number of people employed in material production, that is, to the part of aggregate labor that gives an increase in newly created value. In this case, however, the resources of past labor, whose volume increases every year, remain outside the field of vision. With a better utilization of fixed capital, raw materials and supplies the productivity of live labor increases, which is also reflected in a rise in the national income. For example, an increase in the output-capital ratio as the main result of an improved utilization of fixed capital implies not only a bigger "volume" of output from a unit of capital, but also a rise in workers' output. Or the saving of material resources with an invariable and even bigger output, a direct reduction in specific expenditures of past labor in the value of a unit of output and a corresponding increase of newly created value in it.

Therefore, calculations of national income growth as a result of a change in the output-capital or output-materials ratio, technological productivity (carrying capacity) of fixed productive capital and so forth are widely used in planning and statistics. However, only in an interaction with live labor are these processes set in motion, which, in fact, forms public production. "The ability to preserve old value, while creating new one, is inherent in live labor by its very nature," K. Marx wrote. Therefore, with an increase in the efficiency, size and value of means of production, that is, with an increase in accumulation accompanying the development of the productive force of labor, labor preserves and perpetuates constantly increasing capital value in ever newer forms."<sup>1</sup>

What is the share of individual factors in national income growth? According to estimates by specialists, the saving of material resources and their efficient expenditure becomes the most effective factor, which accounts for approximately 50 percent of the growth of the national income and the gross national product. Through an improvement in the utilization of fixed productive capital it is possible to attain approximately 30 percent of the growth of the national income and the gross national product and 20 percent of the growth of the national income is attained, in fact, by an increase in the productivity of live labor and improvement in workers' skills. According to our calculations, throughout the industry the ratio of utilized resources of live and past labor, on the basis of the structure of expenditures on output, is approximately 1:5 and 1:6.

An increase of 1 kopeck in the return on output from the fixed productive capital of the USSR (1,311 billion rubles on 1 January 1983) gives additional output worth 13.1 billion rubles. In 1982, while the share of the national

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1. K. Marx and F. Engels, "Soch.," Vol 23, p 620.

income in the gross national product was 42.3 percent, its physical volume rose by 5.5 billion rubles. The fuel intensiveness of the national income calculated as the ratio of extraction of all types of fuel without taking into account export and import to the physical volume of the national income (in actual prices in 1983) amounted to 3.3 kg of standard fuel per ruble. A reduction of only 1 percent in fuel intensiveness would make it possible to save the need for fuel by 17.3 million standard tons, which, ultimately, would increase the national income by 5.2 billion rubles. The data cited show the urgency of development and introduction of resource and capital saving technology and of the production of highly efficient equipment making it possible to save raw materials, fuel and power.

The labor saving form of scientific and technical progress has been implemented on a large scale in the USSR recently. According to our calculations, during the 8th Five-Year Plan the growth of 1 billion rubles in the national income was ensured by the increase of 1,774 billion rubles in fixed productive capital and of 11,800 people employed in the national economy. During the 9th Five-Year Plan it was 3,733 billion rubles and 142,000 people respectively and during the 10th Five-Year Plan, 3,488 billion rubles and 85,000 people. Therefore, specific expenditures of fixed productive capital increased during every five-year plan, but, on the whole, incremental indicators of the labor intensiveness of public production decreased, with the exception of the 9th Five-Year Plan. During 1971-1981, while the national income grew 1.68-fold and labor productivity in material production, 1.5-fold, the fund for the reimbursement of expended means of production rose 1.76-fold and its share in the gross national product increased from 54.9 percent in 1970 to 56.8 percent in 1981. The fixed productive capital of the national economy more than doubled (it increased 2.3-fold), the output-capital ratio declined by 27.3 percent and the rates of growth of the capital-labor ratio were 1.37 times higher than labor productivity. This indicates that the investment process led to the accumulation of capital, which in its technical level did not give an adequate increase in the productivity of live labor. This worsened the utilization of the production apparatus. Thus, although the process of replacement of live labor with embodied labor was highly intensive, this was not conducive to the maintenance of the productivity of live labor on a high level, saving of elements of embodied labor and creation of the necessary prerequisites for a favorable change in the dynamics of capital and materials intensiveness. All this brought about a certain decline in the rates of growth of the national income at the end of the 1970's and the beginning of the 1980's.

In our opinion, it would be incorrect to think that in the USSR with its diverse natural and economic conditions of individual regions it is advisable to pursue one direction in scientific and technical progress. In the regions of Siberia and the North, as well as in sectors of mining, metallurgical and chemical production, where labor is especially heavy and is remunerated at a higher rate, the labor saving form of scientific and technical progress remains decisive in the increase in production efficiency and accomplishment of social tasks. In many sectors from 40 to 60 percent of the workers are engaged in unattractive manual labor in auxiliary operations. The accomplishment of a number of social tasks, in particular the freeing of women from production with harmful conditions, general facilitation of the labor of all

workers, elimination of monotonous operations and jobs connected with a big input of physical energy and so forth, depends on the overall mechanization and automation of production. Therefore, improvement in the labor saving form of technical progress under socialism is the general line of technical policy.

The saving of aggregate labor expenditures is the most important criterion of intensification of public production. The further growth of the organic structure of production under the effect of scientific and technical progress leads not only to the replacement of live labor with embodied labor, but also requires a general saving of aggregate labor expenditures. With regard to this K. Marx wrote the following: "Since the development of the productive force and the higher structure of capital corresponding to it activate an ever increasing amount of means of production with the aid of an ever decreasing amount of labor, every share of the gross product, every unit of a commodity, or every specific amount of a commodity serving as a unit of measure for the entire mass of produced goods absorbs less live labor and, moreover, contains less embodied labor both in the form of the worn part of applied fixed capital and in the form of consumed raw and auxiliary materials. Therefore, every unit of a commodity contains a smaller amount of labor, both embodied in means of production and newly joined during production."<sup>1</sup>

The growth of the economic potential in many developed countries occurred in two stages. At first the economy developed owing to economic growth factors connected with the effect of rapidly activated resources (free manpower, natural resources, foreign trade and so forth). As extensive growth sources were exhausted, internal resources were brought in and the technical basis of production changed, which resulted in a certain reduction in the rates of growth. Since material resources at the first stage of development (in connection with the relatively small scale of their utilization) seemed virtually inexhaustible, it was necessary in production technology to adapt basically to the saving of labor expenditures. "Labor is more expensive than capital," this is the slogan of the initial stage of industrialization.

With an increase in the scale of production and rise in its technical level the need for manpower per unit of volume of output or capital decreases relatively, but the mass of raw materials, fuel and power--whose resources are depleted gradually--drawn into the economic turnover grows sharply and in an almost invariable proportion. Therefore, it was necessary to change the orientation in technical policy and to supplement the labor saving form of scientific and technical progress with a resource saving form. The intensive type of production is impossible without the saving of live, as well as embodied, labor, whose mass increases with a rise in the volumes of production and its technical structure.

The growth of national labor productivity or the saving of aggregate labor expenditure during the production of a specific (invariable) volume of the national income are possible as a result of the effect of many processes.

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1. K. Marx and F. Engels, "Soch.," Vol 25, Part I, pp 247-248.

The following should be noted among them: putting into operation highly productive, new natural resources, in particular mineral-raw material ones; improving workers' skills and production organization and management; raising the degree of utilization of fixed productive capital, as well as raw materials, supplies and fuel. All these factors with the exception of improvement in workers' skills and in the level of production management and organization are of a limited nature.

Let us assume that in the future the scale of putting into operation new deposits of mineral raw materials and fuel, as well as forest resources, and of developing water and biological resources will increase primarily in the regions of Siberia, the North and the Far East. In the republics of Central Asia and, in part, the Transcaucasus there are free labor resources. Therefore, despite the transition of the economy, basically, to an intensive type of development, extensive processes will play an important role for a long time. However, the effect of intensive factors during every five-year plan will increase not only because they are more effective, but also because extensive processes will be exhausted to an ever greater extent. For example, as large deposits of raw materials and fuel are exhausted, a deep processing of raw materials and a complete extraction of the reserves remaining in the depths of the earth become more profitable than the exploration and development of poorer and smaller, new deposits. Therefore, scientific and technical progress contributes to the transformation of extensive economic growth factors into intensive ones, or gives them the nature of an intensive effect.

It is difficult to accurately determine the share of scientific and technical progress in national income growth, because in economic practice it is not yet possible (even within one enterprise) to separate the effect of intensive and extensive factors on the growth of the volume of all, including net, output. In 1981-1982 a total of 80 percent of the growth of the national income was obtained through a rise in the productivity of national labor. At the same time, however, the share of scientific and technical progress in this growth is not clear.

Ultimately, scientific and technical progress is carried out through the investment process. Three factors are important here: the share of truly new machinery (technology) in newly introduced equipment; distribution of capital investments in new construction and in the modernization and reconstruction of an existing production facility with the replacement of obsolete equipment with improved and more productive one; the share of expenditures on equipment in total investments.

During the 11th Five-Year Plan the proportion of capital investments in the retooling and reconstruction of existing enterprises comprised 32.9 percent in 1981 and 34.2 percent in 1982. The proportion of equipment in the technological structure of capital investments reached 39 percent in 1982. The share of truly new equipment in the commissioning of the active part of fixed productive capital and its economic effect, that is, the growth of profit directly increasing the surplus product, remain unclarified. These data can be obtained indirectly. One of them is the effectiveness of capital investments evaluated according to the growth of the national income, although the latter, as shown above, also depends on the effect of other factors, including extensive ones.

If we analyze the effect of the investment process on national income growth, assuming that this growth is only the result of investments, we will obtain the following: Capital investments of state and cooperative organizations, as well as of kolkhozes, during the 8th Five-Year Plan (without a lag) in the volume of 339.7 billion rubles ensured a growth of 96.1 billion rubles in the national income with an efficiency coefficient of 0.283; during the 9th Five-Year Plan, 484.5, 73.4 and 0.151 billion rubles respectively; during the 10th Five-Year Plan, 625.9, 98.9 and 0.158 billion rubles. During 2 years of the 11th Five-Year Plan capital investments in the national economy amounted to 279.1 billion rubles and national income growth, 61.2 billion rubles with an efficiency coefficient of 0.219.

As can be seen from the figures presented, the effectiveness of capital investments from the point of view of national income growth declines in the early 1970's and has a tendency toward growth during the 10th Five-Year Plan and, especially, the 11th Five-Year Plan. Therefore, at the present level of equipment and technology the effectiveness of capital investments is approximately 22 percent, that is, 22 kopecks per ruble of capital investments. At such a level of effect from capital investments the rates of growth of the national income were approximately 2.5 to 3 percent annually.

An increase in the share of the active part of fixed capital, that is, a change in the technological structure of capital investments, is one of the means of raising the efficiency of public production and national income growth. In our opinion, increasing the share of machinery and equipment in the technological structure of total capital investments from 38 percent (1980) to 42 or 45 percent, including in productive capital investments to 50 or 55 percent, seems realistic. The share of capital investments allocated for the reconstruction and technological modernization of existing enterprises is growing, although slowly. However, an increase in the amount of new equipment and technology newly introduced into production remains the main direction in a rise in the efficiency of the economy and the potential for its economic growth. In our opinion, for this it is necessary to, first of all, increase the norm of withdrawal of old equipment, whose share in some sectors is still great. For example, in the USSR industry more than 30 percent of the installed equipment operates from 10 to 20 years.

At the same time, the replacement of old equipment with similar new one does not give a big effect. It can slightly increase labor productivity, but, at the same time, it will raise the value of fixed capital.

A much greater efficiency can be obtained if the norm of withdrawal, as well as the technical level of equipment and technology, is raised. In this case the economic result will be expressed in an increase in the surplus product (saving of expenditures) from the introduction of new equipment and technology as compared with old ones previously used in production.

We made a calculation of the determination of the effect of scientific and technical progress on basic macroindicators of development according to a one-sector economic-mathematical model C-1<sup>nt</sup> provided that the share of the active part of capital in the technological structure of capital investments

comprised 40 percent, the norm of withdrawal, 4 to 6 percent annually and the share of truly new equipment in introduced fixed productive capital, 40 percent. Then with a different actual efficiency of new equipment and technology and a constant volume of capital investments taken at the level of the last few years the calculated value of the rates of growth during 5-year periods will be as follows (table 1).

Table 1 (in %)

Efficiency of new equipment and technology ( $E_f^{nt}$ )	Labor productivity	Gross national product	National income	Output-capital ratio	Materials intensiveness
0.15	111.4	112.0	115.0	82.0	100.4
	109.5	109.9	108.2	88.0	100.8
	106.2	106.5	104.9	91.0	100.8
	103.8	107.6	106.0	96.0	101.1
0.20	114.6	115.2	118.9	84.0	100.1
	111.7	112.0	110.8	89.0	100.5
	107.8	108.0	106.8	92.0	100.6
	104.9	108.7	107.4	97.0	100.9
0.28-0.50	116.7	117.3	121.8	92.0	99.8
	115.8	116.2	116.3	97.0	99.8
	115.0	115.3	115.5	101.0	98.9
	110.7	114.7	114.9	104.0	100.0

With an increasing volume of capital investments during the planned periods and the preservation of all previous conditions the rates of growth of the examined indicators during 5-year intervals will have the following values (table 2).

Table 2 (in %)

Norm of efficiency ( $E_f^{nt}$ )	Labor productivity	Gross national product	National income
0.20	114.6	115.2	118.9
	113.4	113.8	112.7
	109.5	109.8	108.8
	106.7	110.6	109.5
0.28-0.50	122.3	122.9	128.2
	122.9	123.3	124.2
	121.1	121.4	122.7
	116.6	120.9	121.8

In this calculation of importance are not so much the values of individual indicators obtained with a large number of conditions and limitations as the tendencies for their change indicating that an increase in investment activity under the present technical level of newly introduced fixed productive capital

(with  $E_f^{nt}=0.15-0.20$ ) does not give a significant growth of labor productivity, of the gross national product and of the national income and is not conducive to a favorable tendency for a decrease in the output-capital ratio and stabilization of materials intensiveness. A rise in the technical level of implements of labor and, as a consequence, an increase in the norm of effect ( $E_f^{nt}=0.28-0.50$ ) even with an invariable volume of investments sharply improves the mentioned indicators. Therefore, in this case an increase in the volume of capital investments is justified. By the end of the period the output-capital ratio (with a high norm of effect and even increasing investments) rises, while material intensiveness is lowered. However, even with a high norm of effect of new equipment and technology and invariability of the technological structure of capital investments and the norm of withdrawal of old capital a tendency for a decline in the examined indicators is visible by the end of any long interval (15 to 20 years). This is connected with the fact that the initial magnitude of effect is lowered gradually and seemingly new "injections" into the technical basis of production are needed.

Therefore, to maintain a stable value of the macroindicators of development of the economy and the rates of its growth for a long period, it is necessary to constantly improve the technical basis of production and to expand the scale of renovation of fixed productive capital, especially its active part, through the modernization, technical reconstruction and prompt writting off of obsolete and worn equipment. For this it is advisable to significantly correct the entire system of planning the technical development of sectors, associations and enterprises.

At the same time, the following question arises: How to constantly raise the technical level of production, without increasing the volume of capital investments to amounts with which the rates of growth of investments will outstrip the rates of growth of the gross national product and the national income? During the 10th Five-Year Plan and during the first years of the 11th Five-Year Plan it was not possible to attain an improvement in the dynamics of these indicators. In our opinion, it is possible to attain this only by introducing an order in the allocation of centralized investments for the retooling and modernization of sectors and production facilities on the basis of a certain system of priorities. Sectors, in which retooling gives the biggest economic effect from the point of view of the saving of production resources and expenditures of live labor, should become the priority objects of investments for the indicated purposes. With this in mind it is necessary in the very near future, even if experimentally, to determine the scale of the possible saving of resources in sectors and industries with a certain variant of retooling. At present sectorial planning institutes have developed such variants and it is only necessary to compare them in intersectorial terms with due regard for the preservation of a balance in production volumes and resources.

Sectors and industries, on whose development the technical progress of these sectors and the national economy as a whole depends, should also become the priority directions of investments; for example, the end stages of production in metallurgy (rolled metal reprocessing) and in the mining industry (concentration), pulp and paper production in the timber complex, petroleum refining



production in the fuel and power complex and so forth. However, machine building, on whose development the accomplishment of the task of creating a qualitatively new level of development of productive forces depends, undoubtedly, is the basis for scientific and technical progress.

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## INVESTMENT, PRICES, BUDGET AND FINANCE

### CRITERIA FOR PRICING NEW TECHNOLOGY EXAMINED

Moscow SOTSIALISTICHESKAYA INDUSTRIYA in Russian 21 Feb 85 p 2

[Article by L. Rozenova, member of USSR State Committee for Prices: "The Price of New Technology"]

[Text] Price analysts are reproached for allegedly establishing the prices for new technology in a simplified way -- on the basis of the expenditures for production. People say that the analysts compute the production costs of the article, add on the usual amount for profit, and that gives them the wholesale price. What interest, then, is there in worrying about assimilating new output when the already smoothly established production of obsolete articles brings the manufacturer no less proceeds, profit, or other blessings? It turns out that the workers in the pricing agencies are practically the opponents of technical progress.

But the situation is not like that at all. Obviously we take into consideration the expenditures for production. How could we do otherwise? Nevertheless the chief criterion in evaluating is not the expenditures, but the benefit from the new output, the improvement of its consumer properties. If, for example, we are talking about a new machine, we first ascertain the degree to which it is more productive than the old one, more durable, more reliable, more inexpensive to operate... Understandably, the overall economic benefit cannot be measured in physical units -- much as we want to, we cannot add the productivity in the individual articles to the service life in years or the number of the customer's workers who are released for other operations. The only sensible way to compute the economic effectiveness of an innovation is in rubles.

Having done that, we determine the extent, the limit of the admissible expenditures for the production of the particular article. And they must be less than the economic benefit of the innovation -- otherwise the national economy will incur losses. Or, which is the same thing, the wholesale price can compensate for the manufacturer's expenditures only within the limits of the economic benefit obtained by the customer.

But what does one do if the effectiveness does not cover the additional expenditures for production? Enterprises require: raise the wholesale price.

That is an unrealistic requirement. The authors of the elaboration are obliged to re-examine the constructive resolutions and either to reduce the production costs of the new article, or improve its consumer properties. If this proves to be impossible, the article should not be produced at all. What kind of new output is that, if all it provides is losses?

In order to prevent such situations, as early as the stage of issuing assignments for the design of new technology it is necessary to compare the expenditures and the results, to establish the limit price of the innovation, that is, the maximum admissible price. When this procedure is observed, all the normative expenditures linked with the production of reliable, high-quality machines and machinery are compensated for by the price. And within the first year of their series production the profit will be no less than during the production of the output being replaced.

But that does not yet create any incentive for the assimilation of the new technology. Rather, it guarantees only the equal profitability of producing old and new articles. Interest in technical progress is encouraged by special measures. When, for example, the production costs of the innovation are lower, and its consumer properties are the same or even better than in the article that is being replaced, the previous price is retained. It is profitable for the manufacturer: he continues to have all the additional saving that results from reducing the production costs. And the customer is also satisfied: for the same amount of money, he gets a better commodity. Instances such as this are not so infrequent.

More frequently, however, the production costs increase, although to a lesser degree than the economic benefit. In this instances one established incentive markups on the wholesale price. Naturally, the markup cannot exceed the total benefit of the innovation. Moreover, it is necessary not to include the entire benefit in this markup -- it is necessary for the new technology to be more profitable than the old technology for the customer also. As a rule, the incentive markup includes as much as half the economic benefit, and the other half goes to the customer. If discoveries or inventions are used in the innovation, the total amount of the markup can be as much as 70 percent of the benefit. The same benefit, incidentally, has been established for output that replaces imported articles.

It does not follow from this that the markup must always be equal to the maximum admissible share of the benefit. A limitation has been introduced -- the markup cannot be more than 30 percent of the wholesale price. Experience has shown that this limitation is not excessively severe. Last year every other price was approved with a markup (in 1980, it was only one out of every four). Of more than 3000 markups introduced during the year, the maximum markup -- that is, the 30-percent markup -- was established for only 200. In the other instances the economic benefit was such that it did not allow the introduction of a greater incentive into the price.

The real innovators are not hampered by price. For example, plants at Minstankoprom [Ministry of Machine Tool and Tool Building Industry] assimilated the production of twist drills, borers, cutters, and other tools that last twice as long. For this output they received the maximum markup.

The complete amount of incentive has been provided for the production of pumping units for main gas pipelines, pipe-welding units, progressive machine-tool and forget-press equipment, and many other articles.

Additional profit from markups for machine building as a whole in 1982 constituted 4.5 percent of the total profit, and two years later, more than 6 percent. At Minenergomash [Ministry of Power Machine Building] its share is approximately 14; at Minelektrotekhprom [Ministry of Electrical Equipment Industry] and Minkhimash [Ministry of Chemical and Petroleum Machine Building], approximately 10 percent each. It is necessary to take into consideration the fact that the markups do not simply increase the profit for the enterprises. Whereas a relatively small part of this profit is paid into the economic incentive funds, the amount paid in from the total amount of markups is 70 percent. That is completely sufficient to encourage both the developers and the manufacturers of the new technology.

At the same time one must note that half the draft plans submitted last year by ministries with wholesale prices including markups were intended for articles that differ very little from the previously assimilated output. For example, the Elektrosvarka Plant in Tbilisi simply replaced the documentation for a welding transformer. Although the consumer properties of the unit were not improved, Minelektrotekhprom asked for the 30-percent markup on the price. Understandably, it was refused. Minavtoprom [Ministry of Automotive Industry] also was refused authorization to put a markup on the price of the nine-ton KrAZ [truck]: the carrying capacity, as compared with the analogue, had increased by 20 percent; the motor operating period between preventive maintenance, by 30 percent; and the expenditures for production, a factor of 1.7. The benefit did not permit the introduction of a markup.

Instances when the workers at the manufacturer ministries, with the connivance of the clients, had inflated in their computations the economic benefit of the innovations are not rare. There is usually one explanation: unless they do that, they claim, it is unprofitable to assimilate the production of new technology. Complete clarity must be introduced into this question.

The best innovation during the period of assimilation, as a rule, is not very profitable. The inevitable additional expenses are covered by the single fund for the development of science and technology. That fund belongs to the branches, and the economists in the ministries get the desire to save their own funds, by transferring the expenses to the customer, that is, to wangle an inflated price for the innovation.

A correctly established wholesale price is a powerful lever in technical progress. However, it is impossible to encourage the development of technology by price alone. It is only after the completion of the period of assimilation that the price guarantees a benefit for the innovators. No sooner than that. It is with that calculation of the price that the price is established, and by no means for the purpose of assuring that an already .pa experimental model is profitable in production. If we deviate from that rule, we will obtain a constant rise in wholesale prices.

In the interests of scientific-progress, the markup on the price is established only provided the article corresponds to the highest category of quality. Until the innovation has been awarded the Seal of Quality, the markup is allowed for a year, or for especially complicated output, for two years (if, of course, it permits an economic benefit, and the quality is excellent). Then the markup can be extended for two periods of validity of the Seal of Quality, that is, a total of 7 years, or for especially complicated output, 10 years.

During the third and subsequent certifications for the Seal of Quality, the markup is not in effect. This procedure sometimes causes complaints. But, I might note, they are in vain: a markup with no time limit would be a deterrent to the renovation of output. The economic mechanism must encourage the constant raising of the technical level.

The use of markups to the wholesale price as incentives is combined currently with sanctions for the production of obsolete output: provision is made for reductions of as much as 30 percent of the wholesale price of such output. Properly speaking, reductions used to exist previously, but they extended only to that output which it was planned to remove from production on the basis of a nationwide plan. Starting last year, the price reductions were extended to articles to be removed from production according to branch plans also. And what happens if the ministries, to avoid losses, do not begin including in their plans the cessation of production of obsolete technology? Once again, that alternative will not bring them any advantage -- for output that has not been certified for the highest and first category of quality, the 30-percent reduction is included in the budget by the manufacturer enterprises without any instructions to do so on the part of the pricing agencies.

Thus, a road block has been created against obsolete technology, and the road has been opened up for new technology. In order for the benefit from the innovations to manifest itself in full measure, it is necessary to increase the responsibility borne by the customers for their use.

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## RESOURCE UTILIZATION AND SUPPLY

### ECONOMISTS DISCUSS SCRAP UTILIZATION IN UKRAINIAN INDUSTRY

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[Article by O.D. Vasilik, candidate of economic sciences and lecturer, K.V. Pavlyuk and O.A. Gamankova: "Improving the Utilization of Production Wastes"]

[Text] The intensification of public production presupposes a greater saving of physical resources. Under these conditions, the careful and rational expenditure of raw and other materials, fuel and electric power has prime importance. The fulfillment of the established task requires the carrying out of organizational and economic measures directed to a reduction of industrial wastes and their fuller utilization. This is one of the important reserves for reducing physical input. At the present time in the industry of the Ukrainian SSR, wastes amount to about 5 percent of physical input in terms of the price of basic raw materials.

During the years of the 11th Five-Year Plan, there has been an increase in the volume of wastes in comparison with the growth in output, which results in a number of serious economic and ecological consequences. Substantial funds, at times amounting to 8 to 10 percent of the value of basic production, are being expended for their removal. Valuable agricultural lands are often given over to slag heaps and dumps.

The overwhelming majority of wastes are secondary raw material resources. In their economic and technical essence, these are the remains of the physical and raw material resources of a given production process that possess consumption characteristics, whose application in physical production requires, as a rule, additional industrial operations with the purpose of improving these characteristics or providing for their clear determination.

In the Ukrainian SSR, 1.3 to 1.5 billion tons of production and consumption wastes result each year. These are the industrial wastes of enterprises in the extraction and enrichment of coal and iron and manganese ore, metallurgical plants, and objects in energetics, the light and food industries, and other sectors. In the cities of the republic, moreover, more than 43 million cubic meters of household wastes containing ferrous and nonferrous metals, old paper, textiles, polymers, etc. result each year.

Research in the utilization of production wastes makes it possible to conclude that the level of their application is still inadequate and far from the

optimum level, despite the importance and economic expedience of their complete processing. Questions are being resolved only slowly in the utilization of wastes, the assimilation of progressive technologies, and the use of the advanced experience of individual enterprises and ministries as well as of foreign practices. The existing system of planning, economic incentives, price setting, financing, and other means and methods has a weak effect on increasing the effectiveness of their utilization.

In 1985, the overall volume of the incorporation of wastes into production in the republic will reach 140 to 150 million tons compared with 74 million tons in 1980. In this connection, output using secondary raw materials will be increased to 3.8 to 4 billion rubles, including 250 to 300 million rubles in consumer goods. These data are evidence of the fact that by the end of the 11th Five-Year Plan a little more than 10 percent of the wastes resulting in the republic's national economy will be utilized. Therefore, the problem of their utilization remains urgent. By 1990, according to our calculations, it will be possible to increase the share of wastes in satisfying the demands of the national economy for raw materials to 5.5 to 6 percent and thereby reduce the production cost of output by 3.1 percent.

To make a fundamental improvement in the utilization of production wastes, it is essential, in our opinion, to apply a combination of measures of an organizational, technical and economic nature. Needed above all are measures to improve the planning, accounting and economic incentives for improving their use.

Beginning with the 11th Five-Year Plan, a new section entitled "Utilization of Raw Materials" is included in the economic and social development plans. Included in this section, in particular, are indicators for the volume of deliveries and procurements of production wastes with an indication of the quantity of output subject to manufacture using these wastes, tasks in the establishment of production capacities and the production of equipment essential for their processing, and the limits of capital investments and construction-assembly work related to the processing and utilization of wastes. These indicators, however, are established at the overall republic level and are weakly specified at the level of the ministries, departments, and production associations and enterprises. It appears expedient for the ministry and department to establish lists of the basic types of wastes, of the means of using them, and also of the output produced from them. It is also essential to provide for the financial safeguarding of the measures for their full utilization or preparation for use at other enterprises. For consuming enterprises, there should be planned consumption of wastes through the introduction of an indicator into the norms for the expenditure of raw and other materials.

It would also be very important to introduce this requirement for planning estimates for enterprises under construction or planned for construction as the obligatory inclusion of capacities for the utilization of wastes and preparation for their utilization. Here the economic impact must be determined with consideration given to saving primary raw materials, to reducing land areas under dumps and quarries and land parcels that would be needed for the extraction of useful minerals, and also to improving the ecological situation. In

addition, it is now essential to adopt on a national scale a position on wastes that regulates the obligations and responsibility of enterprises and ministries in regard to their planning, evaluation, accounting, utilization and sale.

Many types of valuable production wastes are not used or are used without the proper effect because of insufficiently clear accounting and information on their formation and utilization. Some potential consumers do not know where the wastes are, what they are, or what possibilities are open for their rational use. Every year, more than 600 tons of wastes are destroyed that arise in the production of artificial fur on a knitted foundation. Meanwhile, industrial processes have been worked out for their utilization in the production of various types of output. They can be used in place of the scarce raw material asbestos for producing articles from asbestos cement.

At the Irpen Progress Combine, there is the possibility of utilizing the wastes of artificial fur for the production of nonwoven needle-perforated rolled materials for road construction. The country's requirements for such materials are practically unlimited. Also developed was the technology for using these wastes in the production of heat-insulating materials, as a result of which there is a reduction of 75 percent in the expenditure of basaltic fiber, a basic raw material. Not finding an application in the wool industry are about 4,500 tons of wastes that could be used for producing nonwoven materials, in particular sheet wadding, for the production of which more than 60 percent of restored wool is directed.

A little more than half of the wastes in the footwear industry are now utilized. Every year they destroy more than 4,200 tons of scraps from chrome leather, 710,000 leather cuttings, 488 tons of wastes from artificial hides, 3,400 tons of rubber wastes, 1,400 tons of textile wastes, 1,200 tons of cardboard wastes, and 201 tons of Russian leather scraps.

At the same time, there is the possibility of making rational use of the wastes in the footwear industry on the basis of industrial processes that have already been worked out. For example, the Ukrainian Scientific Research Institute for the Leather Industry together with the USSR Glavplodvinprom worked out and tested the technology of processing the wastes of the leather industry into fertilizers. Experiments at sovkhozes in Odessa, Nikolayev and Krymsk oblasts have confirmed their high effectiveness. Calculations show that one can obtain more than 4,200 tons of fertilizer from 6,000 tons of leather wastes. For this purpose, it makes sense to establish shops for their processing at places where more wastes accumulate (Voroshilovgrad, Lvov, Kiev). Leather production wastes can be used in the construction industry for manufacturing heat-insulating sheets. A processing method has been developed for using rubber particles from rubber wastes for the production of asphalt. Annually 6,000 to 8,000 tons of such wastes result in the republic's footwear enterprises and a little more than 30 percent is utilized.

Numerous data testify to the high effectiveness of utilizing wastes in other sectors as well. Thus, the cost of 1 cubic meter of delivered building sand at Krivoy Rog is 3.6 rubles, whereas sand from wastes costs 0.6 rubles. It



costs one-sixth to one-fifth as much to use the ash and slag wastes of state regional electric power stations instead of crushed rock and sand. The utilization of the wastes from coal enrichment is also highly effective.

A 10-volume reference work has now been prepared in the republic on the rise and utilization of secondary resources. Its information can serve as the basis for elaborating essential technological processes and carrying out scientific research and other measures in this area. For flexible control of these processes, however, it is essential to have a territorial information system on the scale of oblasts, large cities and the republic as a whole.

An automated data bank on wastes must be a central link of this system. The data bank will accumulate data on sources of wastes, their amounts, composition, physical, chemical and technological characteristics, and applications as well as on scientific-research and planning and design work in this area, etc.

The establishment of an automated data bank is an essential precondition for improving the overall economic analysis of flows of materials and production wastes and, on this basis, for improving the level of planning of wastes as secondary physical resources and making extensive use of economic-mathematical methods. This will make accounting data more analytical and comparable and will make it possible to meet more fully the needs of management and planning organs for the corresponding information and to receive quickly essential data on wastes.

The waste balances are the basis for the functioning of this bank. They must be drawn up each year for each enterprise, association and ministry as a whole. The balance must reflect the quantity of wastes received according to type and direction of use in own's own production and possibilities for supplying them to outside customers.

Improvement in the planning of and accounting for wastes requires a resolution of the question of reflecting their magnitude in financial and cost ledgers and determining their cost. This is essential, as they are part of the technological process and, as a component of the cost of raw materials, they relate to production expenditures. That is, a significant part of production wastes with useful qualities is not expressed in cost terms.

In the basic positions on planning, accounting and calculating production cost at industrial enterprises, there is a directive to the effect that the cost of usable wastes that can be used at the enterprise or sold to outside customers is excluded from the total sum of expenditures. This position, however, is not regulated in detail and as a rule is not applied. In essence, enterprises that evaluate and take account of wastes are in a worse position, for they are called upon to concern themselves with their utilization and devote part of their working capital to this purpose, thus worsening their financial position. Under these conditions, it is much more advantageous to destroy them and not to reflect them in accounting reports.

In connection with the fact that production wastes are now an object of planning, it is essential to determine their volume departing from the planned coefficients for the utilization of raw materials, and the actual cost must be

subtracted from the cost of expended raw and other materials and entered as the corresponding physical assets. It is necessary that they be accounted for in the structure of the standardized working capital, for which it is necessary to provide for a suitable article.

The proposed measures are economically expedient, for the utilization of wastes is an important reserve for lowering the production cost and a source of growth of financial resources. Moreover, wastes that are considered in the structure of working capital become an object for controlling its rational application. It is also essential to resolve the question of setting the prices for wastes. At the present time, there are no systematic recommendations for working out and constructing them. Wholesale prices for industrial wastes are established by the ministries, departments and the ispolkoms of the soviets of people's deputies with consideration given to the possibilities for their use, but they are not higher than the prices for high-grade raw material.

In our opinion, the prices of wastes should be determined according to the general methodology of planned price setting and should provide incentives for the enterprise to make full and rational use of them or to sell them to outside customers. As a basis, it is necessary to take the level of prices for raw materials that meet quality requirements with consideration given to losses in consumption qualities and to expenditures for their utilization. The prices must be worked out directly by the supplying enterprises in agreement with consumers.

The enterprises and local soviets should be given the corresponding economic incentives to sell wastes to outside customers. At the present time, all of the profit received from the sale is distributed in the generally established manner. It would be expedient to allocate 75 percent of the indicated profit to the income of local budgets and the remaining portion to the consumer goods fund.

Another question that needs to be resolved is that of delivery of wastes to consumers. Many of the wastes cannot be utilized locally. Meanwhile, neither departmental nor national supply authorities involve themselves in their delivery. It seems more rational to plan deliveries not of wastes but of raw materials prepared from them and meeting the requirements of consumers. It therefore makes sense to put local soviets in charge of production enterprises (associations) specializing in the purchase of industrial wastes and the preparation of them for production and also using them in the manufacture of certain types of output essential in a given area. The profit received by these enterprises from the sale of output and raw materials from wastes, independent of the level of profitability, must be distributed among the enterprises and budget in the proportions set forth above.

As early as 1990, according to our calculations, the profit of such enterprises can amount to 750 to 800 million rubles in the Ukrainian SSR alone. This would substantially strengthen the income base of local budgets, for the receipts will amount to about 10 percent of their total income. There will be a greater possibility for the soviets of people's deputies to influence the effectiveness of the economic work of a given administrative unit.

It is essential to do more to involve the enterprises of local industry in the utilization of production wastes resulting in the industry under republic and union authority. To strengthen the control over the implementation of the tasks in the production of output from wastes, it would be proper, in releasing the plans to the enterprises, to supplement the reporting indicator "gross output" with the words "including that manufactured from wastes." This indicator must also become capital forming.

It is expedient to change the system of planning the volume of the production of output of local industry from the wastes of industrial and agricultural production. In our opinion, the production plans of local industry confirmed at the republic level should include only that output which is centrally supplied with physical resources. The remaining part of the plan should be confirmed by the local soviets and provide for the production of output from local raw materials and wastes. The profit received from the production and sale of these goods should be distributed among the enterprises and the local budget in the corresponding proportions. The adoption of these measures would substantially increase the incentive of local soviets to expand the production of output from local sources of raw material. In addition, this will raise the level of planning of local industry and the preconditions will be created for its stable work and for production growth.

Further improvement is required in the system of the formation and utilization of the consumer goods fund. In the enterprises of All-Union and union-republic ministries and departments, all of the profit from the production of output manufactured from the wastes of their own production or received from other enterprises must, in our opinion, be used in a special manner. Not less than 50 percent of such profit should be directed to the income of local budgets, and its remaining part to the consumer goods fund. This is under the condition that the volume of wastes exceeds 50 percent of the cost of all raw and other materials expended in the manufacture of these goods or products, not counting auxiliary materials. The same thing applies to enterprises producing semimanufactures and unfinished work pieces from wastes, regardless of the level of profitability.

According to our calculations, the amount of profit shown in the territory of the republic already amounts to about 100 million rubles. More than 70 million rubles go to the consumer goods fund and not more than 60 million rubles are used. Under the proposed system, allocations to the mentioned fund will decline somewhat and will amount to about 55 million rubles. Their reduction in this source will not have a substantial impact on the economic incentive of enterprises. At the same time, the overall size of allocations will increase through allocations to the fund of a part of the profit from the sales of wastes. Under such a system of distributing profits, the local soviets will have a financial interest in a better and rational utilization of production wastes, which, in the final analysis, will lead to increased output from wastes and greater profit.

It also appears expedient to change the system of planning the output of production from wastes for the enterprises of the All-Union and union-republic ministries and departments. The plans for the production of this output must

be confirmed by the local soviets of people's deputies, which will increase their role in managing the economy and will make it possible to link more closely the plans for production and commodity turnover in the subordinate territory.

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## REGIONAL DEVELOPMENT

### MOLDAVIAN ECONOMIC ACHIEVEMENTS, PLANS REVIEWED

#### Advances in Economic Development

Moscow FINANSY SSSR in Russian No 11, Nov 84 pp 3-8

/Article by I. A. Savvin, Moldavian SSR minister of finance: "The 60th Anniversary of Formation of the Moldavian SSR"

/Text/ This year is special. In August 1984 workers in Moldavian SSR celebrated the anniversary of liberation from German-fascist invaders and on 12 October they marked the 60th anniversary of the day of the republic's formation and establishment of the Communist Party of Moldavia. A decision was adopted to mark the famous date as the most important social and political event, a public holiday of the triumph of the Leninist national policy of the party and ideas of friendship among nations and as a review of Moldavia's outstanding achievements in communist construction attained in the fraternal family of Soviet nations under the wise leadership of the CPSU.

Workers in the Moldavian SSR, implementing the decisions of the 26th party congress and of subsequent plenums of the CPSU Central Committee and the propositions and conclusions set forth in speeches by Comrade K. U. Chernenko, general secretary of the CPSU Central Committee, chairman of the Presidium of the USSR Supreme Soviet, direct their efforts toward an acceleration of the rates of labor productivity growth, reduction in production costs, improvement in the quality of output, a prompt fulfillment of contractual obligations for deliveries of products, acceleration of scientific and technical progress, the most rapid attainment of the planned labor intensiveness of output, increase in the equipment utilization shift coefficient, saving of raw material, power and labor resources and strengthening of planning and labor discipline.

About 92,000 workers and kolkhoz members and more than 3,400 shops, sections, brigades and farms undertook to fulfill the assignments of the anniversary year by 12 October. The republic's industry fulfilled the semiannual plan for the volume of production 103.3 percent, sale of output, 103.5 percent and labor productivity growth, 103.7 percent. All industrial and agroindustrial ministries and departments and cities of republic subordination coped with the assignment. Plans for an above-plan decrease in production costs were fulfilled.

In accordance with the Food Program a set of measures to increase the production of food products is being implemented. High rates of growth of the production of livestock products have been obtained throughout the republic and in most regions. The rates of harvesting of vegetables, fruits, tobacco and fodder and grain cereal crops are growing.

The 6-month plan for the commissioning of the total area of dwelling houses was fulfilled 104 percent. The well-being of workers rose and their needs for goods and services began to be met more fully. With due regard for the additional assignment the retail trade turnover plan was fulfilled 100.3 percent and its volume grew by 6.5 percent and the sale of domestic services for the public, by 4 percent.

Party members and all workers in the Moldavian SSR welcomed the glorious anniversary closely united around their own Communist Party in an atmosphere of a high labor and political activity and of a nationwide fight for the fulfillment of the decisions of the 26th CPSU Congress and the assignments of the 11th Five-Year Plan.

Six decades is a short historical period, but how much has been done for the republic's all-around development! The formation of the republic and the Communist Party of Moldavia became possible as a result of the victory of the Great October Socialist Revolution, systematic implementation of the Leninist national policy and establishment of a multinational socialist state--the USSR.

Prerevolutionary Bessarabia was one of the backward agrarian districts of tsarist Russia. In 1910 it had 6,941, mainly small semiprimitive-type, enterprises (including 6,198 mills). Agriculture was also backward. Eighty percent of the population was employed in this national economic sector. Almost the entire land, and the best at that, belonged to landowners and other big owners. Tiny parcels of land, primitive implements of production, backward agrotechnology and low harvests led to the impoverishment and destruction of the majority of the peasantry.

Surveying the path traversed by the Moldavian people, it must be noted that it was filled with a difficult and stubborn fight for liberation from exploiters and for freedom and independence. On 1 (14) January 1918 Soviet rule was established on the entire territory of Moldavia. However, as a result of the unleashed domestic and foreign counterrevolutionary civil war, Bessarabia was torn away and the invaders pursued a colonial policy there. Therefore, industry not only did not develop, but was even curtailed deliberately.

In Moldavian regions of the left-bank of the Dnestr, forming part of the Ukrainian SSR, after the victorious conclusion of the civil war peaceful life was established and Soviet Government organs were strengthened. Taking into consideration the workers' yearning for the establishment of their own republic, the Politburo of the Central Committee of the Russian Communist Party (of Bolsheviks), guided by the principles of Leninist national policy, in July 1924 considered it necessary to form the Moldavian Autonomous Republic as part of the UkSSR. The decree on the formation of the Moldavian ASSR was adopted on 12 October 1924. The first all-Moldavian party conference convened in December 1924 completed the organizational legalization of the Moldavian Oblast Party Organization.

During the years of prewar five-year plans a policy of national economic industrialization was adopted and collectivization and cultural reforms were implemented. Advances in the building of socialism in the USSR and our republic's achievements in economic and cultural development were an attractive and inspiring force for Bessarabia's workers. On 28 June 1940 Bessarabia was reunited with the USSR. The Law on the Formation of the Moldavian SSR was adopted on 2 August 1940. The Moldavian Oblast Party Organization was transformed into the Communist Party (of Bolsheviks) of Moldavia.

The planned development of the republic's economy and culture began. Banks, basic means of production, industrial and trade enterprises, transport and communication were nationalized on the territory of the liberated regions. Land became national property. Previously inoperative enterprises were restored and reconstructed, new plants and factories were built and formerly nonexistent metalworking, textile and other sectors of industry were established. In 1941 all the 28.5 million rubles allocated from the republic budget for the needs of industry were entirely assigned for the liberated regions.

The war and 3-year fascist occupation did tremendous damage amounting to 11 billion rubles to Moldavia's economy. In August 1944 the valiant Red Army liberated the Moldavian SSR. The restoration of the economy through Moldavia's own efforts would have required dozens of years. The people of the fraternal republics came to its aid. In 1944 alone more than 10 million rubles, as well as equipment, building materials and skilled personnel, were assigned from the Union budget. Considerable assistance was given to agriculture in the form of agricultural machines, tractors, seeds and credit. The fight for the liquidation of the devastation of war coincided with the drought of 1945 and 1946. In a short time tremendous difficulties were overcome, industry, transport and municipal facilities were revived and further developed on a new technical basis, kolkhozes and sovkhoses were restored and collectivization of peasant farms in the republic's right-bank regions was carried out.

In 1945-1948 the volume of capital investments in industry, construction and transport reached 700 million rubles. Fragmented and small handicraft production was consolidated and handicraft workers were united into artels of producer cooperatives. The tasks of the cultural revolution were accomplished successfully in the course of socialist reforms.

In a relatively short time Moldavia in the family of Soviet nations made a giant leap from backwardness to a highly productive economy, catching up with other republics and equaling them. "The Moldavian people," the decree of the Central Committee of the Communist Party of Moldavia "On the 60th Anniversary of the Moldavian Soviet Socialist Republic and the Establishment of the Communist Party of Moldavia" stresses, "being an integral part of the new historical community--the Soviet people--express their deepest thanks and gratitude to their Communist Party, all the country's people and, primarily, the great Russian people for their constant help, attention and fraternal friendship, under whose conditions the creative energy, abilities and talents of the republic's workers have unfolded with the greatest force."

Leaning on the most advanced state and social system, friendship of nations and the country's unified national economic complex, Soviet Moldavia increased productive forces manifold and made big advances in all the spheres of political, economic, social and cultural life. A modern industry, powerful power engineering, a well-developed construction industry and a broad transport network were established. A grape bunch served as Moldavia's distinctive symbol only 10 or 15 years ago. The republic's guests are also now amazed by its vineyards. However, new tractors, casting machines and all kinds of fabrics--this is Moldavia today.

Sectors determining scientific and technical progress developed especially dynamically during the 10th Five-Year Plan. Machine building and the electrical engineering industry now occupy a highly visible place in the republic's economic potential. More than 550 large industrial enterprises equipped with modern machinery and provided with highly skilled personnel operate. The total volume of industrial production in 1983 increased 62-fold as compared with the prewar level. Now the republic's industry produces more products in a week than it did during the entire year of 1940.

In Moldavia with the assistance of fraternal Union republics a powerful electric power station--the Moldavian GRES /State Regional Electric Power Station/ imeni 50-Letiya SSSR--the Kishinev Tractor Building Plant, the Bendery Silk Combine, the Rybnitsa Cement Plant and Knitwear Factory, the Ungeny Carpet Combine and a number of canning, sugar and wine making plants were built and the Tiraspol Cotton Association was established. According to the programs of the 11th Five-Year Plan the construction of the Moldavian Metallurgical Plant in Rybnitsa has begun on a large scale and the construction of the Rezina Cement Plant, the largest in the country, and of the Kishinev Al'fa Television Plant is being finished.

The total volume of capital investments during the 11th Five-Year Plan will be increased by 1.3 billion rubles as compared with the 10th Five-Year Plan, as a result of which the republic's contribution to the further development of the entire country grows. In 1982 the share of industry in the gross national product exceeded 59 percent, whereas in pre-Soviet Bessarabia it hardly reached 2 to 3 percent.

Occupying 0.15 percent of the country's territory with a population comprising only 1.5 percent of the USSR population, in 1976-1980 the republic produced almost one-fourth of the all-Union wine stock, 9 percent of the canned vegetables, about 4 percent of the sugar and vegetable oil and 40 percent of the fermented tobacco and essential oil.

The Moldavian SSR has been transformed into a region of intensive agriculture, makes a significant contribution to the fulfillment of the USSR Food Program and produces more than 2.1 percent of all the crop and livestock products. The agrarian-industrial complex for the production and processing of agricultural products functions successfully. It gives more than 60 percent of the gross national product and more than 50 percent of the national income of this republic.



The material and technical base of agricultural production has changed during the years of Soviet rule. Labor in agriculture is becoming ever more industrial. A qualitatively new stage in the development of agriculture began with the March (1965) Plenum of the CPSU Central Committee, which developed the basic directions in the agrarian policy of the party during the period of mature socialism, whose essence lies in an overall approach to the advance of agriculture as the initial prerequisite for a rapid and all-around development of this sector.

During 1965-1983 capital investments in Moldavia's agriculture reached almost 11 billion rubles, which is more than seven times as much as during all the preceding years of Soviet rule. From 1960 through 1984 fixed productive capital increased eightfold and the power-worker ratio, 7.3-fold as compared with 1960.

Rates of growth of agricultural production are the concentrated expression of the results of implementation of the agrarian policy of the CPSU. In Moldavia in 1983 the volume of gross agricultural output increased, as compared with 1940, more than fourfold, including of livestock products, 5.4-fold.

In the all-Union division of labor Moldavia appears as a region of large commodity viticulture, horticulture, vegetable growing and production of grain and livestock products. Occupying less than 0.5 percent of the country's agricultural land and being only the 12th among the Union republics in the area of land, Moldavia has reached the sixth place in the country in the volume of gross agricultural output.

The decree dated 6 December 1983 of the CPSU Central Committee "On the Work of the Central Committee of the Communist Party of Moldavia on Improving the Manner and Method of Activity of Party Organizations in the Light of the Decisions of the November (1982) Plenum of the CPSU Central Committee," which stresses the need to make a more significant contribution to the realization of the USSR Food Program, is of great importance for the development of the economy, including its agroindustrial complex. The fight for the utilization of all sources and potentials for a successful implementation of the Food Program has become the concern of all the republic's workers.

The advance of the economy, overall national economic development and progressive structural shifts have made it possible to expand the republic's participation in the all-Union division of labor and in the international commodity exchange. Before 1940 Bessarabia imported even nails, sickles and buttons. Today's Soviet Moldavia supplies about 300 types of machine building and light and food industry articles to the world market. Our articles can be found in 67, including all socialist, countries.

The republic welcomes the glorious anniversary enriched by the experience of socialist construction and vast achievements in economic and cultural development. All sectors are developing dynamically and at high rates.

Soviet finances have always been loyal party assistants and reliable means of implementation of socialist reforms. The USSR state budget as the budget of the unified Union multinational state ensures the participation of all the republics in the implementation of measures of all-Union importance, as well as all-around progress in the economy and culture of each of them.

The development of finances and credit is closely connected with the history of formation of the national statehood of the Moldavian people. In 1924 the budget of the Moldavian ASSR was included in the budget of the Ukrainian SSR. The first budget was approved in 1941, but it was not fulfilled in connection with the perfidious attack of Hitler's Germany on our country. During post-war years the financial and credit system ensured the mobilization of funds for the restoration of the national economy. The problem of accumulations was solved with the financial assistance of fraternal Union republics--subsidies and direct financing from the Union budget. On the basis of a dynamic development of Moldavia's economy the revenue base of the budget was strengthened, the rates of its growth being higher than all-Union ones. For example, during 1961-1977 the USSR state budget increased 3.2-fold, while the Moldavian SSR budget, 4.9-fold. During the years of the 9th Five-Year Plan its revenues increased by 42.1 percent and of the 10th Five-Year Plan, by 55.2 percent as compared with the 9th Five-Year Plan.

Serious changes in the structure of income and expenditure took place (see table 1).

Table 1

	1940	1950	1960	1970	1980	mil. rub. 1983
Revenues--total	21.7	117.7	344.5	967.2	1998.7	2639.6
including:						
receipts from the socialist economy	16.0	108.0	316.1	900.7	1860.8	2474.1
payments by the population						
amount	5.7	9.7	28.2	66.5	137.9	165.5
in % of the total revenue amount	26.3	8.2	8.2	6.9	6.9	6.3

As can be seen from the table, receipts from enterprises and organizations of the socialist economy comprise more than 90 percent of all the budget revenues. Payments by the population occupy a negligible proportion in budget revenues and have a tendency toward a decline.

The development of the national economy and culture and rise in the well-being of the republic's workers are clearly reflected in the growth of budget expenditures (see table 2).

During the years of the 10th Five-Year Plan Moldavia took a significant forward step in economic and cultural construction. The following figures convincingly attest to this: During that period the volume of the budget in terms of expenditures increased by 612.8 million rubles, or by 46.1 percent, and the allocations for national economic development, by 48.2 percent and for social and cultural measures, by 33.1 percent. During 1976-1980 the expenditures of the Moldavian SSR state budget according to basic directions were determined in the following amounts:

	mill. rub.
Expenditures--total	8945.7
including:	
national economy	4490.7
social and cultural measures	3625.5

Table 2

	1940	1950	1960	1970	1980	mil. rub. 1983
Expenditures--total	17.2	107.8	336.0	943.5	1942.7	2530.2
including:						
national economy	2.4	23.6	140.8	412.7	975.6	1306.1
social and cultural measures and science	10.8	69.4	171.5	432.5	813.4	953.1

The national income--the main source of expansion and development of production and rise in the well-being of workers--reached 26.3 billion rubles during the years of the 10th Five-Year Plan, which was 25 percent more than during the 9th Five-Year Plan. Out of this amount 19.5 billion rubles were allocated into the consumption fund and 6.8 billion rubles, into the accumulation fund, which was 30.4 and 10.6 percent more respectively than during the previous five-year plan. At present three-fourths of the national income goes into consumption and with due regard for the part of the accumulation fund used for housing and social-cultural construction this constitutes four-fifths of its volume. During the 10th Five-Year Plan 20.6 billion rubles were allocated for a rise in material well-being, which was 4.6 billion rubles, or 29 percent, more than during the 9th Five-Year Plan. In 1983 the national income reached 6.8 billion rubles, which exceeded the 1960 level 4.2-fold.

During the examined period real income grew by 21.5 percent. In 1983, as compared with 1965, it increased per-capita almost 3.5-fold. At the same time, the standards of living of the urban and rural population come closer together significantly.

An increase in labor savings is one of the indicators of rise in workers' well-being. At the end of 1983 the deposits of Moldavia's population in savings banks totaled more than 1,941 million rubles, or 1,386 times more than in 1940. The role of public consumption funds rises steadily, payments and benefits increase and their share in family income grows. During the years of the 10th Five-Year Plan the population was given payments and benefits from public consumption funds amounting to 6.6 billion rubles, which was 2 billion rubles more than during the 9th Five-Year Plan and greatly exceeded their volume during the 7th and 8th five-year plans taken together.

Housing construction is carried out on a large scale. In the last 10 years 1.2 million people have improved their housing conditions. Every year cities and villages become more attractive, transport mains are improved and means of communication expand. Kishinev, Tiraspol, Beltsy, Bendery, Rybnitsa and other cities in Moldavia destroyed by fascist invaders have experienced a rebirth.

A modern system of medical services has been developed in the Moldavian SSR. Owing to the rise in the standard of living and improvement in health protection, a number of previously widespread infectious diseases were eliminated. About 60,000 medical workers provide free medical aid to the population. In the population's provision with physicians the republic now stands higher than such capitalist countries as the United States, England, France, Japan and Italy. There are 35 physicians per 10,000 residents as compared to four in 1940.

In Soviet Moldavia, as in the entire country, a task of vast social importance has been accomplished: Basically, the transition to universal compulsory secondary education has been carried out. The training of highly skilled personnel, competent organizers of socialist production, is conducted on a wide scale. Today 401,900 specialists with higher and secondary education are employed in the republic's national economy, which is 23 times more than in 1940. Nine higher educational institutions established in the republic during Soviet rule train personnel in 93 specialties and tekhnikums, in 113. In the republic's higher educational institutions 21 times more students are trained than during the 1940/41 academic year and in tekhnikums, 14.5 times more. The general educational and vocational school reform, whose basic directions have been approved by the April (1984) Plenum of the CPSU Central Committee and the first session of the USSR Supreme Soviet of the 11th convocation, contributes to a fundamental improvement in the labor training and vocational guidance of youth and to a rise in the quality of training and education.

Science has made big advances. A wide network of scientific institutions headed by the Academy of Sciences has been established. It has available a modern material base and highly skilled personnel of scientists. Scientific institutions conduct a wide range of research connected with the accomplishment of important national economic and social tasks. A wide network of cultural and educational institutions operates in the republic. Such remarkable centers of culture as the Oktombriye Palace, an organ room and a theater, opera and ballet building in Kishinev have been built. Today in the republic there are seven professional theaters, a circus, a state philharmonic society and numerous popular theaters. The galaxy of talented writers, artists, sculptors, composers, actors and cinema workers has grown. In the unified process of our country's spiritual progress the culture of the Moldavian people national in form, socialist in content and internationalist in spirit has flourished brightly.

The services of the republic's workers in the fight for the establishment and consolidation of Soviet rule, their heroism manifested in fights against our homeland's enemies, selfless labor for the sake of the triumph of socialism and contribution to the strengthening of friendship and fraternal cooperation among socialist nations and nationalities were highly appreciated by the party and government. Soviet Moldavia was given high awards of our homeland--orders of Lenin, of the October Revolution and of Friendship of Nations.

Welcoming the 60th anniversary of the formation of the Moldavian SSR and of the Communist Party of Moldavia in an appropriate manner, the republic's workers live with the same thoughts and ideas and with the same concern as that

of the entire Soviet nation, concern for the growth and strengthening of our beloved homeland, so that our achievements in the fight for the implementation of the historical decisions of the 26th CPSU Congress may increase day after day.

Moldavia's workers, actively participating in the all-Union socialist competition, have made new advances in national economic development during the 3 years of the current five-year plan. The planned level of the national income has been exceeded. Rates of growth of public production and labor productivity have risen. In 1983 more than 86 percent of the increase in industrial output was obtained through a rise in labor productivity. Industrial sectors, which determine scientific and technical progress and are the decisive base for a steady growth of the entire national economy, that is, power engineering, machine building, metalworking and instrument making, continue to develop at high rates. The pioneer of metallurgy--the metallurgical plant in Rybnitsa--gave its first smelting during the anniversary year.

The establishment of a qualitatively new production and organizational structure of the agrarian sector of the republic's economy makes it possible to significantly raise the role of Soviet Moldavia in the realization of the country's Food Program. During the 3 years of the 11th Five-Year Plan the gross output of the food industry rose by 25 percent and the average annual gross output of agriculture increased by 5.5 percent as compared with the appropriate period of the 10th Five-Year Plan.

On the basis of the all-Union socialist competition among collectives of financial and insurance organs for the second quarter of 1984 the workers of Moldavia's financial system were awarded the first place and the Challenge Red Banner. This is the result of their selfless labor. Achievements in the socialist competition are good prerequisites for the fulfillment of the assignments of 1984.

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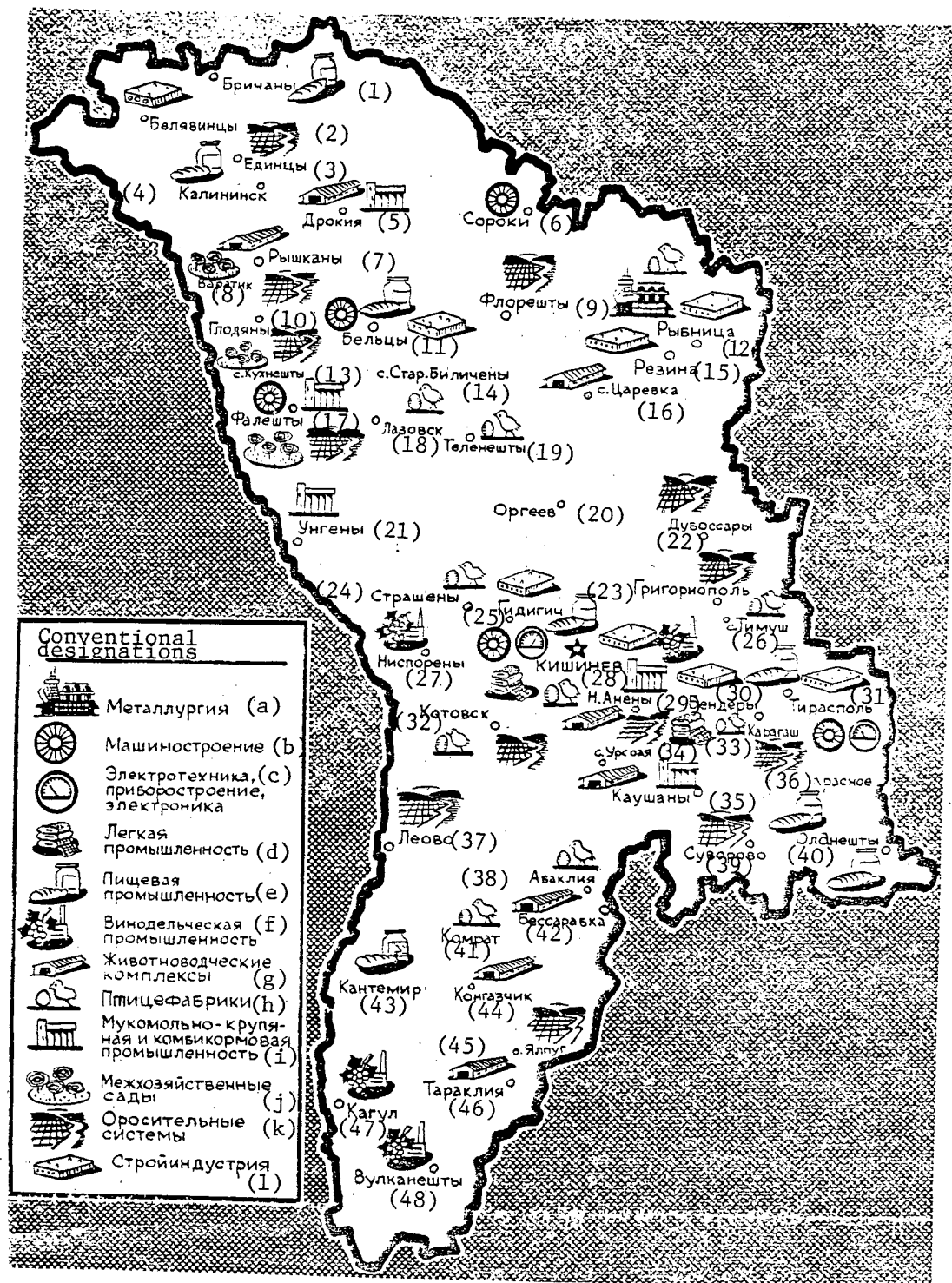
#### Capital Construction Plan

Kishinev SOVETSKAYA MOLDAVIYA in Russian 9 Jan 85 pp 1, 3

/Article: "Moldavia's New Construction Projects"/

/Text/ The year 1985--the concluding year of the 11th Five-Year Plan--began its labor biography. Together with fraternal republics the Moldavian SSR also enters the new stage of economic and social development. It enters with a sense of pride for many famous accomplishments. According to preliminary data in 1984 the value of the gross national product will exceed 16.4 billion rubles, or will increase by 2.6 percent, as compared with 1983. The national income will increase by 2.4 percent.

The rates of growth of industrial production will exceed 103.3 percent, which is slightly higher than the assignment set for 1984. The industry will sell output worth almost 44 million rubles in excess of the plan. On the whole, in 4 years the volume of industrial production in the republic will rise by 25.3 percent as compared to 23 percent envisaged by the five-year plan.



(Key on following page)

Key:

- |                                |                        |
|--------------------------------|------------------------|
| 1. Brichany                    | 25. Gidigich           |
| 2. Belyavintsy                 | 26. Timush             |
| 3. Yedintsy                    | 27. Nisporeny          |
| 4. Kalininsk                   | 28. Kishinev           |
| 5. Drokiya                     | 29. N. Aneny           |
| 6. Soroki                      | 30. Bendery            |
| 7. Ryshkany                    | 31. Tiraspol           |
| 8. Varatik                     | 32. Kotovsk            |
| 9. Floreshty                   | 33. Karagash           |
| 10. Glodyany                   | 34. Village of Ursoaya |
| 11. Beltsy                     | 35. Kaushany           |
| 12. Rybnitsa                   | 36. Krasnoye           |
| 13. Village of Kukhneshty      | 37. Leovo              |
| 14. Village of Star. Bilicheny | 38. Abakliya           |
| 15. Rezina                     | 39. Suvorovo           |
| 16. Village of Tsarevka        | 40. Oldneshty          |
| 17. Falesty                    | 41. Komrat             |
| 18. Lazovsk                    | 42. Bessarabka         |
| 19. Teleneshty                 | 43. Kantemir           |
| 20. Orgeyev                    | 44. Kongazchik         |
| 21. Ungeny                     | 45. Yalpug             |
| 22. Dubossary                  | 46. Tarakliya          |
| 23. Grigoriopol                | 47. Kagul              |
| 24. Strasheny                  | 48. Vulkaneshty        |

Conventional Designations

- |  |  |
|--|--|
| a) Metallurgy  | g) Livestock complexes                     |
| b) Machine building  | h) Poultry farms                           |
| c) Electrical engineering, instrument making and electronics | i) Hulling-milling and mixed feed industry |
| d) Light industry  | j) Interfarm orchards                      |
| e) Food industry   | k) Irrigation systems                      |
| f) Wine making industry                                      | l) Construction industry                   |

According to preliminary data, last year the commissioning of fixed capital increased by 22 percent and exceeded 1.27 billion rubles. A total of 1,760,000 square meters of housing were commissioned, which made it possible to improve the housing conditions of tens of thousands of people.

Everything that has been done is a good basis for a successful fulfillment of the entire 5-year program. The plan for the republic's economic and social development for the concluding year of the five-year plan envisages the further growth of public production, its intensification and efficiency and a progressive and balanced development of the entire national economic complex. Throughout the republic and Union-republic economy it will be necessary to efficiently utilize capital investments amounting to 1.1 million rubles, including 580 million rubles for construction and installation work, which exceeds the fulfilled volume during the past year. The commissioning of fixed capital will reach 1.132 million rubles.

A significant part of the funds--72 percent--is allocated for production construction, primarily for the further development of industrial sectors determining technical progress. At the same time, the fact that 33 percent of them will be utilized for the modernization of existing enterprises, 36 percent, for their expansion and only 31 percent, for new construction projects is an important feature of the plan.

Furthermore, 368 million rubles of kolkhoz funds, 8.6 million rubles obtained from the performance of all-Union communist mass unpaid work and 38.2 million rubles of funds of housing construction cooperatives will be received for capital construction.

Power engineering is the basis for national economic development. In the republic this year the production of electric power will exceed the assignment of the five-year plan by 2.9 percent and total 17.2 billion kWh.

Metal pertains to the materials without which it is impossible to represent the economy. At the finish of the five-year plan in connection with the commissioning of the Moldavian Metallurgical Plant in Rybnitsa in the current year in our republic 200,000 tons of steel will be smelted and in connection with the completion of construction of a rolling mill in the current year 150,000 tons of rolled metal products will be obtained.

The electrical engineering industry, instrument making and electronics and machine building sectors, including those producing means of production for the needs of the agroindustrial complex, are to be developed at the most accelerated rates.

Provision is made for the expansion of the Tiraspol Eletromash Plant, the Kishinev Tractor Plant and the pilot plant for mechanization and automation equipment in Soroki. The construction of the Moldsel'mash Production Association in Beltsy, establishment of capacities for the output of 1,000 heavy-freight refrigerated semitrailers in Tiraspol, of the Al'fa Television Plant and of the Volna Production Association in Kishinev and construction of a sidewalk cleaning machine plant in Faleshty, of a plant for the repair of trolley buses and of the Moldtorgoborudovaniye Experimental Plant in Kishinev will continue.

As always, a rise in the people's well-being is planned with special emphasis. An increase in fixed capital for the production of consumer goods is envisaged. In connection with the commissioning of 240 looms the output of fabrics at the Bendery Silk Combine will be increased. Capacities for spinning and dyeing, 4,800 spinning spindles for carpet production in Kishinev and capacities for the production of 4 million pairs of walking, sports and indoor shoes with textile uppers at the Bendery Factory of the Floare Experimental Production Association will be put into operation. The construction of the dyeing and finishing production facility of the Styaua Roshie Association will continue.

Builders will make an important contribution to the solution of the Food Program. Capacities for the production of canned goods and processing of milk, meat, grape wine, sugar and other food products will be increased and



livestock complexes and poultry farms will be put into operation. As a result of retooling with improved equipment, for whose manufacture assistance has been provided for canning industry workers by the Tiraspol Casting Machine Plant imeni S. M. Kirov for a long time, this year capacities for the production of canned tomato paste at the Olaneshty Canning Plant will be increased by 10 million cans and at Kalinin and Kantemir plants, by 7 million. Production at the Tiraspol Canning Plant imeni 1 Maya will be expanded by 38.4 million cans and at the Oktyabr' Plant in the village of Krasnoye in Slobodzeyskiy Rayon, by 91.5 million cans. The Kishinev Moloko Association, the Tiraspol City Dairy Combine and some other enterprises of the meat and dairy sector will be retooled. The construction of the 11th sugar plant in Brichany and of the Kishinev Perfumery and Cosmetics Factory and the expansion of the Beltsy Mechanized Bakery will continue.

The grape processing base will be expanded. A plant for initial wine making will be put into operation in the village of Slobodzeya-Mare in Vulkaneshtskiy Rayon. The construction of wine plants in Nisporeny and Kagul will continue. The construction of a champaign wine plant producing 20 million bottles annually will begin in Kishinev. As a result of retooling, capacities for grape processing in Kalarash and Telenshty agrarian-industrial associations, the Yaloveny Agroindustrial Association and some others will be increased.

The Synzhereya Cardboard Container Factory with the use of waste paper, which is under construction, will become a large base for packaging materials for fruits, vegetables, foodstuffs and industrial goods.

In the system of the Ministry of Procurement a plant for corn seed processing will be put into operation in Drokin and the construction of a similar enterprise in Kayshany will continue. The capacity of the elevator at the Kishinev Grain Products Combine will be increased, the mixed feed plant in Faleshty and the elevator in the Leninskiy settlement will be retooled and the construction of the Ungeny Mixed Feed Plant will begin.

The first stage of the expanded cattle farm of the Zarya Scientific Production Association in Novoanenskiy Rayon will be commissioned and the construction of a dairy farm for 400 head on the Kolkhoz imeni Kutuzov in Rezinskiy Rayon and of complexes for the raising and fattening of 6,000 head of cattle each in Ryshkanskiy and Tarakliyskiy rayons will begin.

The construction of hog breeding complexes for the raising and fattening of 54,000 head annually in Drokiyevskiy, Kaushanskiy and Komratskiy rayons will continue. The capacities of Novo-Brynzenskaya, Abakliyskaya, Kishinev and Rybnitsa poultry farms will be commissioned after expansion and the expansion of the Bykovets Poultry Farm for 500,000 ducks annually and of the Komrat Poultry Farm for 150,000 turkeys, increase in the capacity of the Chorskiy Department of the Buzhorskaya Poultry Farm for 480,000 head of meat poultry annually and in the capacity of the poultry farm in the village of Staryye Bilicheny in Lazovskiy Rayon for 3 million broilers annually and construction of a poultry farm in the village of Timush in Grigoriopolskiy Rayon and of the Bendery Poultry Farm for 6 million broilers each annually will continue.

Land reclamation is one of the important conditions for an increase in the efficiency of sectors of the agrarian-industrial complex. In the republic in 1985 plans are made to put to use 30,000 hectares of irrigated land, including only 14,000 through the delivery of water from Lake Yalpug. The construction of the first stage of the North Dubossary tract of irrigated land will be completed and the construction of its second stage, of the second stage of the Grigoriopol system and of the first stage of the Karagash system in Slobodzeyskiy Rayon and the irrigation of an interfarm industrial orchard and of interfarm crop rotation in Suvorovskiy Rayon, of interkolkhoz orchards in Yedinteskiy and Glodyanskiy rayons and of the Varatik-Diruitor irrigated tract in Ryshkanskiy Rayon will begin. The construction of an interkolkhoz orchard in Faleshtskiy Rayon and of an irrigation system with the utilization of the sewage of a hog breeding complex on the Markuleshty Sovkhoz in Floreshtskiy Rayon will continue. The construction of the first stage of the Verkhne-Pugachenskiy tract will be completed and of its second stage will begin and the construction of the irrigation system of the interfarm orchard and field crop rotations at the junction of Leovskiy and Kotovskiy rayons will continue.

The scope of capital construction growing year after year requires an outstripping development of the construction industry. This year the first production line of an annual capacity of 1.15 million tons of cement at the Rezina Cement Plant will be commissioned, reconstruction of the Rybnitsa Reinforced Concrete Article Plant-8 and of the large-panel housing building plant of the Kishinev Country House Building Cooperative-1 and expansion of fittings shops at reinforced concrete article plants No 6 (Tiraspol) and No 7 (Bendery) will be completed and reconstruction of the reinforced concrete article plant and of the large-panel house building plant No 5 in Beltsy and expansion of the stone milling plant in the settlement of Gidigich will continue. Capacities for the quarrying of rubble and crushed rock of the Belyavintskiy quarry in Brichanskiy Rayon will be increased. Other construction industry enterprises will also be subjected to reconstruction and expansion.

A big social program will be implemented during the concluding year of the five-year plan. In 1985 the volume of housing construction is to be 29.2 percent higher than the control figures of last year's five-year plan. With all sources of financing plans are made to build dwelling houses of a total area of 1,800 square meters. In the republic throughout the 5-year period the commissioning of housing will increase by 10 percent and with capital investments, by 24 percent, as compared with what is envisaged by the five-year plan.

With all sources of financing we will commission new schools for 19,000 places, or 7.3 percent more than last year, preschool institutions for 11,000 places, or 5.7 percent more, hospitals for 1,560 beds and outpatient-poly-clinic institutions for 6,400 visits per shift, or 27 and 64 percent more respectively than last year.

The 10th session of the Moldavian SSR Supreme Soviet of the 10th convocation noted that the capital construction program, as never before, was realistic for fulfillment. Therefore, it is fundamentally important to ensure its smooth monthly and quarterly fulfillment and the commissioning of capital by all contract organizations, as well as to improve construction by the economic method, including in rural areas.

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