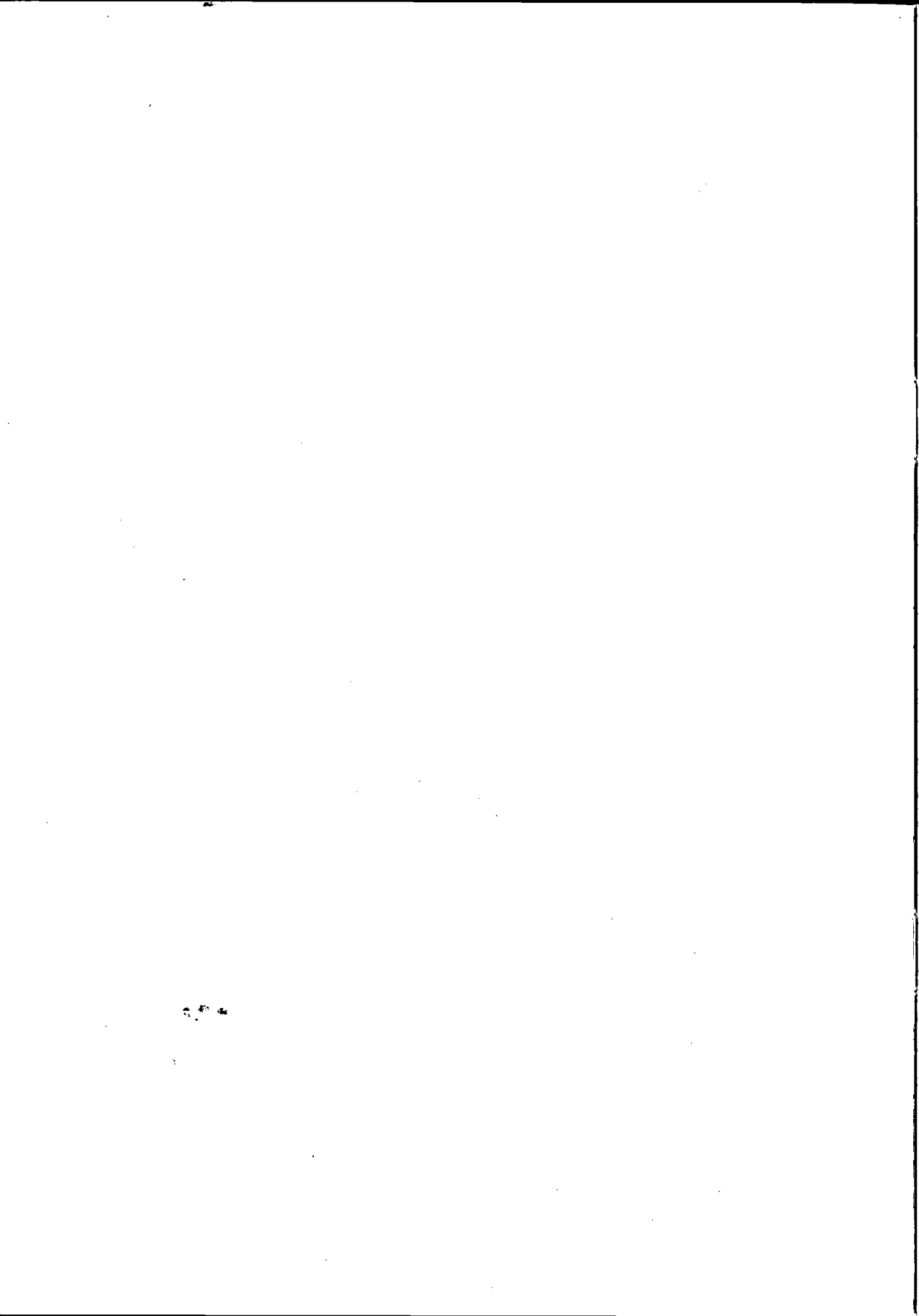


Perestroika:
Recent Developments in
Restructuring the Soviet Economy

A B E L A G A N B E G Y A N



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Restructuring the Soviet Economy**



ABEL AGANBEGYAN

DR. BRUNO KREISKY LECTURE SERIES / 3

Perestroika:
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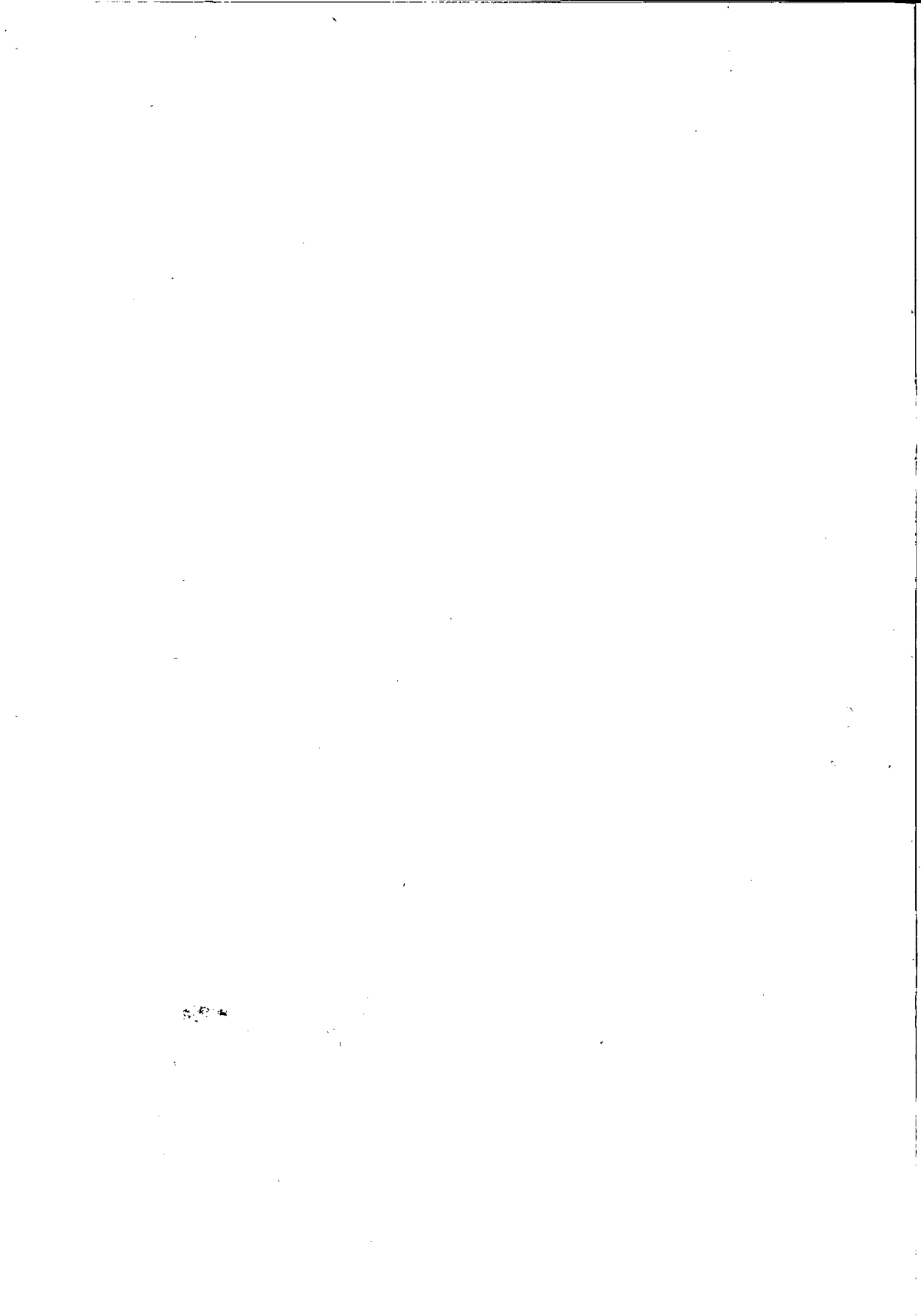
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FOREWORD

In this third distinguished lecture in IIASA's Dr. Bruno Kreisky Lecture Series, Academician Abel Aganbegyan frankly addressed economic, social, and political issues and problems connected with the process of restructuring the Soviet economy. His lecture gave us important and valuable insights into the ongoing economic and political debate in the Soviet Union, which represents another aspect of recent developments known as *glasnost*.

Together with Nobel Laureate Academician Kantorovich, Abel Aganbegyan was one of the Soviet pioneers in the development of economic-mathematical models for long-range planning of the national economy. IIASA is proud to count Academician Aganbegyan as one of its alumni and is pleased that he accepted the Institute's invitation to deliver the third Dr. Bruno Kreisky Lecture.

Robert H. Pry
Director
International Institute for
Applied Systems Analysis



**PERESTROYKA:
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Restructuring the Soviet Economy**

ABEL AGANBEGYAN

It is a great honor for me to speak here before this audience in such a distinguished series of lectures. I believe that it will be much better if I freely express my ideas in Russian, instead of reading the English text, since simultaneous interpretation is available.

You know that in my country there is a process of radical economic reform going on. This restructuring is developing along three major lines. The first one involves radical changes in economic development factors, sources of economic growth, and the structure of our national economy in terms of making a transition to the path of intensive development based on scientific and technological progress. The second area involves turning our economy toward solving social tasks – that is, strengthening the social thrust of our development as a priority task. The third area entails radical reform in managing the whole mechanism of our national economy, without which neither the first nor the second effort can succeed.

These three areas of restructuring are geared toward accomplishing the most important strategic task: to accelerate the social and economic development of our country. In Western languages the words *perestroyka* (restructuring) and *glasnost* (openness) are already widely understood; but the most important word of our economic strategy, *uskorenie*, which means acceleration, has so far not gained circulation. In fact, the essence of the change is accelerating development.

The point is that, during the last 15 years, our economy was operating with a noticeable decline in growth rates. In 1966–1970, the eighth five-year period, national income growth was 41%. Later in the ninth five-year period, it was 28%; in the tenth five-year period, the figure was 21%; and in the eleventh, only 16.5%. If we take into account that, during the eleventh five-year period, imports exceeded exports, the real growth of production was even less. If, in addition, we take note of the fact that our price indexes play down the real growth of prices, owing to the wrong methods being used in their calculation, in reality during the eleventh five-year period, we came to a pre-crisis stagnation in our economy, and our major task is to overcome those negative tendencies.

Restructuring is aimed at achieving this turnaround. In the twelfth five-year plan period, we should increase our national income by up to

22%. In subsequent five-year periods, we have to attain the figure of 28% each. But this quantitative aspect is not the most important factor in the concept of acceleration, if we regard it in a broader socioeconomic sense. The major factor in acceleration is the new *quality* of growth, that is, changes in the sources of growth, intensification, and social priorities, which I have already mentioned.

Now let me briefly describe the problems that appear and possible ways to solve them. I will start with intensification. As we know, economic growth can take place both through extensive factors (that is, through an increment in resources), as well as through intensive factors (that is, through better use of the resources). During the last three five-year periods, the Soviet national economy was predominantly developing extensively. Our country is big, and of our 283 million residents, about 140 million are engaged in the national economy. We cover one-sixth of the world's ground surface and have a lot of natural resources. Annually we recover 2-3 billion tons of these resources, including 2.3 billion tons of fuel (in coal equivalent). We have also huge investment possibilities. Therefore, it was only natural that we used those extensive resources and developed mainly at their expense.

If we take typical five-year periods, say, from the sixth up to the ninth, we notice that our resources were developing along the following lines: major industrial assets grew by 50-60%, capital investments by 45-50%, and fuel and raw material production 25-30%, every five-year period. At the same time, we were absorbing into our economy 10 or 11 million workers. Since the basis of all wealth is the labor of people, someone produced the major fixed assets, and fuel and other raw materials were mined at the expense of somebody's efforts. We may estimate a universal indicator of resources consumption, measured (according to optimization theory) by efficiency coefficients in labor units. As I calculated it, this indicator grew by 20-22% in the sixth through the eighth five-year periods. Starting from the ninth five-year period, its growth slowed down. In the tenth plan period, the indicator growth rate dropped to 13%; in the eleventh, to 9%; in the twelfth, to only 7%; and in the thirteenth and fourteenth plan periods, this figure will be 5% and 6%, respectively.

How can one explain this drastic decrease in growth rates? It is explained by the fact that we have reached a certain frontier in our development; when resources cannot be expanded rapidly. Speaking about labor resources, we have run into the demographic aftereffects of World War II. Those who were born during the war period, and their number was one-third of the prewar average, entered the fertile age 20 to 25 years after the war, and they gave birth to fewer children. Now their grandchildren are getting involved in the labor force. Thus, in the twelfth five-year period, labor resources will increase by only 2.5 million compared with 10-11 million in the previous five-year periods. The majority of these 2.5

million young people will be the inhabitants and indigenous population of Middle Asia and Azerbaijan. Therefore, for the first time in our history, any increase in total output must be attained through higher labor productivity.

Let us turn to other resources: the production of fuel and raw materials. We are in the world's first place in oil, natural gas, iron ore, and construction materials production. We produce the same amount of wood as the USA, harvesting 2 million hectares of forest annually, and take the third place (after China and the USA) in coal production. The production has been stabilized; and in order to find and to produce new raw materials and fuel, we have to go to wild areas and deeper into the soil, which costs more and more. New ecological requirements have made this way unprofitable. In the twelfth five-year period, for the first time, two-thirds of our additional fuel requirements will be met through resource-saving measures. During subsequent five-year periods, this share will rise to between 75 and 80%. That is why we have to switch to conservation measures, and make resource-saving technologies become more efficient.

We are also reducing the rate of growth of capital investments, along with fixed assets. For instance, in the ninth five-year period, fixed assets grew by 53%; in the tenth, by 43%; in the eleventh, by 37%; and in the twelfth, they will increase by 30%.

Let us compare the figures for the last 15 years (1971–1985) and the next 15 year period (1986–2000). Our national income was growing first by the figure of 1.8, and we want to raise this growth factor to 2.0. But we want to achieve this with a smaller increment of resources. Fixed assets were growing by a factor of 3, and the output–capital ratio has decreased. In the next 15 years assets will double and the ratio will stabilize. In the first period fuel and raw material production growth was almost 1.5, while in the next one the growth will be 1.2 and maybe even a bit less. The labor force engaged in material production was growing by 15% in the first case, and in the second would go down by 10%, due to the demographic aftereffects of the war and to increasing employment in the services sector.

Thus, we are counting on intensification to sustain growth. This means that we must accelerate the growth of labor productivity by a factor of 1.5, double our fuel savings, and overcome the tendency toward lower efficiency of investments and fixed assets. These measures will increase the total economic efficiency by a factor of 2 and compensate for the decrease in resources, on the one hand, and, on the other hand, impart the necessary acceleration.

When we know the growth of national income and the trend in the resource growth indicator, we are able to estimate the growth of the general indicator of national economy efficiency, or what I call "the indicator of intensification". During the last three five-year periods, its growth was

approximately 7% in five years, and that growth was very slow and contradictory. Efficiency was growing, thanks to labor saving and some savings of fuel and raw materials. But those economies were being partly lost because of capital-output ratio growth and inefficient use of capital investments. These problems led to the slow growth of the general indicator. In the twelfth five-year period we shall have to increase that efficiency indicator by 14% and later by 21% every five years. That will be real acceleration! And remember the complex nature of achieving those targets: we shall have to accelerate under conditions of lower production of resources.

The most important factor, strategically, is to accelerate scientific and technological progress. Such progress, as is known, involves two major processes. One is evolutionary – when the old technology or techniques are improved and updated, but do not basically change. The other process is one of revolution – when essentially new generations of technological systems are invented to substitute for the old ones. Our country, until recently, has been developing predominantly along the evolutionary path of technological progress; we replaced equipment and goods very slowly, instead of scrapping the old technologies and products to develop new ones. Now we have changed our scientific and technological policy and decided to invoke revolutionary changes to modernize our economy technically.

Where is our bottleneck? It is not in fundamental research, which is well developed in my country. Nor is it in technology, because we do have advanced technologies. For instance, quite recently, I came back from Japan, where I visited the most modern steel plant, constructed on man-made Ogishima Island near Yokohama. I was surprised to see the use of several patents that had been bought from the USSR. Those included dry extinguishing of coke, continuous casting, and others. The pioneer of continuous casting was Novolipetsk steel plant in the USSR. Japanese industry has bought a license, and 95% of Japanese steel is produced with this method, compared with only 30% of the steel output in the USSR. Unfortunately, this example is typical.

Thus, the major problem is to implement our achievements in science and technology by insuring their widespread diffusion. The implementation of a technology is materialized through new equipment, machines, and instruments. It means that machine building, where these equipment and machines are produced, is the main link in new technologies diffusion.

Our machine building (I mean, of course, civil machine building) is a very backward industry, in light of modern requirements; it is obsolete; and it does not provide other industries with new equipment. Therefore, we are lagging behind in all areas affected by this backwardness. That is why we have proclaimed, and we are now implementing, a new investment policy. The essence of it is to redistribute resources in favor of machine

building. To quote just a few figures: during the last five-year period, capital investments in machine building grew by 24%. This five-year period, we intend to have an 80% increase. In 1986 alone, these investments increased by 17%, although the growth allocated to modernizing old plants amounted to 30%. This means that we have done much more during this year than during the previous five years. We do not think that this is enough, and we are going to do even more in 1987. During the last five-year period, we threw away only 9% of the machines and equipment from our active plants, leaving over 90% of the aging assets. Now in the twelfth five-year period, we plan to renew 45% of them. To provide for this modernization, we are going to increase machine tools production by a factor of four and purchase new equipment from abroad. We have started working the newer machines over two or three shifts, while the old machines are working only 1.3 shifts.

To transform the technological basis of our machine building industry, we are changing the output structure. We have to renew three-fourths of our machine building production in the near future – the next six years. In 1985 the rate of renovation of our civil machine building production was 3.1%. In 1986, that figure had not grown much – to 4% – because of the lack of material basis. We are now rapidly increasing that material basis so that, in 1987, the annual renovation rate will be 7.5%, and by 1990, 13%. In the twelfth five-year period as a whole, half of our machine building output would be replaced with new products. This new equipment would be 1.5 to 2.0 times more productive, with doubled reliability, and 12–18% less costly in terms of metal consumption.

The idea is to reconstruct our machine building industry and to accelerate the rate of its development so that it grows two times faster, and new R&D intensive industries three to four times faster, than the whole of our national economy. Machine building is the basis for starting technical reconstruction in all spheres of the national economy. If we look at the equipment and machines, we notice that the rate of renovation is 3% a year, and we want to make this rate 6.2% a year. Of course, there are quite a number of difficulties, and we feel them as fetters – old projects, old design, old fixed capital assets, and old organization of labor. We have to get rid of these fetters; the movement is noticeable now, and it will accelerate.

Another area of restructuring is the social sphere. We have witnessed a gap, a sad gap, between the powerful potential of our state, its industrialization level, and the level of education of our population (with compulsory secondary education), on the one hand, versus people's living conditions, on the other hand. These factors do not tally, as can be seen with the naked eye.

The first problem is shortage of housing: 17% of families in the USSR do not have separate apartments or flats; they live in hostels or two

families share one apartment. We seem to be building quite a lot of new housing - 2 million flats and separate houses a year - but for a population of 283 million, this is not enough. Therefore, our task is to increase the rate of housing construction by a factor of 1.5 or more. This means 3 million flats a year. In this case, as calculations show, by the year 2000 every family will have either a comfortable apartment or a separate house. But this requires much effort, much work, including the attraction of people's savings. In our country, flats are mainly built at the expense of the state, but the share of cooperative and individual construction is increasing.

Another acute problem is that of food supply. It is very sad that we have to import grain and meat for such a big country as ours, containing 80% of the world's black soil areas, and with diverse agroclimatic conditions. Yes, we have arid and permafrost areas, but our fertile territory is also very big. The shortages are all due to unsatisfactory management, and now our task is to increase the growth rate of agricultural production by a factor of 2.5. For this goal, we have changed scientific, research, and investment policies; reorganized the whole system of agricultural management; and introduced new agricultural management mechanisms. On the whole, these steps have yielded positive results. Last year, in comparison with the average annual production during previous five-year periods, we had a 30-million ton increase in grain (from 180 to 210 million tons), we produced 1 million more tons of meat, 5 million more tons of milk, etc. These improvements allowed us to reduce the imports of grain and meat by half. This year we are doing even better. For example, cattle breeding output is developing at the rate of 7% a year. But we say, "Chickens have to be counted in the autumn," and therefore we cannot speak about the fall harvest in spring. We must wait a bit to see the actual results.

In order to balance the demand and supply, it is reasonable for us to increase prices for meat and milk products. We have to change our retail price system. Remember that the existing prices for meat and milk were established in 1962. Since then, wages and salaries of collective farmers have grown, and milk and meat production is no longer profitable. The retail price for meat in state shops is 1.8 rubles per kilo, which means that we are giving our customer a 3-ruble subsidy every time he buys a kilo. Similarly, we pay 30 kopeks in subsidy for every liter of milk sold. The subsidies for meat and milk alone amount to 48 billion rubles, with the state budget being 430 billion rubles. You see that we do need to increase prices. We want to handle this democratically, after making people aware of the problem through discussion and with full compensation of the extra costs to be paid by the population.

Another problem is meeting the effective demand. We have a deformed structure of population expenditure patterns. Our taxes are very small (about 8% of a nominal wage). Payment for apartments and utilities amounts to 3% of a typical household income. Because our services

system is not well developed, 80% of all expenditures go to buy products. We have to change that structure through rapid development of the services sector. During the last five-year period, it has grown by 25%, and this five-year period we decided to increase it by 50%. Now we are planning to have an 80% increase and to adopt a series of measures, a whole program, to do it. The structure of people's expenditures will also shift with wider use of personal savings for housing construction, recreation system maintenance, and other purposes.

Of course, it is also very important to raise the quality of our manufactured goods to meet effective demand. This is why the economic management mechanism in light industry and trade was changed in 1986. We have scrapped centralized planning in these branches. The plan is now being formed through orders of trade that represents the demands of our population. Enterprises are reacting more flexibly to this change. We have also decentralized retail price-setting, introduced for some new products and so-called bargain-price goods. The situation has improved a bit, but not to any considerable extent, because we need time to modernize light industry, equip it with new machines, and provide better raw materials. Due to the low quality of consumer goods, an economic paradox takes place: although the volume of production is huge, demand is not satisfied. For instance, this year we shall produce more than 800 million pairs of shoes - 3.2 pairs per person. If we compare ourselves with Czechoslovakia, a country with a well-developed footwear industry, they produce 1.7 pairs of shoes per person and this supply is enough. While we produce two times as much, we do not meet the demand. The USA produces 300 million pairs, there are enough shoes for everybody. We produce more, but not enough. Why? Because the quality is bad; the shoes are neither reliable nor attractive. As you see, we need measures to improve quality. Together with the economic measures, we are implementing administrative ones. For instance, we brought in a state quality control system.

Speaking about social tasks, I could also mention the problem of pensioners or retired people. You have to remember that we lost 20 million people during World War II, and many more were wounded. Many families lost their male breadwinners. Therefore, we have a huge number of pensioners: 57 million. The law on pensions adopted in 1956 (30 years ago) is out of date, and now a new law is being prepared that requires new additional resources to raise pensions sufficiently. The retirement age is 55 for women and 60 for men, and there are 5- or 10-year concessionary early retirement periods for those working in the North and in harsh conditions.

Another problem is poor health services. Twenty years ago, we were among the first 18 countries in life expectancy, approaching the parameters of Japan. We also had good total and child mortality figures. Since then, most developed countries have made big steps forward. Japan is now first in terms of life expectancy, while our figures have gone down. Our child

mortality rate is higher. We are not only not among the top 18, but we are barely among the first 50 countries. So we have taken a step backward. Of course, the situation should be redressed: we have to develop a new extended system of health services. In 1986, for the first time in 20 years, we managed to increase life expectancy by one year; it has now reached 69 years. This year the figure for life expectancy is moving up because of lower mortality. The problem of the high rate of child mortality is being solved; it is still very high, but some improvements are visible. With respect to the problem of male mortality in the active years, the major scourge is alcoholism. Therefore, we decided to radically combat alcohol abuses, and in the last two years the purchase of alcoholic drinks has gone down 50%. Accordingly, the male mortality rate has gone down rapidly. Now other measures are being taken to improve the level of health of our people, including 40% growth of medical staff salaries (especially in the lower echelons).

To solve the tasks of intensification and social development, the major conditions are to restructure both the economy and economic management mechanisms. Historically, as we say, we have a "mechanism of inhibition" of socioeconomic development. The basis of this administrative system is the command-ordering type of management - good for barracks, for the military, for a war period, or when fire is to be put out, but not appropriate for peace time, for managing scientific and technological revolutions, or when social and other requirements have grown and a transition is needed from one set of methods of running the economy to another. We do need to substitute economic for administrative methods. We want enterprises and associations to become self-accountable and self-financing. We want to enhance the self-governing role of labor collectives, including elections of their managers and foremen. We want to establish a direct link between payment for labor depending on the end-result of given activities for a given enterprise. But in order to achieve all this, we have to change the entire system of economic norms and standards, labor conditions, and stimuli.

The major instrument of this radical reform will be a price reform. We want to review wholesale and purchase agricultural prices as well as retail prices. Later on, we would have to carry out a radical reform in our finance system to build a normative basis for all our enterprises. We want to change the credit and finance system and to align the money turnover with material turnover. And all of this - new prices, a new credit system, a new finance system - will enable us to pass from a centralized distribution of means of production (so called "material-supply system") to trade in the means of production. Customers will have some choice. This multi-channel trade presupposes certain and considerable decentralization of prices. Although the state will control prices for key products and

commodities, to avoid inflation, other prices will be free or contractual. We also plan to prevent market monopolization by big enterprises.

All these changes in national economy will also involve international economic relations. The first steps have already been taken in this area. The right of trading outside in the free market was given to 20 ministries, whereas previously it was the monopoly of the Ministry for Foreign Trade. Over 70 enterprises and trusts have been granted the right to go into international markets and to create their special foreign trade firms. About 1,000 enterprises were given the right to trade with socialist countries in the socialist world market. Soon, in 1989-1990, price reforms will take place, taking into account world prices at large. This will also enable us to introduce the convertible ruble in our country, first with currencies of socialist countries, and lay the groundwork for a serious revamping of our foreign economic activities. We are against autarchy. Moreover, we are going toward a more open economy, and we want to extend our foreign economic relations faster than our economy is growing; but we must learn how to produce high-quality goods. We want to sell not only raw materials and fuel, but ready-made articles as well. We have also decided to embark on a joint venture system, and we have already received about 400 orders that are being considered. The first joint ventures have been already created.

A very important condition for the needed restructuring is democratization, in the broadest sense possible. First and foremost, this applies to the national economy, not only through enhancing the role of labor collectives and self-management, but through setting up cooperative bodies in trade, industry, and the services sector. In all spheres our new law on individual labor encourages individual labor activity, instead of prohibiting it. We are searching for new forms, but there must be an end to this search. Eventually, we have to stop and accept a complete program for these actions. Searches and experiments cannot be endless.

During the last two years after the April 1985 CPSU Central Committee Plenary Session, we were elaborating a new system of management, an economic management mechanism. At the June 1987 Plenary Session this was adopted. At the following Session of the Supreme Soviet, a new law for state enterprises, declaring their independence as a basic element of the new management system, was accepted. Later the CPSU Central Committee and the Council of Ministers decreed new steps in this direction: restructuring of planning, price-setting, finance, banking, material supply, regional governing, labor and social affairs, statistical systems, etc. Thus, in our country we have started a full-scale transition from verbal declarations to the creation of a new management system, from isolated experiments to wide diffusion of new approaches, to real economic reform. A schedule for this transition, by which the new economic management

system will come into force during the next, the thirteenth, five-year period, has already been developed.

Finally I can say that, for economists, it is a very interesting time to live in our country. Now that society has started moving, we see the activity of people – reading newspapers and actively debating, criticizing, and discussing what is written there – and people feel that their lives are becoming easier. Now the problem is to move toward better living conditions and more productive labor while retaining our free-breathing, interesting spiritual life.

Thank you for your attention.

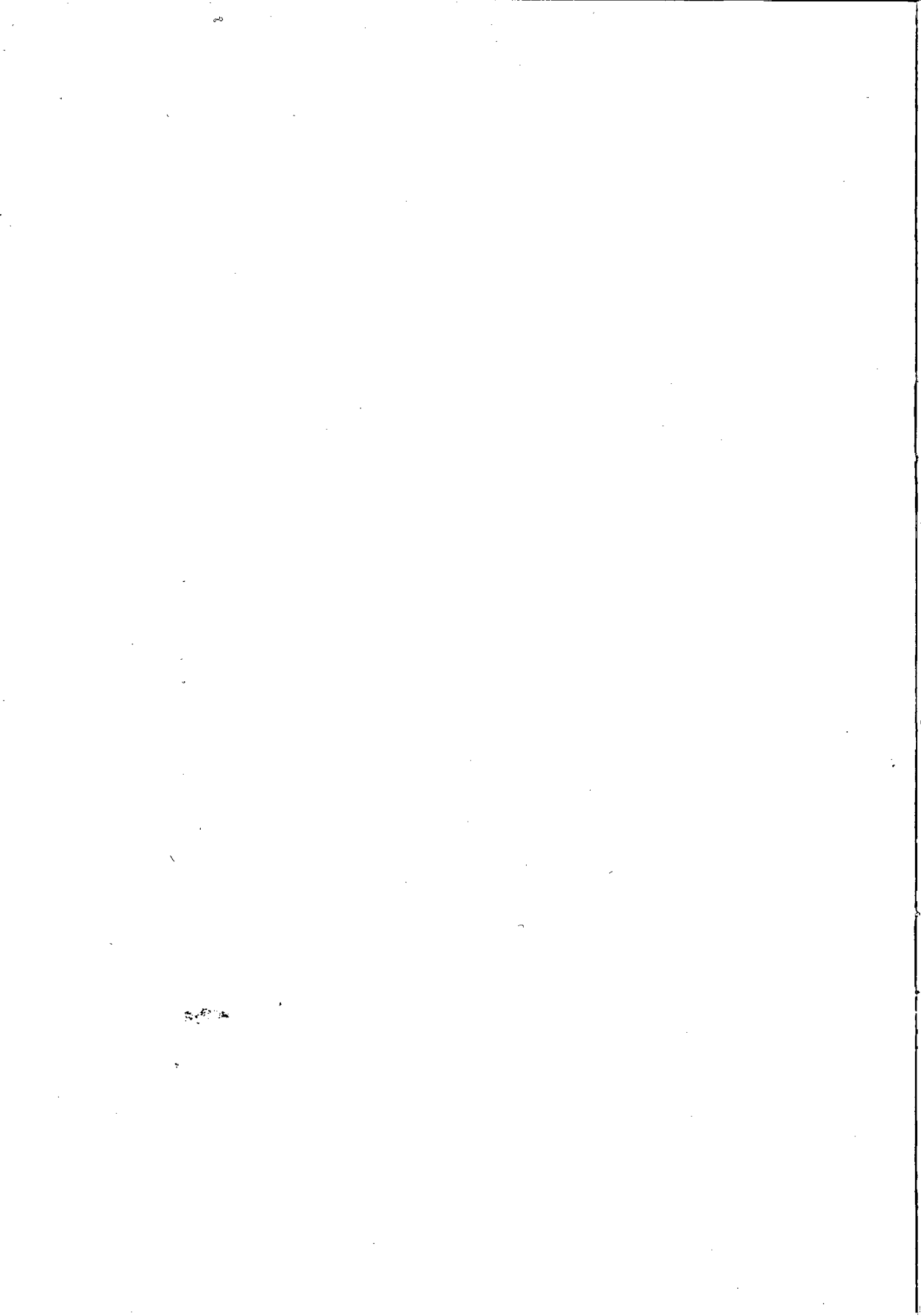
ABEL AGANBEGYAN

Educated at the Institute of National Economy in Moscow, full member of the USSR Academy of Sciences since 1974, Academician Abel Aganbegyan is one of his country's pioneers in the development of economic-mathematical models for long-range planning of the Soviet national economy.

From 1966 to 1985, Academician Aganbegyan was Director of the Institute of Economics and Industrial Engineering of the Siberian Branch of the USSR Academy of Sciences. He worked at IIASA for short periods in 1975 and 1976 to assist in the preparation of IIASA's research plan.

Academician Aganbegyan is now Academician-Secretary of the Department of Economics of the USSR Academy of Sciences, Chairman of the Commission on Resource Investigations at the Presidium of the Academy, and also founding Editor-in-Chief of *ECO* - a journal.

Academician Aganbegyan is one of the leading economists of the Soviet Union involved in restructuring the Soviet economy. His views on economic and social aspects of *perestroyka* have gained wide attention both in the East and West.



THE INTERNATIONAL INSTITUTE FOR APPLIED SYSTEMS ANALYSIS

is a nongovernmental research institution, bringing together scientists from around the world to work on problems of common concern. Situated in Laxenburg, Austria, IIASA was founded in October 1972 by the academies of science and equivalent organizations of twelve countries. Its founders gave IIASA a unique position outside national, disciplinary, and institutional boundaries so that it might take the broadest possible view in pursuing its objectives:

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