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# Research

## COMMUNIST AREA

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### NEW DATA ON THE 9TH FIVE-YEAR PLAN

Summary: Much more information on the 9th FYP has been released in the April issue of Voprosy Ekonomiki. Three economists, including a senior official of Gosplan, contribute articles which complain of Soviet industrial obsolescence, bewail the capital intensiveness of the extractive industries, demonstrate the major charges in priority growth rates of "A" and "B" sectors over a fifteen year period, remind readers that heavy industry is to deliver twice as many consumer goods as in 1966-70, boost the claim for planned direct and indirect investments in agriculture and related branches to 40%, and discover that Marx was in favor of raising agricultural investment faster than industrial at a certain stage of development (i.e. now).

The April issue of Voprosy Ekonomiki (signed to press April 5) has just reached Munich. It contains at least three articles which shed new light on the 9th FYP, and particularly on the capital investment aspects of it. These appear to have caused enough controversy to provoke at least two important deletions in Pravda from Brezhnev's speech as delivered live.

### Industrial Obsolescence

Academician T. Khachaturov opens the batting with a strong criticism of Soviet rates of obsolescence. (1) He says that the scrapping of obsolete equipment in Soviet industry amounts to only 2-3 % p.a., as a result of which a considerable part of its equipment is already 20 years old or more. Consequently labor productivity is often 3-4 times lower than it would be if modern machinery were used. In a footnote he mentions some estimates which suggest that the computerization of the U. S. economy has already raised productivity by 10-15%, and he argues that this is one of the reasons for the U. S. technological superiority over Western Europe. The implications for the USSR, which lags behind Western Europe in computerization, are clear enough. (The New York Times calculates that Soviet computer output will rise from 1,200 in 1970 to only 3,000 p.a. in 1975.) (2)

### The High Cost of Extractive Industries

Like all the Soviet economists writing on Comecon problems, Khachaturov is seriously worried by the burden of the extractive industries. He points out that they, plus agriculture, employ 40% of the whole labor force. (In the same issue of the magazine, A. Emelyanov notes regretfully that 29% of the employable population in the USSR is engaged in agriculture so that, roughly speaking, perhaps 11% of the labor force is in the extractive industries.)

But Khachaturov's main objection to the mining industries is their thirst for capital. In the fuel industry one ruble of output requires 1.5 rubles of basic production funds, whereas in ferrous metallurgy 1.03 rubles, in the building materials industry 0.9 rubles, and in industry as a whole 0.6 rubles are required. More in sorrow than in anger Khachaturov remarks:

We import practically no raw materials, but on the contrary we export them, particularly to the socialist countries.

### Padding of Investment Programs

Khachaturov criticizes the republics, oblasts and branches for sending in applications for capital investments which are "considerably exaggerated." (In fact they do this simply because they know that Gosplan will scale down their demands

heavily). The effects of this bureaucratic clash of interests are serious. The estimated value of large building sites entered on the official lists for 1970 was 168.2 billion rubles, whereas the total annual financing provided for them was only 14.1 billion rubles. Hence the average construction time works out at the absurd figure of 12 years.

### Progress of the Economic Reform

Khachaturov mentions that factories producing 93% of total industrial output and 95% of profits are now working on the reform basis. Moreover the whole transport sector has been switched over to it. The Directives for 1971-75 issued by the 24th Congress lay down that the reform shall be applied to all cost-accounting organizations, all branches of material production and all spheres in the services sector within that period. The size of this advance can be judged by the fact that in 1969 expenditure on the services sector accounted for 8.43% of the entire personal consumption fund. (3) During the 1971-75 plan period, the results of the experiment at the Ministry of Instrument Manufacture, Automation, and Guidance Systems, which has been put on a self-financing basis even for its capital investments, will become available for use by other ministries. As with Mark Twain, reports of the "death" of the reform are clearly premature but the greater savings to be gained by a limited substitution of economic levers for administrative command appear to have been almost exhausted.

### Growth Rates in Industry over Two Decades

F. Kotov, a senior official of Gosplan, provides an invaluable table showing how fast the priorities for industrial output are changing in the USSR in terms of percentage growth rates.

	1961-65 Achieved	1966-70 23rd Cong. Directives	Achieved	1971-75 24th Cong. Directives
National Income	133	138-141	141	137-140
Gross Ind. Output	151	147-150	150	142-146
Ind. Group A	158	149-152	151	141-145
Group B	136	143-146	149	144-148
Gross Agric. Output	147	137	138	132-135
Capital Investments	145	147	142	136-140 (4)



Since we do not know the outcome of the 1971-75 plan, it is enough to take the midpoint of the ranges to illustrate the change. Group "A" has lost 15% since 1961-65, from a 58% growth rate to one planned for 1971-75 of 43%. Group "B," on the other hand, has gained 13% from a 36% growth rate to one of 46%. But whereas the Group "A" growth rate in 1966-70 is claimed to have been achieved, the Group "B" growth rate was substantially exceeded -- by at least four percentage points. Clearly the structural shifts in Soviet industry have been, are and will be both substantial and significant.

#### Consumption Fund to Grow Faster Than Accumulation Fund

For those who missed the vital passage in Brezhnev's speech to the 24th Congress which said that in 1971-75 the consumption fund would grow by 40% whereas the accumulation fund would grow by 37% (the former is three times the size of the latter), Kotov has spelled out the same message in plain words:

Whereas in the previous five-year plan there was still a tendency for faster growth of the accumulation fund by comparison with the consumption fund, in the 9th FYP the consumption fund will grow faster. The share of accumulation in the national income will somewhat decrease, while the share of productive accumulation will be maintained at the level of the 8th FYP (which was slightly lower than in previous periods). Consequently there will be a certain increase in the share of consumption in the national income.

Kotov then describes in figures the change in the growth rates of Group "A" and "B" over the two decades. In 1961-65 Group "A" grew faster than Group "B" by 50%. In 1966-70 it grew faster than Group "B" by less than 4%, and in 1971-75 Group "B" is to grow faster than Group "A" by 6%.

Rates of Growth: Group "A" of Group "B" (in %)				
	1961-65	1966-70 (plan)	1966-70 (achieved)	1971-75 (plan)
"A" faster than "B"	50	11	4	
"B" faster than "A"				6

The change as between 1961-65 (Khrushchev plan) and 71-75 (B & K's second plan) has been of 56 percentage points. As between B and K's first plan (1966-70) and their second (1971-75) it is 17 percentage points, and as between the performance in 1966-70 and the second B and K plan it is 10 percentage points, swinging, for Group "A," from a plus sign to a minus. None of these changes would appear to be insubstantial.

#### Production of Consumer Goods by Heavy Industry

Kotov reports that the average annual growth of consumer goods output by heavy industry in 1971-75 will be 12% as against 8.3% for the whole of industry. The margin of 3.7% on a base of only 8.3 is hardly insignificant. Moreover he adds that: "The absolute growth of the output of consumer goods by heavy industry will be twice as great as during the 8th FYP." This statement implies a 100% increase in the output of consumer goods by the heavy industrial sector, which is easily the largest in Soviet industry, as well as the largest in the Soviet economy.

Kotov's next sentence is also notable. He writes:

Moreover the share of Group "B" production in heavy industry will rise to approximately 13% (in individual branches, such as, for example, the timber, cellulose, paper and wood-working industries it will be 26%, in engineering 15%, etc.)."

The figures are important because of the corrective which they provide for investment figures. When one recalls that in the 1970 investment plan about 44.7 billion rubles were allotted for consumer-oriented sectors, compared with about 31.8 billion for the producer-oriented, (5) it is worth remembering that about 12% of heavy industry's slice (22.2 billions in the 1970 plan) is actually for passenger cars, radios, TV sets, refrigerators, washing machines, etc., and that by 1975 this percentage will have inched up another notch -- on a much larger base.

Making the correction roughly, just to illustrate the point, producer-oriented investments (in the sense in which the "metal-eaters" like to see them) would have dropped in 1970 to about 29-1/2 billion rubles with a corresponding increase in the consumer-oriented sector to about 47 billion, i.e., more than 50% greater.

## Growth Rates in the Engineering Sector

Engineering is surely the biggest single slice of heavy industry, so it is worth seeing what will happen there.

As a whole, its output is to grow by 70%, Kotov writes. But machinery output for the textile, light and food industries is to increase 100%, for trade and public catering by 80%, for the dry-cleaning industry by 250%, and for livestock breeding and poultry farming by 90%.

The output of industry as a whole is to rise by 41-45%, but the output of the "progressive branches," chemicals, petrochemicals and engineering, is to go up by 70%. The result should be, Kotov claims, that the share of chemicals, petrochemicals, engineering and electricity in industry will rise from 33% in 1970 to 36% in 1975.

## The Fuel Balance

Oil and gas were providing about 60% of the USSR's fuel in 1970, and the proportion should rise to 67% by 1975. Even so, the fuel balance will still be less advanced than that of the US, which was obtaining 76% of its total energy needs from oil and gas in 1971. (6)

## Agricultural Investments

Kotov, who is a senior official of Gosplan, says that the growth of all investments in the economy in 1971-75 is to be 36-40%, with an increase in agricultural investments of 70%.

Whereas in the years of the pre-war plans the share of investments in agriculture and of the branches of industry ensuring its development was about 15% of the total, and in the 5th and 6th FYPs it was about 20%, in the 8th FYP it was raised to almost 30%... Taking into account the branches which service agricultural production, the share of capital investments in the development of agriculture in the 9th FYP will be one-third of the total, while taking into account the other branches of the economy which are directly connected with the supply to it of machinery, equipment, etc., it will be more than 40%.

## Light Industry

Capital investments in light industry are to go up by 90%, Kotov writes, in the food industry by 60%, in micro-biology by 300%, in the medical industry by 100% and in service trades by 100%.



### Industrial Investments

Capital investments in the chemical industry are to be doubled, in engineering to increase 90% (but with 100% growth for the tractor and agricultural machinery industries); in machinery for the light and food industries investments are to go up 200%, in instrument manufacture and the machine-tool industry by "more than 100%."

### Labor Productivity

The weakest section of the whole 1971-75 plan is undoubtedly its optimistic prognoses for productivity.

Kotov provides a valuable table which shows just where the shortfall seems likely to come:

Rate of Growth of Labor Productivity (in %)			
	<u>1961-65</u>	<u>1966-70</u>	<u>1971-75 (plan)</u>
Industry	25	32	36-40
Agriculture	18	35	37-40
Building	29	22	36-40

Clearly the industrial productivity target is dangerously ambitious, in the light of experience in the past decade. On the other hand, the agricultural productivity target (the highest of the three) is perhaps within reach, granted the increased share of the investment cake which is being ploughed into agriculture and which was described by Kotov, a senior Gosplan official, earlier (see p. 6). 8.6

But easily the most optimistic target is that for building, which is more than 50% higher than the recorded figure for 1966-70. A leap forward to about 38% in this sector in five years is scarcely credible, granted the past record and the urgent need to export equipment for the Polish housing industry. Gierek said on April 15 that he had been promised increased deliveries of housing plants to Poland. (7)

### Capital Per Worker To Grow Faster in Agriculture than in Industry

The decreasing supplies of new labor during the plan is one of the main limiting factors. Kotov notes that capital per worker is to increase by 50% in industry, and by 70% in agriculture. Electricity supplies per worker in agriculture are scheduled to rise by 100% approximately. For industry the rate of growth of electric power per worker is to be accelerated from 25% in 1966-70 to 30% in 1971-75.

The coefficient for the renewal of basic production funds, which describes the share of new funds in the total at the end of each plan period, is to be raised by comparison with the 8th FYP plan by 10% for industry and by 15% for agriculture.

### Labor Force Changes

The quality of new labor coming into the economy is to be improved by raising to 9,000,000 the number of trainees of the vocational training schools in 1971-75 (an increase of 2,000,000 over 1966-70), and by employing 23,000,000 specialists in 1975 (compared with 17,000,000 in 1970). By 1975 Kotov expects to find about 3,000,000 engineers in a labor force of about 110,000,000.

Something like 25% of the labor force will be employed in the non-productive sphere, compared with 22-1/2% in 1970.

Kotov estimates the growth of the working-age population at about 1% per annum, a figure which will have to cover almost the entire requirement for new labor, since he believes that there are virtually no usable reserves left of underemployed labor working at home or on private plots. (The number of such people is now less than 10% of the labor force, and even fewer in the industrialized areas where the demand for new labor arises).

### Profits

The profits of the economy, which Kotov says "are the most important item in the state's income," (8) are to grow by 100% approximately in industry, by about 70% in agriculture, by 90%



in construction, and by 50% in transport. Such high rates of growth (well above the predicted output growth rates) clearly presuppose continuance of the reform's current emphasis on profitability. Kotov admits that in "recent years" (presumably 1966-70), some of the growth of profits has simply been due to increases in wholesale prices, which explains his organization's claim that the gross output plan was fulfilled although 31 out of 35 individual products were not in fact produced in the volume planned, whereas only three exceeded their production targets. He piously hopes that this will be avoided in the future.

### Capital Per Agricultural Worker

In another article in the same issue of Voprosy Ekonomiki, A. Emelyanov shows how the capital employed per kolkhoz and sovkhoz worker has been rising:

1950	1960	1965	1969
498 rubles	1300 rubles	2100 rubles	3000 rubles (approx.)

It is growing faster than in industry, and will continue to do so during the 9th FYP.

He gives a table to show how capital per worker employed in agriculture is slowly drawing closer to Soviet industrial levels:

	1950	1960	1965	1969
Basic Production Funds per worker (in 000 rubles)				
Industry	1.9	3.9	5.5	6.7
Agriculture	0.5	1.3	2.1	3.1
Capital per agricultural worker as % of industrial level	26	33	38	45

So the agricultural worker's capital equipment stock has improved almost twofold in relation to the factory worker in twenty years -- another change which is both structural and significant.

Just as Brezhnev, in his Congress speech, dug up a Lenin quotation to show that producer goods are built to make consumer goods, not for their own sake, Yemelyanov has even found a Marx quotation to show that agricultural investment must sometimes grow faster than industrial. Marx wrote, apparently, that at a certain stage in industrial development the disproportion between industry and agriculture "should be diminished, i.e. productivity in agriculture should grow relatively faster than in industry." (9)

Brezhnev may soon be using that quotation in one of his salvoes against the metal-eaters. But Yemelyanov does not rely solely on the holy scriptures for this approach; he also justifies it by what the USA, land of the wily capitalists, has done. They seem to have studied Marx better than the USSR, since from 1940-1965 agricultural productivity there grew three times as fast as in processing industry.

Yemelyanov regrets that this good example has not yet been followed in the USSR during any single decade, although the margin in favor of industrial productivity is narrowing fast:

Labor Productivity Growth Rates (in %)			
	1940-1969	1950-69	1960-69
Industry	360	220	55
Agriculture	190	190	44

The table shows how agriculture is gradually narrowing the productivity gap in terms of growth rates, but it also suggests how unlikely it is that productivity growth in 1970-75 will match the achievements of the 1950-69 period, when there was still a huge mass of labor leaving the land to be absorbed into industry.

#### Agrocomplex Labor Force

Yemelyanov provides some new figures for the labor force connected directly or indirectly with agriculture. 29,000,000 workers are directly engaged in it, he writes, backed by 2.3 million in the agricultural machinery industry, plus 12.5 million engaged in processing agricultural products or in

distributing them. Therefore the entire agrocomplex, he claims, has about 44,000,000 workers.

He contrasts this enormous total unfavorably with the US position, where in 1965 there were only 6-1/2 million agricultural workers, backed by 6.7 millions in the agricultural machinery industry and 11.1 million in processing and selling agricultural products -- a total of only 24,000,000.

#### Declining Return on Capital

He again confirms the unprofitability of agricultural investment, bringing up to date the depressing figures already provided by Lemeshev et al. On the average every ruble of basic funds in agriculture yielded 1.15 rubles in 1961-65, but only 1.01 rubles in 1966-70. Thus the return on capital employed fell by 12%, and Yemelyanov argues that "subjective" factors were partly to blame.

	1961-65	1966-70	1966-70 as % of 1961-65
Basic Production Funds in Agriculture	285.7	395.0	138
Gross Output	331.5	401.4	121
Gross Output per Ruble of Basic Funds	1.15	1.01	88

The decline seems likely to continue for some years yet, because livestock breeding (which is where the trouble now lies) is much less than half as profitable as crops, based on the figures which he provides (return on 1 ruble invested in crops, 1967-69, was 1.67 rubles, but in livestock breeding it was only 0.78 rubles).

He concludes his article by once again turning to the US as his model. He claims that US productivity in agriculture is 4-5 times higher than in the USSR, but argues that the return on capital employed is much lower in the US. For every dollar of basic funds (i.e. not counting the cost of land), US



agriculture at the beginning of the sixties was returning 35-40 cents, whereas at the same time Soviet agriculture was giving a yield of 1.15 rubles for every ruble of basic funds.

He fails to point out, of course, that the main reason for the discrepancy is the much higher price level for food products in the USSR, but makes it clear that he expects the capital intensity of Soviet agriculture to go on rising, and implies that the return per ruble will go on falling. Neither the "metal-eating" faction in Moscow nor the profit-oriented economists of a revisionist frame of mind can be expected to take kindly to this vision of the future as planned by Brezhnev, Kosygin and Baibakov under the 9th FYP.

r.r.g.

- (1) "Raising the Effectiveness of Social Production," pp. 18-30.
- (2) 5 May 1971.
- (3) Voprosy Ekonomiki, No. 4, 1971, p. 73.
- (4) Basic production funds are expected to grow by 50%.
- (5) "Economic Performance and the Military Burden in the USSR," (Joint Economic Committee of Congress, Washington, 1970, p. 5).
- (6) US News and World Report, 10 May 1971.
- (7) Radio Warsaw, 15 April 1971.
- (8) Emphasis supplied - r.r.g.
- (9) K. Marx, F. Engels, Works, vol. 26, part II, p. 115.