

ALEC NOVE

## Soviet Agriculture Under Brezhnev

It is now well over five years since Khrushchev fell. The long-delayed kolkhoz congress has met, and a new statute has been adopted. It seems right, therefore, to examine the policies of the Brezhnev regime, the results achieved, the problems encountered.

Because a number of the measures taken since 1964 were closely connected with—or were deliberate reversals of—Khrushchevian policies, it will be necessary to begin with a brief look at what Khrushchev tried to do and how he tried to do it. The picture that follows is not controversial. It would be largely if not wholly accepted by Brezhnev and Matskevich, as well as by Western specialists. In retrospect it is interesting to note that much of the evidence on which Khrushchev's policies could be criticized was published in the USSR during his reign. For example, the present author's "Soviet Agriculture Marks Time," published in *Foreign Affairs* as long ago as July 1962, was based on printed Soviet criticisms. Of course, none of these Soviet authors named Khrushchev personally, and a systematic critical analysis of his errors and omissions had to await his fall. But the evidence was available earlier, particularly in literary journals. Credit must be given to such conscientious and bold spirits as Ovechkin, Abramov, Dorosh, and economists such as V. G. Venzher. (For all we know, others also tried to protest, but were censored.)

### *Khrushchev's Policies and Their Consequences*

It will be recalled that Khrushchev's first appearance as a party *leader* was at the so-called September plenum of 1953, when he subjected the state of Soviet farming to vigorous criticism. We do not know how many of the policies he then initiated were his own, or whether any leader in the immediate aftermath of Stalin would have made similar proposals. We do know that he proposed substantial increases in agricultural prices, in investments, and in pay for collective work. Taxes on private plots and livestock were greatly reduced. The false claim to have "solved the grain problem" was abandoned along with the biological yield statistics on which it was based, and to provide the necessary grain Khrushchev launched campaigns to expand the sown area ("virgin lands campaign") and to grow more corn for much-needed fodder. The net

effects of these measures were positive. Output in 1958 was, according to the official statistics, over 50 percent above that of 1953.<sup>1</sup>

It was in 1958 that things began to go wrong. At about that time Khrushchev eliminated the "antiparty group" and took more direct charge of affairs in general, and agriculture in particular. Though—as we shall see—he was not always able to get his own way, the policies and responsibility for errors must largely be treated as his. Let us look, then, at the reasons for the disappointing performance of Soviet agriculture in his last years of power.

First, there were the consequences of the "campaign" methods, allied with the adoption of exaggerated or impossible plans. The party machine in rural areas was used to imposing a cropping pattern and delivery obligations that had little to do with local conditions or the realities of the given situation. The campaigns were many, and some of them were begun in the earlier years. The virgin lands and corn campaigns were in full swing by 1955–56, and they were persistently continued thereafter—with increasingly unfortunate results. Despite warnings by experts concerning the danger of monoculture in Kazakhstan, Khrushchev insisted that the area sown to grain must not be diminished, thereby causing a trend toward falling yields and the threat of a dust bowl. Corn was imposed in areas quite unsuitable for it. "Corn, comrades, is a political crop" was a saying of the times. It was grown to order regardless of the availability of labor, machines, and seed. In the statistics, unripe corn was equated with ripe grain (a practice that was dropped in 1965). A farm chairman was reprimanded for "political underestimation of silage." Campaigns were waged also to secure the adoption of two-stage harvesting (separating the stages of reaping and threshing), the planting of corn in square clusters,<sup>2</sup> the use of peat compost pots, and the reduction of the area of fallow. Another "political" campaign aimed at the drastic reduction of sown grasses (so that some party secretaries treated clover as a "forbidden crop"), and oats were semi-outlawed. Absurdities appeared also in the livestock campaign. The plan to overtake America in the production of meat and milk within two to three years led at first to overslaughtering in order to beat records in sales of meat; then pressure to build up herds led to unnecessary survival of aged cows solely for statistical purposes, and to a fodder shortage, since grain output was static and hay and natural pasture were neglected. Milk yields per cow fell sharply. The list of campaign distortions is a long one.

No doubt Khrushchev would say in his own defense that he did not wish his decrees to be misapplied by the local comrades. Did he not urge that local

1. Tsentral'noe statisticheskoe upravlenie pri Sovete Ministrov SSSR, *Narodnoe khoziaistvo SSSR v 1967 g.* (Moscow, 1968), p. 328.

2. I. Kebin was bitterly humorous about how his Estonians were deprived of the prize for the highest corn harvest because they did not use square clusters. *Plenum Tsentral'nogo Komiteta Kommunisticheskoi Partii Sovetskogo Soiuza, 24–26 marta 1965 goda: Stenograficheskii otchet* (Moscow, 1965), p. 100.

circumstances be taken into account? No doubt he did, but the whole training and *modus operandi* of party officials led them (as Khrushchev surely knew) to devote their energies to Moscow-directed campaigns, paying much more attention to the report to their superiors (*svodka*) than to the real needs of agriculture—hence the saying that the two main evils in rural Russia are vodka and *svodka*. If it is understood that Moscow expects less oats or more corn, then the *raikom* secretary well knows that he will be reprimanded by the *obkom* secretary if he does not reduce oats and increase corn acreage, because in his turn the *obkom* secretary knows that *his* superior . . . , and so on.

Khrushchev's unrealistic plans included exaggerated state procurement quotas. It is a particularly well-established habit of rural party officialdom, going back all the way to the earliest days of collectivization, to give priority to procurements regardless of any other consideration. Even seed grain is taken. Therefore, despite Khrushchev's own criticism of the practice of arbitrarily varying compulsory procurement quotas, his own plans compelled the secretaries to demand and insist upon over-plan "voluntary" deliveries. These demands played havoc with the farms' own plans and also adversely affected incentives in the form of payments in kind (some farms had little left for this purpose). Bodiul, the Moldavian party secretary, was particularly eloquent about this at the March 1965 plenum,<sup>3</sup> but he was only one of many. (Yet total procurements of grain did not in fact show any sharp rise; presumably the trouble lay in arbitrariness plus regional disparities.) Here again Khrushchev was contradictory. In 1955 he had spoken up for autonomy of farms: interference in their affairs was declared to be wrong, apart only from ensuring that they were able to meet fixed and reasonable delivery quotas. But all this was disregarded, and under Khrushchev the degree of arbitrary interference may have reached record heights. It is hard to blame the party secretaries for this. We must presume that they had no wish to harm agriculture, but that pressure from above left them with little alternative.

After 1958, efforts were made, on Khrushchev's initiative, to restrict the private activities of peasants, especially their ownership of livestock. This pressure took a variety of forms, probably depending on how the local secretaries interpreted the will of Moscow. In some areas they "persuaded" peasants to sell their cows to the collectives; in others, they restricted fodder or pasture rights. Tax regulations were altered to penalize some categories of livestock owners. These restrictions were exceedingly unpopular and affected incentives and morale adversely.<sup>4</sup>

The massive increase in the number of state farms (*sovkhozes*) that occurred at this time cannot be "blamed" mainly on Khrushchev—if indeed

3. "In six years output rose by only 21 percent, procurements by 70 percent." *Ibid.*, p. 208.

4. See, for instance, Fedor Abramov's story *Vokrug da okolo* (Neva, 1963).

Table 1. *Area Sown on Kolkhozes and Sovkhozes*  
(in millions of hectares)

Year	Kolkhozes	Sovkhozes
1950	121.0	15.9
1956	152.1	35.3
1965	105.1	97.4

Sources: *Nar. khoz.*, 1967, p. 352; *Nar. khoz.*, 1956, p. 114.

any blame attaches, since most of the peasants who were affected benefited materially from the change. The increase was so great (see table 1) partly because the virgin lands campaign was largely based on state farms and partly because of the conversion (voluntary and "voluntary") of collectives into state farms. This last process went further than Khrushchev wished, for he blamed local party secretaries for pressing on with these conversions for administrative reasons (including the ease of getting more investment funds for *state farms* out of the central budget).<sup>5</sup>

Khrushchev relied heavily on the party machine, but in the process confused and muddled the administrative mechanism of both state and party. By a complex process, which cannot be described in detail here, he got rid of the minister of agriculture, Vladimir Matskevich, and eliminated by 1961 almost all the powers of the ministry. He reorganized repeatedly. The abolition of the Machine Tractor Stations (MTS) in 1958 eliminated an important link in the party and state control mechanism, which Khrushchev himself had strengthened in 1953. The local party secretaries, who were oriented above all to current campaigns, were no longer counterbalanced by any effective ministerial structure. New bodies were set up with partial responsibilities: the State Committee on Procurements, and *Sel'khoztekhnika* (responsible for supplies of equipment and many other items to agriculture). Some of the ministry's powers were transferred to Gosplan. Then in 1962 a new hierarchy of control was devised, based upon the Territorial Production Administrations, whose territories were not coincident with the raions (the territories in which the party secretaries operated). Above this level were oblast, republican, and all-union agricultural committees, with a special role within the republics and oblasts for the first secretary of the party. The resultant confusion was made worse by two other measures: the separation in 1962-63 of the agricultural from the urban party organizations and the proposal in 1964 to set up all-union organizations for particular products (one such for poultry and eggs, *Ptitseprom*, actually came into existence). It is clear that Khrushchev's reorganization antagonized many influential persons. Thus there were protests from party secretaries at the raion level, and the all-union and republican agricultural committees seem not to have functioned.

5. The conversions were supposedly "voluntary."

The abolition of the MTS had adverse consequences in several respects. Though it eliminated the much-criticized “two masters in the field,” it also disrupted the material basis of maintenance and repair. In Matskevich’s words, “In these years the repair base of agriculture was weakened.” Repairs were to have been handled by state Repair Technical Stations (RTS), but the RTS were not allowed to develop. Some twenty-three hundred repair shops were sold to kolkhozes and sovkhozes, many of which could not fully utilize them, and finally “the [state] repair service was virtually liquidated. The largest repair enterprises were handed over to *sovnaarkhozy* and converted to other forms of productive activity.”<sup>6</sup> In a conversation with this author, a Soviet agronomist said: “What was wrong with the MTS was that their use was compulsory. Instead of allowing farms to buy machines if they wished, and turning the MTS into bona fide hiring and repair agencies, it was decided to abolish them. This was a grave error.”

So were the terms on which the farms had to buy the machines. To quote Matskevich again, “heavy loss was imposed on the collective-farm economy” because “prices for tractors, trucks, and spares were increased,” while state procurement prices for farm products were fixed at a level at which they could not cover the increased costs of buying, operating, and replacing the equipment; the problem was further complicated by “an unsound decision to reduce the period of payment for machinery,” as a result of which the financially weaker farms had to devote to this purpose all available money resources, a condition which affected both their “productive activities and payment for collective labor.”<sup>7</sup> At the plenum it was stated that the costs of capital repairs had doubled. A sower that cost 180 rubles in 1955 was repriced at 340 rubles, and prices of spare parts were doubled at a blow.<sup>8</sup>

A reduction of procurement prices was achieved by using a provision in the 1958 price decree that allowed variations of 15 percent according to the size of the harvest. Because 1958 was a good-weather year, prices were duly reduced by 15 percent—only they “forgot” to increase them again afterward.<sup>9</sup> Prices during this period were exceedingly irrational, in that the profitability of different products varied widely and bore no relationship to either plan or need. The campaign to increase output of meat and milk, already in full swing in 1958, was accompanied by prices at which (as all published evidence showed) farms selling to the state did so at a heavy loss. This situation contrasted with the profitability of nearly all crops in most areas.<sup>10</sup>

6. Matskevich, “*Ekonomicheskie problemy dal'neishego razvitiia sel'skogo khoziaistva*,” *Voprosy ekonomiki*, 1965, no. 6, pp. 5–6.

7. *Ibid.*, p. 5.

8. G. Zolotukhin, in *Plenum*, p. 55; A. Ezhevsky, p. 149.

9. Matskevich, “*Ekonomicheskie problemy*,” p. 5.

10. The terms “profit” and “loss” have no precise meaning at this period in kolkhozes because payment to labor was still a residual. But prices were below costs on almost any reasonable assumption about what costs were.

Table 2. *Prices as Percentage of Costs, 1960*  
(Costs = 100, USSR averages)

Commodity	Price	Commodity	Price
Grain (except corn)	155	Pork	67
Sugar beets	164	Mutton and lamb	98
Milk	86	Wool	143
Beef	65	Eggs	65

Source: V. Khlebnikov, "O dal'neishem ukreplenii ekonomiki kolkhozov," *Voprosy ekonomiki*, 1962, no. 7, p. 53.

Prices in 1960, computed on the assumption of state-farm wages for kolkhoz peasants, bore a relationship to costs as shown in table 2. There were wide regional variations between prices and costs, and the northern and western regions, with their relatively higher costs, were least favored. Some prices were increased before Khrushchev's fall. Thus meat and milk prices went up in 1962, and in 1963 cotton prices were raised by 12 to 20 percent and sugar beet prices by about 25 percent. It is worth noting that certain perquisites and bonuses which encouraged specialization in these two industrial crops had been abandoned in 1958, with unfortunate results.<sup>11</sup>

Peasant pay for collective work undoubtedly fell in these years in some areas, apparently reaching a low point in 1960. Pay in 1960 in the USSR as a whole, according to unofficial Soviet sources, was 8 percent below 1958 levels. The largest fall, by 29 percent, was in Moldavia; the Ukraine showed a drop of 18 percent.<sup>12</sup> In Moldavia, according to the already quoted speech by Bodiul, distribution of grain to peasants fell from 580,000 tons in 1958 to only 211,000 tons in 1964, owing to excessive state procurements. But pay, at least in cash, did rise substantially after 1960, as will be shown in detail later.

Investments fell also. This was partly the result of the financial burdens on farms associated with the purchase of the MTS, but there was also a cut-back in output of farm machinery. The figures in table 3 speak for themselves. Matskevich attributed the fall to overconfidence resulting from the good har-

Table 3. *Farm Machinery Delivered to Agriculture*

Machinery	1957	1958	1959
Tractors	148,300	157,500	144,300
Trucks	125,500	214,100	127,500
Cultivators	207,500	164,200	123,200
Sowers	275,500	214,100	127,500
Grain combines	133,700	64,900	53,100
Corn and silage combines	86,800	42,400	13,100

Source: *Sel'skoe khoziaistvo SSSR*, 1960, p. 419.

11. Brezhnev, in *Plenum*, p. 14.

12. T. I. Zaslavskaiia, *Ekvivalentnost' obmena, obshchestvennaia otsenka i oplata truda v sel'skom khoziaistve* (Moscow, 1966), p. 10; A. Kraeva, "Voprosy sochetaniia lichnykh i obshchestvennykh interesov v kolkhozakh," *Voprosy ekonomiki*, 1961, no. 8, p. 55; and E. Kapustin, in *Ekonomicheskaiia gazeta*, Apr. 9, 1962, p. 8.

vest of 1958, which led to a downgrading of agriculture's priority. Ezhevsky, head of *Sel'khoztekhmika*, advanced the explanation that some comrades believed that the kolkhozes would use the former MTS equipment so much more productively that less of it would be needed.<sup>13</sup> There was, it is true, a renewed upswing in subsequent years, which Matskevich does not mention, because it does not fit his argument. In fact, there was an ambitious investment program launched in 1963, but it was far behind schedule when Khrushchev fell.<sup>14</sup> In any case, harm was done by the precipitate decline of 1958–59.

The same rather depressing picture can be drawn for housing, except that the decline came later. The highest figure was in 1959—802,000 houses were erected “by the rural population.” In 1960 the total fell to 618,000. In subsequent years it fell still further: in square meters the figure for housing erected “in kolkhozes” fell from 26.8 million in 1960 to only 18.3 million in 1965.<sup>15</sup>

Finally, as Brezhnev pointed out, there was systematic neglect of the northern and western areas of European Russia. These areas lacked fertilizer and equipment, but with proper drainage and good husbandry they have great potential and are drought-free. Yields in such oblasts as Kostroma, Pskov, Novgorod, and Vladimir were exceedingly low. Of course, the vast virgin lands campaign greatly increased the total sown area and produced results, but this did not excuse the overconcentration on the south and east. In a particularly bitter speech, the Pskov party secretary, I. Gustov, spoke of a decline in deliveries of fertilizer since 1957, even though output of fertilizer was rising. Yields were appallingly low—a mere 5 or 6 quintals of grain or 60 to 70 quintals of potatoes per hectare, year in and year out. The rural population was fleeing to town.<sup>16</sup>

These, then, were the principal reasons for agriculture's failure to make significant progress after 1958. The very bad weather of 1963 hit a weakened agriculture, which had few reserves and an excessive livestock population (excessive, that is, in relation to the fodder available even in an average year). A heavy blow to morale was struck when the USSR had to import grain from the capitalist West. Khrushchev's fall had many causes, but the 1963 fiasco certainly contributed. It so happens that 1964 was a favorable year, so favorable that Khrushchev's successors found it embarrassing to admit how good it was so soon after having got rid of Khrushchev.<sup>17</sup> (The heavens then mocked Brezhnev and his colleagues by providing another year of poor weather in

13. *Plenum*, pp. 148–49.

14. Thus the plan for state investments for 1964 was 5.4 billion, the actual was 4.4 billion (productive investments). Cf. *Pravda*, Dec. 17, 1963, and *Nar. khoz.*, 1968, p. 525.

15. *Nar. khoz.*, 1960, p. 618; *Nar. khoz.*, 1967, p. 680.

16. *Plenum*, pp. 142, 146.

17. For the story of successive upward amendment of the 1964 statistics, see A. Nove, “Some Thoughts While Reading the Soviet Press,” *Soviet Studies*, 17, no. 1 (July 1965): 97–102, and “Statistical Puzzles Continue,” *Soviet Studies*, 18, no. 1 (July 1966): 83–85.

Table 4. *Soviet Agricultural and Livestock Production, 1958-65*

	1958	1959	1960	1961	1962	1963	1964	1965
Gross agricultural production (1960 = 100)	97	98	100	103	104	96	110	112
Grain (million tons) <sup>a</sup>	134.7	119.5	125.5	130.8	140.2	107.5	152.1	121.1
Potatoes (million tons)	86.5	86.6	84.4	84.3	69.7	71.8	93.6	88.7
Sugar beets (million tons)	54.4	43.9	57.7	50.9	47.4	44.1	81.2	72.3
Cotton (million tons)	4.34	4.64	4.29	4.52	4.30	5.21	5.28	5.66
Meat (million tons)	7.7	8.9	8.7	8.7	9.5	10.2	8.3	10.0
Milk (million tons)	58.7	61.7	61.7	62.6	63.9	61.2	63.3	72.6
Milk yield per cow (kgs.) <sup>b</sup>	1,994	2,067	1,938	1,847	1,747	1,584	1,684	1,987
Cattle (million head)	66.8	70.8	74.2	75.8	82.1	87.0	85.4	87.2
Cows (million head)	31.4	33.3	33.9	34.8	36.3	38.0	38.3	38.8
Pigs (million head)	44.3	48.7	53.4	58.7	66.7	70.0	40.9	52.8
Sheep, goats (million head)	130.1	139.2	144.0	140.3	144.5	146.4	139.5	130.7

Source: *Nar. khoz.*, 1967, pp. 326, 425, 446.

<sup>a</sup>These figures do not include the grain equivalent of unripe corn.

<sup>b</sup>Kolkhozes and sovkhozes only.

1965, necessitating still more purchases of grain abroad.) Table 4 gives the key indicators of the performance of Soviet agriculture in the years 1958–65—that is, up to and including the year of the March plenum, which set the new course.

### *Brezhnev's New Line*

The March (1965) plenum indicated that the new management had learned from Khrushchev's mistakes. In Brezhnev's speech there were criticisms of his predecessor, and the following changes were announced.

(1) *No more "campaigns."* Indeed, Brezhnev saw fit to warn local officials against rushing to the other extreme and instructing farms to reduce corn acreage.<sup>18</sup> The emphasis was on farm autonomy, on the methods and pattern most suitable for local conditions, subject only to the requirement that certain products be delivered to the state. Fallow, grass, and oats were no longer to be barred.

(2) *Moderate and fixed procurement quotas.* Resisting proposals to remove compulsion from procurements,<sup>19</sup> Brezhnev undertook to ensure that delivery quotas would be reasonable and stable. For grain he laid down a quota, unchanged for six years ahead, at a level below the known needs of the economy. The state would have to buy more, and it would do so at higher prices for many grains in order to make such additional sales genuinely voluntary and attractive. The annual delivery quotas for livestock products, though fixed in advance, would be increased with the hoped-for expansion of production. The contrasting plans can be analyzed in table 5.

18. Brezhnev, in *Plenum*, p. 18.

19. See V. G. Venzher et al., *Proizvodstvo, nakoplenie, potreblenie* (Moscow, 1965), pp. 274–75, 283.



Table 5. *Procurement Plans*

	Actual Procure- ments, 1964	Procurement Plans					
		1965	1966	1967	1968	1969	1970
Grain (million tons)	68.3	55.7	55.7	55.7	55.7	55.7	55.7
Meat (million tons)	8.3 <sup>a</sup>	8.5	8.9	9.5	10.0	10.7	11.4

Source: *Nar. khoz.*, 1967, p. 336.

<sup>a</sup>The procurement figures for 1963 were 9.3 million tons. The original plan for 1965 had been fixed at 9 million tons.

(3) *Restrictions on private plots eased.* The extra taxes on private plots were abolished, and rights to collective pastures and adequate supplies of hay were reasserted. It was a return to the status quo ante 1958.

(4) *Administrative order restored.* Back into its usual role came the Ministry of Agriculture, and the minister whom Khrushchev had dismissed, Matskevich, resumed his functions. The confusions of the local organs were sorted out. Oblast and raion agricultural administrations were again made responsible for local planning under the supervision of the appropriate party secretary. The division of the party was also abandoned.

(5) *Better maintenance and repair facilities.* The task of ensuring repairs, providing large workshops, and renting out special-purpose equipment was given to *Sel'khoztekhnik*a. There would be two hundred new "repair factories" and over a thousand specialized workshops.<sup>20</sup> This body, which was vigorously criticized at the plenum, undertook to improve supplies of all kinds and its links with industry.

(6) *Price increases* for many categories of farm products were decreed, with higher prices for some over-quota deliveries. The increase brought the procurement price of meat to a level actually above retail prices in some instances, necessitating a large subsidy (hence the impossibility of paying still more for over-quota sales, though this was asked for). Prices in higher-cost areas were, as a rule, increased by particularly large amounts. The price change involved a number of anomalies, which will receive more thorough examination later on. At the same time, prices of industrial goods used by agriculture were reduced. Some of these reductions were substantial. For example, "before 1960 kolkhozes paid four times as much as industrial enterprises for one kilowatt-hour of electricity. In 1961 the price was halved. . . . From 1966 it was again halved . . . and became equal to prices charged to industrial enterprises."<sup>21</sup> Thus there was to be a sharp rise in net revenues of farms.

(7) *Increases in pay* of peasants for collective work were already considerable after 1960, and Brezhnev intended to ensure their further rise. As we shall see, the overdue and much-discussed step of paying guaranteed incomes to kolkhoz peasants was taken the next year. Old-age pensions for peasants, announced by Khrushchev before his fall, also began to operate.

20. Brezhnev, in *Plenum*, p. 22.

21. I. Suslov, *Ekonomicheskie problemy razvitiia kolkhozov* (Moscow, 1967), p. 149.

(8) *Increased investments* were firmly promised. Total state and kolkhoz agricultural investments of 71 billion rubles were planned for the 1966–70 quinquennium, as against 34.2 billion in 1961–65.<sup>22</sup> More would be financed by the state. Brezhnev's regime also undertook to improve rural amenities and housing, well realizing the danger of an outflow of the energetic and skilled young men needed to work in a more modern and mechanized agriculture. Fertilizer presents a special case. Khrushchev had launched a huge plan—80 million tons by 1970—in December 1963, although even the production plan originally set for 1965 (35 million gross tons) could not be fulfilled.<sup>23</sup> Such plans were impossible, and under Brezhnev the plans were made more modest. But this did not imply a change of policy so much as a realization of what was and was not feasible. Supplies of fertilizer, much of it the result of investments started in Khrushchev's time, increased very rapidly, as will be shown later. It must be said that the failure to fulfill farm investment plans may have been due to restrictions by Khrushchev's colleagues and insistent claims by other sectors, rather than conscious decision by Khrushchev himself.

(9) Other measures included a major effort to expand irrigation and drainage, and also a drive to apply lime to acidic soils at government expense. Special attention would be paid to the neglected nonblack-earth areas of the center and west. Kolkhoz debts to the state were written off. Taxes on kolkhozes were redefined and revised downward. Farms were to be encouraged to undertake small-scale manufacture, to provide employment in slack periods, and also to process foodstuffs, make bricks, generate electricity, and so forth.

### *The New Policy in Practice: Organization and Methods*

The restored Ministry of Agriculture has been operating smoothly enough, through local agricultural bodies of the pre-Khrushchevian pattern. The Territorial Production Administrations became the raion agricultural administrations, and the party *raikomys* also resumed their "normal" functions. True to promises made, there have been no central campaigns designed to impose any particular crop pattern or method of production. It is reasonable to conclude that both local party and state organs and the actual farm management have been much freer to respond to local circumstances and needs.

However, this does not mean that plans are made only for procurements, and that there is no longer any interference with the farms' own plans. Evidence to the contrary can be readily assembled. Thus V. Demidenko, chairman of the "Sibir" kolkhoz of the Novosibirsk Oblast, complained that he is not allowed to sow half of his land to grain, while leaving a quarter fallow: "We may be asked: If this is evidently advantageous, why not adopt this structure

22. The latter figure is in *Nar. khoz.*, 1967, p. 619. Note that investment data are not comparable with statistics published in earlier years.

23. See *Pravda*, Dec. 10, 1963. Fertilizer output in 1965 was 31.3 million tons.

of sowings? After all, you have the right to decide what and how much to sow. Well, yes and no. If we were to propose such a structure to the raion agricultural administration, they will at once make an appropriate 'correction.' . . . They happen to follow the principle 'the larger the area, the more secure the procurements plan,' and they have no interest in either profitability or in yields per hectare. Not only does the local agricultural administration interfere in deciding what and how much to sow, but it also continues arbitrarily to vary procurement quotas: the plan of sales to the state is distributed [among farms] on the principle 'the stronger the farm, the bigger the quota; the weaker—the smaller.'"<sup>24</sup>

Is this exceptional? There is no reason to suppose that it is. One has only to look at *Pravda* editorials on the subject of procurements (for instance, that of September 20, 1969) or the praise still publicly given to party secretaries for overfulfilling procurement plans ahead of time, to be sure that interference and orders do in fact persist.<sup>25</sup> Indeed they must do so, because prices remain irrational, as will be shown in detail in a moment. What is needed and what is profitable do not coincide. Nonetheless, the absence of central campaigns, other than those relating to procurements, has led to correspondingly reduced pressure on local officials, and this in turn must have had a beneficial effect.

If kolkhoz chairmen complain of interference, the situation of sovkhoz managers is undoubtedly worse. They are, to begin with, in a much weaker position: unlike kolkhoz chairmen, they are formally accountable to the ministerial organs that appoint them. Repeatedly the managers complain that they are given precise sown-area plans, even when they contradict their crop rotation scheme or when some of the produce in question cannot be disposed of because the procurement organizations refuse to take it. Plans for output and deliveries are often unfulfillable, yet managerial and employee bonuses depend on such plans.<sup>26</sup> There was also much criticism of the overdependence of sovkhozes on the state budget for investment finance. This not only undermined financial autonomy but also led frequently to the acquisition (or unwanted deliveries) of unsuitable equipment.

For all these reasons there arose a move to put sovkhozes on what came to be called "full *khozraschet*," which placed them in many ways on an equal footing with kolkhozes. Prices paid to sovkhozes were lower as a rule, because, unlike kolkhozes, they did not have to meet their investment expenditure out of revenue. A sovkhoz on full *khozraschet*, however, would be paid the same price as kolkhozes and would have to finance its own investments, therefore enjoying greater powers over what to invest in. This move was part of an

24. *Pravda*, Dec. 14, 1969.

25. See also *Pravda*, Dec. 27, 1969, where it was reported that the secretary of the Gomel *obkom* was dismissed for not ensuring fulfillment of plans.

26. *Ekonomicheskaya gazeta*, 1968, no. 22, pp. 30–31, and a number of other sources.

attempt to provide greater managerial autonomy, the agricultural counterpart of the reform in industry. At the time of writing, approximately one-third of all sovkhozes are operated under this new system.<sup>27</sup>

The new system raised several questions. One is related to prices. As with kolkhozes, profitability varied far too widely between different products. Genuinely full *khozraschet* was therefore bound to be limited; orders from above about what to produce and deliver will therefore continue. Another question concerns the relationship between sovkhozes and kolkhozes in the same area. Under Khrushchev the Territorial Production Administrations were set up to control both categories of farms, and *Sel'khoztekhnika* supplied both, at the same prices in most instances. This arrangement has been retained. However, a potentially contradictory principle was proclaimed: the association of kolkhozes into local and even all-union organizations, which could undertake joint activities (additional to interkolkhoz industrial units, which have existed for many years) and represent the interests of kolkhozes to higher authority. The "kolkhoz union" (*kolkhozsoiuz*) idea was not a new one: it was put forward by Matskevich when he was still minister under Khrushchev. The proposal was revived in the most recent years. The idea, in turn, was linked with a discussion concerning the desirability of continuing the distinction between kolkhozes and sovkhozes. After all, once kolkhoz peasants are paid wages and sovkhozes finance their own investments, and both pay and receive the same prices, why maintain the separate categories of agricultural producers?

The basic differences between kolkhozes and sovkhozes are now two: co-operative as opposed to state ownership, and elected as opposed to appointed management. How important are those distinctions? There is evidence of argument over this, in which some of the protagonists see great importance in the principle of elected management.<sup>28</sup> (One wonders if some of these arguments are intended to provide indirect support for the ideas of workers' self-management à la Belgrade.) The efficiency of the two kinds of farms does not differ greatly. Sovkhozes have the higher output per man-day, but they have a proportionately higher amount of capital per head, so that one analyst considers them to be less efficient than kolkhozes.<sup>29</sup> Be that as it may, the kolkhoz union principle has been conceded by the much-delayed kolkhoz congress, held in November 1969. Elected kolkhoz councils (*sovety kolkhozov*) were set up at raion, oblast, and all-union levels, the raion council being elected by representatives of the local kolkhozes, each of the others by the representatives of the council at the level below it. The all-union council was elected at the congress itself, and it is significant that its chairman became none other than

27. V. Garbuzov, in *Pravda*, Dec. 17, 1969.

28. Z. S. Beliaeva and M. I. Kozyr, "Razvitie khoziaistvennoi samostoiatel'nosti kolkhozov," *Sovetskoe gosudarstvo i pravo*, 1967, no. 12, pp. 83 ff.

29. A. Emelianov, "Reforma i razvitie khozraschetnykh otnoshenii v sel'skom khoziaistve," *Voprosy ekonomiki*, 1968, no. 5, pp. 48-49.

Table 6. Average Size of Kolkhozes and Sovkhozes, 1967

Kolkhoz		Sovkhoz	
Kolkhoz households	418	Employees	617
Agricultural land (hectares)	6,000	Agricultural land (hectares)	22,800
Arable land (hectares)	3,000	Sown area (hectares)	6,900
Socialized cattle	1,092	Cattle	2,017
Socialized pigs	599	Pigs	916
Socialized sheep	1,516	Sheep and goats	4,040

Source: *Nar. khoz.*, 1967, pp. 467, 483.

the minister, Matskevich. The council of 125 members includes also a deputy-chairman of Gosplan and several republican ministers of agriculture. If this sets the pattern, then clearly this "representative" body will be under firm official control, and will in no way replace existing organs of party and state.<sup>30</sup>

However, that does not mean that this is an insignificant development. The experience of the USSR, and indeed of any other bureaucratic structure, teaches us that organizations provide opportunities to act as pressure groups, or at the very least to give expression to feelings, grievances, and problems that otherwise would not obtain a hearing. The mere existence of bodies with the function of representing the common interests of kolkhozes may ensure that they do get represented, even if Matskevich and other official personages act as controllers and censors.

Another major organizational question relates partly to the size of farms and partly to incentives. There is a widespread view in the West that Soviet farms have become unmanageably big. Certainly kolkhozes have been enlarged through successive amalgamations; the sovkhozes are even larger (see table 6), though the average size has been decreasing slowly in recent years. Matters have been complicated by the pressure exerted to ensure that kolkhozes and sovkhozes produce a wide range of crops and keep a variety of animals.<sup>31</sup> Thus we do not have any analogy for the huge farms or ranches found in Texas and Australia. The labor force often lives in scattered villages, and the lack of roads impedes intrafarm communications. Under all these circumstances, efficiency depends greatly on the subunits of which the farms are composed—in the first instance the brigades. In kolkhozes these brigades are often equal in size and area to one of the preamalgamation kolkhozes.

Because brigades are also big, smaller subunits—that is, the *zveno* or "link"—composed of five to ten persons, might be the answer. The *zveno* controversy has been widely misunderstood. The *zveno* has existed all along,

30. Indeed, the first meeting of the council was attended by the party officials responsible for agriculture, D. Poliansky and F. Kunakov, neither of whom are members of it. *Pravda*, Nov. 29, 1969.

31. Thus, to take one example, the average "sheep raising" sovkhoz also had 1,968 head of cattle, and the average cotton sovkhoz 2,196 head of sheep. *Nar. khoz.*, 1967, p. 483.

and still exists, as a work gang to perform specified tasks. In this form it is not controversial. The real issue is a different one: Should there be a semi-permanent *zveno* which has a long-term attachment to a specified area of land, along with the necessary equipment, and which is left to perform broadly agreed upon tasks as it sees fit, with its income depending on the results? This has been called the *beznariadnoe zveno*,<sup>32</sup> in the sense that no work-duty schedule (*nariad*) is imposed upon it from above. It could operate either in a sovkhos or kolkhoz. Its advantages are clear: a small group would share responsibility; it would recover that "love of the land" which, according to another supporter of this kind of *zveno*, has been lost within the large impersonal units;<sup>33</sup> since it would be interested only in results, it would not waste resources fulfilling quantitative plans; it would use the minimum amount of equipment and would have every incentive to keep it in good repair. These are important factors, as was pointed out in *Novyi mir* by Streliany: in sovkhoses and kolkhoses the "mechanizers" are paid on a piecework basis, which means quantity, or "hectares." Obviously it is easier to fulfill a plan expressed in hectares of plowing and to gain overfulfillment bonuses by plowing as shallowly as possible, and so inspectors strive (often in vain) to ensure that plowing is efficiently done; the actual tractor-men are uninterested in the harvest. None of this would happen in the free *zveno*. Its members would be free to arrange their own work and free time, and would work very long hours at peak periods. Output would rise, productivity would rise, costs would fall—or so the advocates of this species of *zveno* loudly claim.

Arguments against this *zveno* idea are seldom stated, but in one of the articles referred to above, Rebrin has attempted an analysis. One argument has it that norms and discipline are necessary; another stresses the fear that the farm will break up or its labor force will become so subdivided that separate groups would not be able to help each other out ("Why not?" counters Streliany). Yet another argument points out that many peasants might be repelled by the long hours and pressures of the fully autonomous *zveno*; peasants want fixed hours of work or they will move to town. Uncertain, and possibly excessive, earnings is seen as another drawback. Should this not be regulated by some authority? Finally, Streliany alleges that many officials instinctively dislike the new idea because by providing effective incentives it would deprive the petty supervisors of their *raison d'être*.

The kolkhoz congress failed to pronounce on this whole question, and presumably we shall be witnessing further cautious experiments with the *zveno* on a small minority of the farms.

Finally it is necessary also to mention the growth of interkolkhoz and

32. See admirable articles on the subject by P. Rebrin and A. Streliany in *Novyi mir*, 1968, no. 3, pp. 157 ff.

33. I. Kopysov, *Literaturnaia gazeta*, 1968, no. 6, p. 10.

other subsidiary enterprises. There were in 1967 in the whole USSR 3,884 interkolkhoz organs of every type, of which 1,622 were specialist construction enterprises and 589 were concerned with poultry and eggs. Many made building materials, some were artificial insemination centers, others sanatoria for peasants. Some oblasts and republics possessed control organs to supervise these various organizations, and some of them also operated industrial and construction enterprises. They were all small scale, and there were frequent complaints about shortage of supplies, especially of building materials, for these nonpriority units whose requirements were incorporated in no allocation plans. At the same time, the reluctance of state building organizations to undertake work in rural areas was and is notorious.<sup>34</sup>

Thus far the problem is only one of priority and organization, not of principle. But there is evidently some friction over the question of auxiliary industrial enterprises in kolkhozes. No one objects to the processing or canning of farm produce. But an indignant *Pravda* correspondent denounced those who set up printing shops, make ball-point pens, paper clips, springs, electrical components, nuts and bolts, and sell these things at high prices. It is legal for kolkhozes to run auxiliary enterprises, but the author complained that the kolkhoz serves as a cover for a species of private enterprise by nonmembers, and also that energies are diverted from more directly relevant tasks.<sup>35</sup> *Pravda* also seems particularly to have been hurt by the tendency to produce "goods in deficit," though to an ordinary economist this might even seem a virtue.

The new kolkhoz statute, adopted by the congress, contained little that was new, in the sense that it incorporated changes already made, with the single exception of the kolkhoz councils. The congress must have been preceded by some arguments and disagreements, possibly over the questions discussed above, since one had been promised by Khrushchev, and Brezhnev undertook at the March 1965 plenum to call one "already next year." No major changes appear to be contemplated at present.

### *The New Policy: Prices*

We have seen that under Khrushchev state procurement prices had been raised several times and then somewhat lowered in real terms in 1958.<sup>36</sup> In the period 1961–64 there were already some increases in prices of livestock products, cotton, and sugar beets. The 1965 changes affected livestock products again, and also grain. Table 7 gives one some idea of the pattern of change, although comparability is complicated by the existence of an over-quota bonus price for some grains and an increase in regional differentiation (not all regions

34. See, for example, *Sovety deputatov trudiashchikhsia*, 1968, no. 6, pp. 19–24.

35. A. Sukontsev, in *Pravda*, Dec. 8, 1969.

36. "Real terms" in the sense that the increases were less than the extra expenses incurred by taking over the MTS.

Table 7. *Prices Paid to Kolkhozes (in rubles per ton)*

Commodity	1964	After 1965	
		Quota	Over-quota
Wheat: RSFSR (southern half)	75 (?)	86	129
Northwest RSFSR, Belorussia,			
Baltic states	85	130	195
Ukraine <sup>a</sup> and Moldavia	67	76	114
Buckwheat (USSR)	200	300	—
Rice (USSR)	220	300	—
Cattle (live weight)	850–950	1,000–1,630	—
Pigs (live weight)	1,050–1,150	1,360–1,950	—

Sources: Brezhnev, *Plenum*, pp. 11, 14, and sources cited in the excellent article by Jerzy F. Karcz, "The New Soviet Agricultural Programme," *Soviet Studies*, 17, no. 2 (October 1965): 129–61.

<sup>a</sup>Except Polesye.

are cited in the table). A further complication is that if free-market prices are much higher than state procurement prices, an increase in the latter may be of no help to kolkhoz finance if at the same time state procurements take a larger share of the product (as is the case with livestock products).

Local variations around these averages were allowed, indeed encouraged. In more recent years the 50 percent bonus was extended also to millet, barley, oats, corn, and peas; a 100 percent bonus is now paid for sunflower seed deliveries in excess of those made in the previous year, 50 percent for cotton sales above the average of the previous three years.<sup>37</sup> Prices paid to sovkhozes were also increased; in most cases they were below kolkhoz prices (e.g., 45 rubles as against 76 rubles per ton for wheat in the Ukraine), but sometimes equal to them (e.g., in the north and west of the RSFSR, and the Central Asian and Baltic republics, for both wheat and rye).<sup>38</sup> It must also be recalled that prices charged to kolkhozes, and also taxes, were reduced. Consequently, *net* revenues increased sharply, making possible large increases in peasant pay, which will be documented below. The increases were particularly large in the relatively infertile and high-cost areas of the north and west.

One Soviet writer has calculated the relationship between costs and prices for particular products for the USSR as a whole (see table 8). The method of calculation may be questionable, but at least it is consistent between products. ("Profit" and "loss" are hard to compute where there are no clearly defined labor costs.) This table demonstrates strikingly that there are still very great differences. Despite price increases, the livestock sector remains hardly profitable at all—for some products and areas positively unprofitable—whereas crops as a rule are sold at a considerable profit, including grain and potatoes that could otherwise be fed to livestock. Clearly this is not a rational price

37. L. Kochetkov, "Kontraktatsiia—osnovnaia forma zagotovok sel'skokhoziaistvennoi produktsii," *Ekonomika sel'skogo khoziaistva*, 1968, no. 11, p. 59.

38. It will be recalled that sovkhozes on full *khovraschet* are paid the same prices as kolkhozes.



Table 8. *Prices as Percentage of Costs, 1966*

Commodity	Kolkhozes	Sovkhozes	Commodity	Kolkhozes	Sovkhozes
Grain	170	163	Milk <sup>a</sup>	98	93
Potatoes	224	195	Beef	110	111
Sunflowers	498	341	Pork	119	124
Cotton	132	117	Eggs	95	136

Source: A. Emelianov, "Reforma i razvitie khozraschetnykh otnoshenii v sel'skom khoziaistve," *Voprosy ekonomiki*, 1968, no. 5, p. 53.

<sup>a</sup>In 1968 milk prices were increased in some areas; in 1969 there were increases for poultry and a few other products (*Finansy SSSR*, 1969, no. 3, pp. 17-18).

structure, a situation that may help to explain the lag in livestock products, which will be analyzed in subsequent pages. Furthermore, the bonus price offered for over-quota deliveries of most grain does not apply to livestock products, though several delegates to the 1965 plenum asked that it should.<sup>39</sup> Even in 1967, a year of average harvest, 13.4 million tons of grain out of the total of 57.2 million procured by the state was paid for at a rate 50 percent above the quota price.<sup>40</sup>

Why has such a situation been tolerated? The answer is all too clear. After the unpopularity of the 1962 retail price increases in livestock products, it was decided not to change food prices in 1965. The effect was to impose a large burden of subsidy upon the budget. Thus "in 1966 the expenses incurred in purchasing beef from kolkhozes exceeded the [retail] price by 60 percent, or by 43 percent allowing for proceeds from sales of by-products." Taking into account also purchases from sovkhozes and from individuals, the total expenses of the state exceeded retail prices of beef by 55.2 percent, of pork by 12.1 percent, of mutton by 10.7 percent.<sup>41</sup> There are then strong financial grounds for resisting further increases in purchase prices. In fact, the 1965 increases for livestock products were described as *nadbavki* (premiums or addenda) to existing prices, as it was and is presumably hoped to reduce them when the high costs of production fall, thereby eliminating or reducing the subsidy burden. It is evident that the contradictions of the price system have not been eliminated by the 1965 price changes. We shall be looking into costs again below.

The issue of regional price and cost differences deserves much more space than it can receive here. It is intimately connected with three other vital questions: specialization, farm autonomy, and land rent. Let us briefly explain what the connection is.

Supposing that the cost of growing wheat is 100 percent higher in Belorussia than in either the Ukraine or the black-earth areas of the RSFSR, should the price also be 100 percent higher? Or do these facts constitute a reason for not growing wheat at all in Belorussia, but concentrating instead on

39. For example, K. Pysin (*Plenum*, p. 46).

40. *Ekonomicheskaja gazeta*, 1968, no. 4, p. 9.

41. Emelianov, "Reforma i razvitie," p. 54.

a crop that is profitable with local soil and climate, such as flax, or on raising livestock with locally grown or purchased fodder? Why should high-cost producers be "rewarded" by higher prices? Should not prices in principle be the same, and natural differences be taken care of via differential rent, levied in the form of a highly differentiated tax? Such a rent should not eliminate all cost differences, because price-and-profit ought to have the effect of encouraging specialization.

There has been widespread discussion for many years about the need for land valuation, which has a bearing also on payment of compensation (or a price) for the use of agricultural land for industrial, residential, or hydroelectric purposes. There are evident difficulties. A full cadaster would require years of work. There would be the danger of basing the rent or tax on actual yields achieved instead of on the potential, thereby "taxing the intelligence of the cultivator" and penalizing past hard work. Experiments have been conducted by the University of Tartu in Estonia. Regional price differences, assert the critics, are a poor and clumsy way of obtaining results which require highly differential valuations and rents (taxes).<sup>42</sup> But no decision to act on an all-union scale has yet been taken.

To return to the relationship between prices and rational costs, one's attitude inevitably depends on the extent of desired autonomy of farm management. If kolkhoz chairmen and sovkhoz managers are to be ordered what to grow and especially what to sell to the state, it is obviously unfair that they and their farm hands should suffer from the fact that costs happen to be high. It might then be possible to instruct state procurement organizations to buy where possible from low-cost areas. But if the farms choose, prices should surely be such as to encourage specialization on lower-cost products in appropriate areas. Of course, agricultural prices have odd features in "capitalist" countries too, and so we ought at no time to assume that we have much to teach the Soviet Union in "rational" pricing in this sector of the economy.

However, higher prices for over-quota deliveries of various crops do raise a peculiar problem. Such prices existed before 1958, and they were abandoned because they rewarded the successful disproportionately and because the average price paid in a good year exceeded that paid in a bad one (i.e., the greater the abundance the higher the average price, since more is sold at the over-quota rate). These arguments are just as valid today.

Have the new prices finally eliminated the "exploitation" of Soviet agriculture for the benefit of the urban-industrial sectors of the economy? Before this question is answered, two other matters require consideration: peasant incomes and agricultural investments.

42. See M. Bronshtein, "K voprosu o 'tsene' zemli," *Voprosy ekonomiki*, 1968, no. 5, pp. 102-12; E. Karnaukhova, "Ekonomicheskaja otsenka zemel' v sel'skom khoziaistve," *Voprosy ekonomiki*, 1968, no. 8, pp. 88-104; and I. Smirnov et al., *Ekonomicheskaja otsenka zemli* (Moscow, 1968).

*Peasant Income, Consumption, Private Plots*

What has been happening to peasant pay in the last ten years or so? Systematic data are unpublished, and the scattered figures which exist may not be all on the same basis (the problem is one of valuing peasant income in kind; mostly this seems to be at retail price for statistical purposes). It is clear that the dip in incomes in 1959–60 was only temporary and was followed by a sharp upswing. The following statistics (table 9) are from Suslov's valuable book.

Table 9. *Peasant Income (Kolkhozes)*  
(1958 = 100)

Year	Pay per Man-day	Pay per Year
1958	100	100
1960	—	90
1962	117	—
1963	123	123
1964	160	146
1965	186	169

Source: Suslov, *Ekonomicheskie problemy*, pp. 159, 172.

Table 10. *Peasant Income*  
(in rubles)

Year	Pay per Man-day (Kolkhozes)	Average Wages per Month (Sovkhozes)
1960	1.40 <sup>a</sup>	53.8
1965	2.68	74.6
1966	3.05	80.0
1967	3.32	84.4
1968	3.52	92.1

Sources: *Nar. khoz.*, 1967, p. 466; *Nar. khoz.*, 1968, pp. 423, 555. <sup>a</sup>Approximate.

The "labor pay fund"—that is, the total amount paid out to kolkhoz peasants—rose from the low point of 1959–60 to 1965 by 88 percent.<sup>43</sup> It is thus quite clear that a large rise had taken place before Khrushchev's fall. It was also Khrushchev who announced old-age pensions for kolkhozniks, jointly financed by kolkhozes and the state, though this system did not come into operation until after his political demise.

The rise in incomes has continued since, as the figures in table 10 show. Payment is now predominantly in cash; whereas in 1965 a quarter was in kind, by the end of 1968 cash accounted for 92 percent.<sup>44</sup> It should be noted that increases in cash per man-day may or may not imply an equivalent increase in total earnings, depending upon the number of days worked. There is no guaranteed pay per week or month.

A change of great importance dates from July 1966. There was finally introduced a guaranteed minimum payment per job done, based in principle on rates applicable to sovkhozes. A trend toward guaranteed pay, and toward ending the unsatisfactory *trudodni* and the residuary nature of kolkhoznik pay,

43. Suslov, *Ekonomicheskie problemy*, p. 61.

44. V. Zhurikov, "Luchshe ispol'zovat' mery material'nogo pooshchreniia kolkhoznikov," *Ekonomika sel'skogo khoziaistva*, 1969, no. 1, p. 10. (But if the peasants have to buy bread grains at retail prices, they may still prefer payment in kind!)

was clearly visible under Khrushchev. Indeed, recommendations were made to this effect, and by July 1966 about 50 percent of all kolkhozes already paid a fixed cash rate of some kind. Two key decisions were required to make a reality of a minimum based on sovkhoz rates (apart, of course, from higher prices and revenues in general). One was a formal decision to make payment of peasants a priority charge on revenue instead of the residual, which in effect meant abandoning the requirement that a given percentage of gross revenue be paid into the so-called indivisible fund (i.e., devoted to investments). The other was to allow farms to borrow from the bank to pay their members, which was not permitted until 1966.

Obviously, an assured income for work done is a great, if belated, step forward. The change was not by any means carried through smoothly. As late as January 1969 it was reported that 92.2 percent of the farms were paying guaranteed rates, so the practice was at this date still not universal, and the system of *trudodni* survived in some places, indeed being still predominant in Armenia and Azerbaijan. Furthermore, the actual rates varied widely between farms and regions, as the following figures demonstrate: in 1963 Estonia paid 146 percent of the all-union average to its kolkhoz peasants and Belorussia only 62 percent—that is, Estonia was 2.35 times higher (Belorussia was the lowest, the highest being Kirghizia and Turkmenia with 168 percent).<sup>45</sup> In 1968—that is, two years after the “guaranteed pay” decree—Belorussia was still far behind. It can be calculated that Estonians received over 2.5 times what Belorussians did (i.e., the disparity had risen).<sup>46</sup> Both republics had gained in absolute terms. But the Belorussian average must be far below sovkhoz rates of pay, these being similar in the two republics. This remains the case even though in some of the more prosperous areas many kolkhozes pay a good deal more than sovkhozes. Clearly, then, large numbers of kolkhozes cannot afford to pay sovkhoz rates. Credits are of little help to them: in 1968 only 1.5 percent of total peasant pay was financed by credits.<sup>47</sup>

Nonetheless, though we must allow for local variations, it is clear that pay has risen greatly, and there has also been some reduction in differentials: thus in 1965–67 the lowest-paid group, the “horse and manual” field worker, gained an average 28 percent, the “mechanizers” 20 percent, milkmaids 14 percent, and chairmen 8 percent.<sup>48</sup>

The pay increases since 1958 have greatly exceeded the increases in productivity, thereby adding significantly to labor cost. Thus “from 1958 to 1965 labor productivity rose by 35 percent, total pay of labor by 81 percent,” while

45. Suslov, *Ekonomicheskie problemy*, p. 171.

46. Based on Zhurikov, “Luchshe ispol'zovat' mery material'nogo pooshchreniia kolkhoznikov,” p. 9.

47. N. Gusev, “Sel'skoe khoziaistvo v chetvertom godu piatiletki,” *Ekonomika sel'skogo khoziaistva*, 1969, no. 4, p. 14.

48. Zhurikov, “Luchshe ispol'zovat' mery material'nogo pooshchreniia kolkhoznikov,” p. 8.

the Seven-Year Plan had envisaged 100 percent and "at least 40 percent," respectively.<sup>49</sup> We will be discussing costs later. There was at the same period a substantial rise in pay of sovkhoz workers (see table 10), though kolkhoz pay increased faster. It is clear, therefore, that incomes in rural areas showed a very sharp upswing; and this change has contributed significantly to inflationary pressures, since there has been hardly any rise in official retail prices, at least in theory. It has also meant a change in relative incomes of town and country, as the figures in table 11 demonstrate.

Table 11. *Comparative Income, 1968 Index (1960 = 100)*

Kolkhoz pay (per man-day)	260 (approx.)
Sovkhoz pay	172
Industrial pay, average	129

It is true that kolkhoz peasant incomes are still well below the average earnings of workers, particularly if it is borne in mind that they are paid only for work done, not for slack periods. However, the total income of a kolkhoz peasant—and to a lesser extent also of a sovkhoz worker—includes the proceeds in cash and produce of his private plot and livestock. It is therefore necessary to turn to this and see what has happened to peasants' private enterprise since 1965. The figures in table 12 relate to the whole private sector (i.e., they

Table 12. *Private Livestock (in million head)*

Animal	1964 (December)	1968 (December)	1970 (January)
Cows	16.2	16.7	16.0
Pigs	14.1	12.8	14.1
Sheep and goats	30.5	34.3	32.3

Source: Annual statistical reports and *Pravda*, Jan. 25, 1970.

include also suburban allotments and so forth), but they hardly alter the general picture and trends (and they avoid the distortion that comes from converting kolkhozniks to sovkhoz workers).

The figures represent little change on balance, but it must be recalled that numbers had been falling in Khrushchev's last years and that after his fall various restrictions on livestock were eliminated. Consequently one might have expected something better. Apart from sales in the market, the private sector remains of vital importance as a source of food for the family. Even today the bulk of the peasant family's consumption of meat, milk, eggs, and potatoes comes from their private plot. According to Suslov, who quoted family budget surveys, of the total income in cash and kind of kolkhoz families in 1964 the private plot provided 43.9 percent and the kolkhoz 43.3 percent.<sup>50</sup> The rest presumably came from other activities (including work for the state).

49. Suslov, *Ekonomicheskie problemy*, p. 159.

50. *Ibid.*, p. 188.

Table 13. *Sales Trends in Kolkhoz Markets* (in billion rubles)

	1960	1965	1966	1967	1968
Sales in free markets (excluding sales in markets by cooperatives on commission)	3.7	3.6	3.7	3.8	3.8
Sales on commission	0.75	1.1	1.2	1.3	1.4

Source: *Nar. khoz.*, 1968, p. 609 (slightly different figures appear, without explanation, on p. 654).

There is no index of private incomes, so we can only note that total peasant consumption increased less rapidly than did their incomes for collective work. (The production of potatoes, vegetables, fruit, and other crops in private plots seems to have altered little.) Sales trends in kolkhoz markets are seen in table 13. Free-market prices were and are well above state prices and in 1968 were 28 percent above 1960, though the official index for food-stuffs had risen by only 3 percent (and free prices were higher also in 1960).<sup>51</sup>

What has been holding back the private sector? Two explanations suggest themselves. First, more time is required for collective work, leaving less for the plot; furthermore this work is now better paid, so that there is less incentive to work hard on one's allotment and to lose pay by taking time off to take goods to market. (We have no means of telling how much of this is a voluntary reaction to incentives, how much a consequence of tighter discipline.) Second, a general shortage of fodder has adversely affected supply for private livestock. No less a person than Shelest, first secretary of the Ukraine, made this point, as well as a critic writing about Belorussia.<sup>52</sup> Both urged that adequate supplies of fodder be provided.

It is interesting to note that the peasants' labor inputs on private plots went up after 1958 (see table 14). Yet numbers of private livestock fell somewhat in the years 1958–63. One explanation is that more time had to be devoted to procuring fodder. No doubt the percentage has fallen again since 1963, especially as collective work is now better paid, but I cannot find more recent figures. Suslov (the source of the figures in table 14) believes that labor on private plots produced roughly as much per head as collective labor (but of course it did so with far less capital).

The level of housing, culture, amenities, and conditions of work has often been deplorably low, and the authorities know this and have attempted to improve matters. If they do not, the migration of young and energetic villagers to town will continue. The restrictions on such movement—by the denial of passports—is resented, and is also circumvented. Ample evidence exists of unplanned drift to town, and many statements show consciousness of the need

51. *Nar. khoz.*, 1968, pp. 655, 640.

52. *Radians'ka Ukraïna*, Nov. 15, 1969; *Pravda*, Dec. 27, 1969.

Table 14. Hours Worked by Peasants in RSFSR (Adults of Working Age) (percentage of total hours worked)

Year	For Kolkhoz	Outside	Private Plots
1953	62	12	26
1958	NA	NA	26
1963	60	10	30

Source: Suslov, *Ekonomicheskie problemy*, p. 193. NA = Not available.

Note: Women work much more on the private holdings than men do.

to attract and hold labor by improving conditions. A big drive has been launched to increase the range of services available. There is talk of regular hours and holidays with pay, though neither have yet become normal. At the 1965 plenum S. Pavlov spoke of a milkmaid who worked from morning to night without a day off for up to fifteen years, and incredibly some delegates found this a subject for humor (shouts of "how old is she?").<sup>53</sup> Even now regular shift work is not the rule. Bitter complaints about working conditions are common. The heaviest work is done by women. Few livestock farms have anything like adequate mechanical aids. Water has to be fetched in buckets, the cleaning of cowsheds and the milking are still mostly done by hand, and so on.<sup>54</sup>

Much depends, as far as the peasant is concerned, on the good will of his brigadier, who may or may not allow him to borrow a horse for a trip, enter up correct particulars on the work sheet, or allocate fuel or hay. In fact, "the kolkhoznik does not always [!] have the feeling that he is the master in the kolkhoz."<sup>55</sup>

There are many criticisms of existing incentive and wage structures, particularly in sovkhozes. They all agree on one point: payment is related not to the quality of work or to its net effectiveness but to quantity and plan fulfillment: "Rewards go to those who can get a modest plan adopted."<sup>56</sup> Hence the arguments in favor of the *beznariadnoe zveno*. However, the system has yet to be altered.

The Soviet Union is, of course, far from alone in facing the problem of migration of village youth to town. The gap between rural and urban standards in the USSR is so wide that even the impressive relative increase in pay for collective workers has not slowed the rate of migration. Indeed, they can now more easily afford a rail ticket to the city (and perhaps even a bribe to the passport officer).

It may be said: But surely, relative to other industrial countries, the USSR has a large population on the land. Is not large-scale migration to town both desirable and expected? To this question there are two answers. First,

53. *Plenum*, p. 164.

54. See, for instance, *Izvestiia*, Nov. 26, 1967.

55. *Komsomol'skaia pravda*, Apr. 21, 1968.

56. G. Goldman, in *Ekonomicheskaia gazeta*, 1969, no. 25, p. 18.

given existing levels of mechanization there is frequently a labor shortage, which at peak periods requires the annual mobilization of millions of townsmen to get the harvest in. Second, much of the rural labor force consists of older and unskilled women who are of little use in industry and cannot operate modern agricultural equipment, while those who are skilled move into urban occupations in alarming numbers. Therefore, although the total agricultural labor force is declining only slowly, its composition inhibits technical progress and helps to explain low productivity.

This situation may be illustrated by quoting a report on a social survey of peasants in Siberia: "Migration has an extremely unfavorable effect on the quality of kolkhoz and sovkhoz labor. The proportion of young people who are the most intelligent and qualified is declining." Many "mechanizers" leave. "Rural youth have an extremely strong psychological urge to go to town." The only way to halt this process is "to improve housing, communications, water supply, cultural amenities, schooling, trade. . . ." One Soviet contributor to the discussion also said: "It is necessary to abolish all remaining civil-law distinctions between the rural and urban population, so as gradually to modify the negative attitude of youth toward agriculture and the village."<sup>57</sup> Thus a passport, the *right* to travel, and the means to do so are among the necessary preconditions for youth to stay and work in agriculture.

### *Investments and Material Supplies*

A full statistical study of these matters would occupy too much space. We will confine ourselves to a brief look at promise and fulfillment, and at the difficulties and achievements since Khrushchev's fall.

We have already noted that Brezhnev's investment plans were much above Khrushchev's promises, but that the latter had not been kept. Nor have Brezhnev's. The picture, based on incomplete evidence and taking into account the annual plan for 1970, is as shown in table 15. Deliveries of equipment to agriculture fell far behind schedule. One reason, it is said, was "the international situation."<sup>58</sup> In other words, heavy military spending has eaten into the agricultural investment allocations. To take one example in the machinery sector, deliveries of tractors to agriculture are expected to reach roughly 1,470,000 over the five years, whereas the plan for 1966–70 specified 1,790,000,<sup>59</sup> and most other equipment is below plan to an even greater extent. Housing construction fell in absolute terms: in kolkhozes the figure was 26.8 million square meters in 1960, 18.3 in 1965, 20.3 in 1966, 18.6 in 1968<sup>60</sup>—hardly an impressive beginning to the much-needed effort to transform the village.

57. *Voprosy ekonomiki*, 1969, no. 12, p. 149.

58. *Finansy SSSR*, 1969, no. 3, p. 16.

59. Calculated from N. Baibakov, in *Pravda*, Dec. 17, 1969, and *Nar. khoz.*, 1967, p. 465.

60. *Nar. khoz.*, 1968, p. 578.



Table 15. *Productive Investments, Kolkhozes and Sovkhozes*  
(in billion rubles)

	Plan 1966-70	Probable Fulfillment
Total investments	71 <sup>a</sup>	58 <sup>b</sup>
State investments only	41 <sup>a</sup>	32 <sup>c</sup>

Sources: <sup>a</sup>Brezhnev, *Plenum*, p. 21. <sup>b</sup>Computed from figures for 1966-68 in *Nar. khoz.*, 1968, p. 525, and for 1969 and 1970 (plan) in N. Baibakov, *Pravda*, Dec. 17, 1969. <sup>c</sup>Baibakov.

Nonetheless, productive investments did go up. The 1968 total was 110 percent above 1961, 31 percent above 1965.<sup>61</sup> Deliveries of tractors in 1970 are expected to be 312,000, compared to 239,500 in 1965 and 157,000 in 1960.<sup>62</sup> The 1969 figure was 303,000.

There are various difficulties in getting building done in rural areas, and also in obtaining building materials for agricultural construction. Demands are frequently heard for the creation of some effective rural building organization. Widespread dissatisfaction also exists over the weakness of the link between farms and the agricultural machinery industry. The wrong equipment is often made, and the demands of the users are not taken into account. *Sel'khoztekhnika* is not doing this job properly, and a resolution on the subject was adopted by the October 1968 plenum of the Central Committee. Frustrated demand for capital goods is given as one reason for the practice, condemned by the party leadership, of distributing to peasant members much of the money which should be devoted to investment: it may be impossible to get the equipment and materials needed for the investment project.<sup>63</sup>

Failure to fulfill plans has in fact led to considerable shortfalls and imbalances. Thus "in Poltava Oblast in 1968 the purchase requests [*zaiavki*] of kolkhozes and sovkhozes were met to the following extent: tractors 58.4 percent, grain combines 61 percent, silage combines 32 percent, tractor trailers 24.5 percent, truck trailers 10.8 percent, trucks 27.6 percent, five-unit plows 9.7 percent, milking machines ("A.D. 200") 18.4 percent, nitrogenous fertilizer 75.3 percent, potash 44.8 percent. . . . Approximately the same situation exists in other areas and throughout the country."<sup>64</sup> These, be it noted, were items which the farms had the financial means to buy.

Soviet critics have had much to say concerning the continuing undercapitalization of agriculture, lack of electric power, and poor quality of much of the equipment, though of course investments and power supplies have greatly increased. The figures in table 16 are quoted for total power (in trac-

61. *Ibid.*, p. 525.

62. *Ibid.*, p. 422.

63. I. Karliuk, "Tekhnicheskii progress i ukreplenie material'notekhnicheskoi bazy sel'skogo khoziaistva," *Voprosy ekonomiki*, 1969, no. 12, p. 64; *Pravda*, Aug. 5, 1969.

64. Karliuk, "Tekhnicheskii progress," p. 63.

Table 16. Comparison of Power Used for Agriculture in USSR and USA

	USSR:		USA:	
	1960	1967	1960	1966
Power for agricultural worker (h.p.)	5.4	8.8	39.0	77.8
Power per hectare (h.p.)	74	116	215.8	418.2

Source: I. Karliuk, "Tekhnicheskii progress i ukreplenie material'notekhnicheskoi bazy sel'skogo khoziaistva," *Voprosy ekonomiki*, 1969, no. 12, p. 62.

tors, electricity used, etc.). They show not only that the Soviet Union was in these respects far behind the United States in 1960, but also that she was *further* behind in 1967.

The same author points—as Brezhnev did—to the old age and obsolescence of many tractors and trucks in agriculture. Even most of the newly built cowsheds and pigsties lack equipment; of 1,020 cowsheds in the Kursk Oblast in 1967 only 46 were fully mechanized. Many of the available machines are inefficient or lack proper maintenance. Thus "at the beginning of 1969, 28 percent of all milking machines were out of action. In West Siberia and Altai only 15 percent of the milking machines work normally. . . . In some farms the milking apparatus goes wrong sixty to a hundred times per month."<sup>65</sup> Prices of machines used on livestock farms are exceedingly high, although they are "far from perfect, they are unreliable, many of them do not last long." It was pointed out at the October 1968 plenum that livestock-farm equipment is made in 150 enterprises of which only 30 are under the Ministry of Tractors and Agricultural Machinery. The rest are scattered among thirteen other ministries, which means high-cost production and irresponsibility. The author documents increases in prices in recent years: the SL-44 sower, which used to be sold for 230 rubles, has been replaced by the SUL-48 sower, of similar quality but priced at 350 rubles. Tractor production and prices have been more satisfactory, but their utilization has become less efficient. Poor maintenance and repair and lack of skilled labor and supervision have led to a 25 percent increase in costs of tractor work, while tractor utilization per day declined by 20 percent in the period 1960–67. Their utilization is also adversely affected by shortages of plows, trailers, and other tractor-hauled equipment.<sup>66</sup> These and other circumstances have reduced the effectiveness of investments.

Fertilizer production has gone ahead impressively, even if the extremely ambitious plans have not been fulfilled (see table 17). It is interesting to note that Khrushchev's wildly unrealistic plan for 1970 had been 80 million tons.<sup>67</sup> There have been complaints about the quality, assortment, prices, packaging, and transporting of the fertilizer, but substantial progress has been made, and

65. *Ibid.*, pp. 63, 66.

66. *Ibid.*, and also *Ekonomicheskaiia gazeta*, 1969, no. 6, p. 29.

67. *Pravda*, Dec. 10, 1963.

Table 17. *Fertilizer Production* (in million tons, gross weight)

Year	Output	Deliveries to Agriculture
1964	25.6	22.0
1969	46.0	38.8
1970: Plan A	62.65	-
Plan B	57.5	46.0

Sources: Baibakov, *Pravda*, Dec. 17, 1969; *Nar. khoz.*, 1965, p. 131; *Pravda*, Jan. 25, 1970. Note: Plan A: Five-Year Plan target for 1970. Plan B: Annual plan for 1970 (as of December 1969).

fertilizer is now available for an increasing range of crops. On the podzol soils of the north and west it is essential, along with liming, if tolerable yields are to be attained. Liming, since 1965, has been undertaken at government expense. Another urgent need in rural areas is roads. Progress is being made, but it will require many years before an adequate network can be built.

### *Production and Costs*

Have yields risen? What has been the net effect of the policies described on production? Table 18 gives the official statistics of production and also the plan, which is available only as an annual average. It should be noted that the quinquennium 1961–65 includes two poor harvest years.

Before analyzing the figures, we shall briefly comment on their reliability. Suspicion is justified by the past record of agricultural statistics, not only in the bad old days of “biological yield” but also in Khrushchev’s time. There were cases of statistical redefinition, such as the (temporary) inclusion of unripe corn as grain, and also of simulation under the pressure to fulfill impossible plans. There was also some suspicion of a downward revision of figures relating to the past in order to make the present look better.

These things may still be happening. Grain harvest figures can be in terms of “bunker weight” or after winnowing and cleaning. The former appear in statistics, and are also the basis for piece-rate pay, and so everyone concerned is happy to use such figures, even though harm is done when the weight “includes dirt.”<sup>68</sup> But no evidence exists that such practices are more prevalent today than they were in 1965 or 1960, and so the relative figures should not be affected. Figures on livestock products used to be treated with great suspicion by Western critics, and I was once severely criticized for suggesting that we have no alternative but to use them. But by now there is general agreement that they are not greatly inflated. They often show an unfavorable trend, and so it is very unlikely that they are doctored or more unreliable today than yesterday. In general, because so many of the products are used or consumed on the farm, agricultural statistics are always less reliable than those of other

68. *Literaturnaia gazeta*, Dec. 18, 1968, p. 11.

Table 18. *Soviet Agricultural and Livestock Production and Plan, 1965-70*

	1961-65 (average)	1966	1967	1968	1969	1966-70 Plan (average)
Gross agricultural output index (1960 = 100)	105.0	122.0	124.0	128.0	124.0	130.0
Grain (million tons)	130.3	171.2	147.9	169.5	160.5	167.0
Grain yield (quintals per hectare)	10.2	13.7	12.1	13.9	-	-
Potatoes (million tons)	81.6	87.9	95.5	102.2	91.7	100.0
Sugar beets (million tons)	59.2	74.0	87.1	94.3	71.0	80.0
Sunflower seeds (million tons)	5.07	6.15	6.61	6.70	6.30	-
Cotton (million tons)	5.0	5.98	5.97	5.95	5.71	5.6-6.0
	1965	1966	1967	1968	1969	1966-70 Plan
Meat (dead weight, million tons)	10.0	10.7	11.5	11.6	11.6	11.0
Milk (million tons)	72.6	76.0	79.9	82.3	81.6	78.0
Milk yield per cow (kgs.)	1,987	2,021	2,128	2,232	-	-
Eggs (billions)	29.1	31.7	33.9	35.7	37.0	34.0
Wool (thousand tons)	356.9	371.0	395.0	415.0	390.0	-
Livestock (as of January 1)	1965	1966	1967	1968	1969	1970
Cattle (million head)	87.2	93.4	97.1	97.2	95.7	95.0
Cows (million head)	38.8	40.1	41.2	41.6	41.2	40.6
Pigs (million head)	52.8	59.6	58.0	50.9	49.0	56.1
Sheep and goats	130.7	135.3	141.0	144.0	146.1	136.3

Sources: *SSSR i soiuznye respubliki v 1968 godu* (Moscow, 1969), pp. 14-15, Five-Year Plan text, and *Pravda*, Jan. 25, 1970.

sectors, where a cross-check can be made via sales (within agriculture, this can be done with cotton, for instance, but not with grain, milk, or potatoes). So a degree of skepticism would be quite proper.

This said, what do the figures tell us? First, there is marked progress in crop yields. The weather in 1969 was unfavorable, and so the results of that year in no way imply a change in the underlying general trend. Better incentives and more fertilizer, and less "campaigning" interference, would seem to be the explanation. Performance compares well with plan because it was a modest and feasible one, the first such plan in the history of Soviet agriculture.

Much less satisfactory is the livestock situation. Numbers are not rising; there are many complaints about shortage of fodder. True, Brezhnev was able to report a 35 percent increase in the use of grain for fodder since 1965, which has contributed to higher livestock productivity. However, hay supplies have gone up very little, and silage showed a marked decline, from 166.7 to 147.1 million tons, already by 1967.<sup>69</sup> The inadequacies of mechanization in the livestock sector have already been amply discussed, and so has the fact that the livestock sector is the least profitable of any activities undertaken by kolkhozes

69. *Pravda*, Nov. 26, 1969; *Nar. khoz.*, 1967, p. 451.

and sovkhozes. There is also supposed to have been an epidemic of swine fever, though animal diseases, like train crashes, are not reported in the Soviet press. When it is considered that meat prices have been kept at unchanged levels since 1962, despite a sharp increase in demand and the necessity of a budgetary subsidy which reached no less than 5.3 billion rubles in 1968,<sup>70</sup> then it should occasion no surprise to learn that there are long queues for meat, and also that free-market prices often rise to double the official price. Only political fears can explain the refusal of the government to raise the retail price of meat. The 1966–70 production plan for livestock was in fact so modest that its overfulfillment was, so to speak, planned.

Difficulties in food supplies are often due to causes outside agriculture: innumerable sources speak of lack of roads, specialized transport and storage space, insufficiency of packaging materials, shortage of refrigeration, and also lack of interest on the part of the distributive trades in handling perishables such as green vegetables and fruit, so that farms complain about being unable to dispose of their produce.

Have the achievements involved a disproportionate cost? It may well be so. Over the years 1960–68 total agricultural investments doubled, and mineral fertilizer deliveries more than trebled. Meanwhile labor inputs have fallen only slowly. In kolkhozes and sovkhozes the numbers engaged in collective and state agriculture (on an annual basis) were 27.9 million in 1950, 26.1 million in 1960, and 24.7 million in 1967.<sup>71</sup> The net effect has been a rise in gross agricultural output by 28 percent between 1960 and 1968, or 24 percent between 1960 and the less favorable 1969. The high prices of state procurements of meat still leave livestock farming relatively unprofitable because of the high labor cost involved. The prices paid for grain, especially for over-quota deliveries and in the higher-cost areas, are substantially above world-price levels at any reasonable exchange rate. No wonder the party leadership is anxious not only to increase production but to reduce costs substantially. Statistics do show a decline in labor inputs per unit of product, but this has been partly or wholly offset by the rise in pay in kolkhozes and sovkhozes. Statistical compendia are likely to quote figures of costs which assume unchanged incomes of peasants, but one source at least has computed kolkhoz costs using actual pay. The results show increases, from 1964 to 1968, ranging from 3 percent for grain and 6 percent for milk to 32 percent for potatoes and 53 percent for sunflower seeds; eggs and pork show reduced costs. On the average, according to the author, costs in 1958 were 11 percent higher than in 1964.<sup>72</sup>

70. *Finansy SSSR*, 1969, no. 3, pp. 17–18.

71. *Nar. khoz.*, 1967, p. 491. It seems certain that on the average each devoted more hours to collective agriculture in 1967 than in 1960.

72. V. Khlebnikov, "Sebestoimost' produktsii i rentabel'nost' proizvodstva," *Ekonomika sel'skogo khoziaistva*, 1969, no. 3, pp. 3–4.

The size of the farms may be a source of diseconomies. Suslov wrote: "Whereas in a small unit the whole process could be observed by all the kolkhozniks . . . , in a big kolkhoz containing dozens of villages and several thousand hectares of land the sense of seeing the results of one's labor disappeared. The peasant can see what is happening in his own brigade, but the rest is unknown to him. But since his pay is depersonalized, . . . being determined by the work of all peasants and brigades in the given kolkhoz, he begins to lose interest also in the results of the work in his own brigade."<sup>73</sup> Hence the case made out for smaller units of the *zveno* type.

Then the question arises: Has the exploitation of the peasantry ended? It is by no means easy to answer this question. Some Soviet writers can readily be quoted as saying that agricultural prices are still below their true "value," or that the net profits of kolkhozes ought to be higher than they in fact are. Thus it is argued that a margin over costs of 12–15 percent is essential to pay taxes, insurance, and interest on credits and social security, to which must be added depreciation and obsolescence, so that 15–20 percent is the minimum "profit" margin even if there is no net investment. This leads to the conclusion that, allowing for the necessary investments, the profit margin over costs should be 40–50 percent, and this under conditions in which kolkhoz peasants earn as much as sovkhos workers. Prices paid to sovkhos, when allowance is made for various budgetary grants, in fact exceed costs by this sum.<sup>74</sup>

When the problem is viewed in this way, the 1965 price increases are still insufficient. In 1963, according to Suslov, the profit rate averaged only 8.3 percent for all kolkhozes, and this figure is confirmed by another source too; but table 19 shows a sharp rise since then. All such calculations depend on the

Table 19. *Kolkhoz Profit Rate* (percentage of cost)

	1962	1963	1964	1965	1966	1967
Crops	63	59	69	65	70	74
Livestock	-20	-21	-17	2	8	8
Total	10	8	20	27	35	35

Source: *Finansy SSSR*, 1968, no. 12, p. 37. (It is not clear how the labor of kolkhozniks is valued.)

level of pay of kolkhozniks, real or assumed. So another way of looking at the problem is to see whether their pay has reached reasonable levels. In doing so one must bear in mind that rural incomes tend generally to be below urban ones in most countries, and also that part of peasant family incomes comes from private plots plus casual labor outside agriculture.

The average pay per day of kolkhozniks in 1964 was 74 percent of

73. Suslov, *Ekonomicheskie problemy*, p. 103 (this is not M. Suslov the ideologist!).

74. *Ibid.*, pp. 151–53. An amount equal to 45–50 percent over costs is advocated by Emelianov in "Reforma i razvitie," p. 48.

sovkhoz pay, with wide regional variations (for instance, 101 percent in Central Asia, 49 percent in the Volga-Viatka region). The source considers sovkhoz rates to be adequate approximations to the full "necessary reward" of kolkhoz labor.<sup>75</sup> By 1969 kolkhoz pay must have averaged 90 percent of sovkhoz pay (of course earnings per *year* are much less, as are social benefits, but kolkhoz peasants devote more of their time to the private plot). The very large regional variations are much criticized by many Soviet analysts.

Still another way of looking at the question is by comparing farm selling prices with what Zaslavskaja called "net retail prices" (i.e., net of handling and transport costs). Average prices paid to kolkhozes were only 62 percent of net retail prices in 1964<sup>76</sup> and on the same basis must by now be around 70 to 75 percent, but the computation can only be indirect, for lack of published data, and it would all look quite different if comparison were made with free-market prices. Of course, kolkhozes can reasonably be expected to contribute a share to the state budget, and there is no very clear criterion of what the "proper" share should be. In another computation the same author calculated that in 1962–63 a full-time kolkhoz laborer contributed 674 rubles to the state budget on the average in a year, while a sovkhoz laborer only provided 120 rubles.<sup>77</sup> The figures today would be a good deal lower.

It seems reasonable to conclude that the scale of "exploitation" is not now significant, and that it is best measured by the extent (if any) to which rural labor is underpaid in relation to an incalculable free-labor-market rate, and perhaps also by the undersupply of goods and amenities in rural areas.

To obtain historical perspective, another dimension should be added. In the thirties the kolkhozes delivered grain to the government at nominal prices and sold industrial crops at better prices. The bulk of foodstuffs other than grain was produced by peasants and sold in the free market. Therefore the compulsory delivery quota was in a sense a tax in kind, and its relationship to costs did not matter (costs were not even computed); no one expected peasants to live on their collective pay. Collective work was a kind of *barshchina*; most peasants lived on their private produce. The situation gradually changed, so that now a much higher proportion of peasant time is devoted to, and peasant income derived from, collective work. State procurements are the main source of marketed produce in nearly all categories. So prices, costs, and incentives in the collective and state sectors matter a great deal and are more directly relevant to the issue of "peasant exploitation" than they ever were in the thirties.

75. Zaslavskaja, *Ekvivalentnost' obmena*, p. 31.

76. *Ibid.*, p. 19.

77. T. I. Zaslavskaja, *Raspredelenie po trudu v kolkhozakh* (Moscow, 1966), p. 48. The "contribution" was by underpayment, and also via high profits of state enterprises using agricultural produce or supplying goods to farms.

### Conclusion

We have seen that the Soviet government is prepared to pay a very high price in terms of material and financial resources to improve and increase agricultural production, even though in almost every year the actual investments made were less than had been planned. There has been a marked improvement in crop production, and a spectacular increase in deliveries of mineral fertilizer. Peasant incomes for collective work have risen to a level that amounts to a genuine wage, instead of the derisory sums of the not-so-distant past. But lack of labor-saving equipment, excessive size of farms, irrational incentives, and loss of skilled and young labor have adversely affected efficiency and productivity, so that costs have been high. "With 5 percent of their total labor force the Americans produce more than we can with 30 percent of ours," said a Soviet university teacher at a lecture I attended. So, apart from shortages due to wrong prices or bad distribution, it remains true that Soviet agriculture is, compared to the West, the least efficient sector of the economy. The production gains of recent years have been achieved at high cost.

The future? The leadership well knows that massive investments will be necessary in farm equipment, roads, trucks, electric power, amenities, irrigation, drainage, and the distribution trades. Plans do provide for this, but progress will be necessarily slow and expensive. One wonders what could be achieved by harnessing peasant initiative, through the *zveno* and similar small joint enterprises (one critic has proposed giving the autonomous *zveno* the time-honored designation of *artel*). More autonomy in farm management, and a less irrational price system, would also cost little. However, in its present mood the leadership seems unwilling to launch major experiments. It knows that higher yields—"intensification"—are indispensable. The system is not necessarily inconsistent with increased efficiency. Estonia has done well in recent years, and great gains would follow if Estonian standards could be achieved in the northern and western areas of European Russia. We must expect that present policies will continue, and therefore that higher inputs of capital and of fertilizer will provide a continued gradual improvement in food supplies. Meanwhile, there could well be outbursts of impatience among the citizens. Fifty-three years after the revolution, they can be forgiven for expecting the shops to have meat, vegetables, and flour available on demand. This is certainly not the case today, even in Moscow, and the situation in provincial towns may be a good deal worse.