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Agriculture and Five Years of Perestroika

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## Agriculture and Five Years of Perestroika

Agriculture's persistent problems continue to impede economic reform in the USSR, and undermine public confidence in perestroika's potential. Empty shelves in state food stores and rising prices elsewhere disproportionately influence public assessment of the economic reform. Residents in one fifth of 445 cities sampled in 1989 reported coupon rationing for meat, and rationing of sugar was universal.<sup>1</sup> The volume of food imports rose in 1989, domestic production also increased, but a major deterioration in distribution kept the amount of food marketed unchanged from 1988. Sharply higher world food prices increased the cost of imports, and diverted funds away from technological modernization in agriculture and industry. Agriculture retains 20% of the total labor force and absorbs 17% of total investment, yet this commitment of resources has failed to meet rising demand for food and fiber. The chronic financial crisis drains funds from the state budget and the banking system, and is a conduit through which excess money supply passes into circulation.

Despite agriculture's centrality to the reform process, efforts to implement reform in the sector began late. Not until late 1987 was Gorbachev's initial ineffective agricultural policy put to serious scrutiny and found wanting. Deteriorating agricultural finances at the farm level and in the state budget triggered a reassessment of agricultural policy throughout 1988.

The reassessment culminated in an effort, launched by endorsement of contract leasing at the March (1989) Plenum, radically to change land tenure and contractual relations of traditional collectivized agriculture. The leasing program was rapidly followed by more radical tenure arrangements, including the individual proprietorship (sanctioned in the draft land law in December, 1989), and private ownership of agricultural land (under consideration in early 1990 for inclusion in a revised land law).

Tenure issues occupied most of the attention of the reformers in 1989. The changes are very important, but without reform of pricing, marketing, and input supply, new tenurial arrangements function poorly. Few producers have taken advantage of the new opportunities, and tenure change alone will not be a source of the much needed agricultural supply response. The emphasis on increasingly radical tenure reform does not address the needs of the better state and collective farms for more rational prices, input supply, open marketing channels, and consumption goods for the countryside. The short term supply response will have to come from these farms, but their potential for improvement is still untapped as unreformed prices and input rationing favor marginal farms. Moreover, radical tenure reforms profoundly threaten the assets of state and collective farms. The reform's failure so far to benefit the better state and collective farms appears to be pushing them closer to conservative defenders of a status quo who offer only a dismal continuation of policies that have hobbled the farms in the past.

Many people perceive the food situation to be worsening, rather than improving. Food problems are real, not figments of consumers'

imaginations. Yet the heightened sense of crisis cannot be attributed to supply problems alone. Production of most products increased moderately in the latter half of the 1980's. Production of grain, meat, and milk rose substantially, although not enough to meet production and consumption targets. The food economy's vulnerability to macroeconomic imbalance and a deteriorating transportation system brought the worsened shortages. Excess money supply shows up immediately in food markets, particularly in larger cities where people travel in search of consumer goods. Nationalist tensions, strikes, work slowdowns, and localized fuel shortages disrupted transport and worsened distribution of domestic and imported food.

Inflationary shortages and transportation bottlenecks this year added to the chronic problems of Soviet agriculture; rising costs of production, waste and loss at all stages, financial stress, and disequilibrium in consumer markets. The Soviet Union enters the 1990s with an agricultural economy lacking the positive impact of sectoral reform, and additionally burdened by macroeconomic mismanagement and deteriorating transport.

#### Supply: Production, International Trade and Domestic Distribution

Grain production in the last half of the 1980s increased 15% over the average for the first half. Production of sugar beets and vegetable oil also increased, as shown in Table 1. Meat production rose 19% over the period, and increases for milk and eggs were also sizeable.

Table 1 shows declines in production of potatoes and fruits, and stagnant levels for cotton and vegetables. The disastrous effect of the temperance campaign on grape vineyards can be seen in the 20% decline in average production between the two periods. Since grapes are perennial,

the decline continued between 1988 and 1989 even though the campaign slackened.

Production problems contribute to shortages of fruits, potatoes, and vegetables, but in aggregate the production figures do not confirm the rising sense of crisis. Distribution, on the other hand, changed dramatically over the past year. Transport bottlenecks and nationalist tensions disrupted internal trade, but the call for regional self-sufficiency issued last spring probably had a greater impact. At the March Plenum and afterward Gorbachev exhorted local party leaders to rely less on feed delivered from the all-union fund, and to do more to meet their own needs for food and feed from local sources: "As I already said, a dramatic increase in the role and responsibility of regions, districts, provinces, and republics in solving problems of food supply is an integral part of our agricultural policy . Here we must, and I repeat, decisively overcome dependency [on supplies from the center]".<sup>2</sup>

Encouragement of self-sufficiency was intended to spur local production, but instead farm managers and local officials dramatically reduced deliveries to the all-union fund, leaving state orders unfilled to secure their own feed supply. The liquidation of the national level super-ministry Gosagroprom (March, 1989), and devolution of powers to the republics may also have encouraged regional self-sufficiency at the expense of the all-union fund. Fifty nine million tons of grain were delivered in fulfillment of state orders, instead of the 86 million expected.

Grain procurements at that level adjusted ten percent for dockage and waste just cover the 53 million tons needed for food and industrial

purposes. In 1990 the feed dispensed by the central government thus will not exceed the level of imports, although much of the imported food grain will substitute for feed quality procurements. All the remaining grain appears to be under control of the republic level authorities or the farms, themselves. Vladilen Nikitin, Chairman of the State Commission for Food and Procurement, reported at the February (1990) Plenum on the shortage of grain in the all-union fund:

The fact is that we were simply unable to procure as much grain as was called for in the plan confirmed by the Supreme Soviet. There wasn't that much grain. And we were unable to buy abroad the additional five million tons needed to maintain our commitments to the republics.

Today the situation is simply that there is no grain. I am forced, in order to proceed correctly, to reduce delivery quotas of meat from this grain. The grain is not there because we do not have the means.<sup>3</sup>

When he made the statement, the country had harvested a good grain crop in 1989, imported one million more tons in 1989 than 1988, and 1990's imports were clogging the harbors for want of transport to the interior. State procurements of grain fell one third short of plan in 1989, but farms that either kept their own grain or sold it to a buyer other than the state did not necessarily make poor use of it. Nikitin may have spoken in order to dramatize the need for more hard currency for agricultural imports; the agricultural trade in the U.S. was concerned in mid February, 1990, when Soviet buyers did not make payments for grain on time.

The demise of the all-union fund as a source of feed is problematical only because wholesale trade is not yet developed to take its place. With large quantities of grain at the disposition of republic level authorities or farm chairmen, genuine wholesale trade at negotiated prices could take a quantum leap in 1990. Managers of livestock operations dependent on feed



from the all-union fund are already complaining loudly about the cutback in their deliveries of feed. Their complaints may be taken as evidence of a shortage in supply, when in fact they signal instead a change in marketing regimes.

Deliveries of meat and milk to the all-union fund fell short of expectations in 1989, although by a lesser margin than did grain. Nikitin's reduction in delivery quotas for 1990 may make little difference, since producers appear on their own volition to be delivering less. Meat producing regions are reluctant to offer animal products to the central government under current pricing policies. In the past the republic budget paid the subsidy on meat delivered to the all-union fund and then was reimbursed by transfers from the national budget. Negotiations on republic level economic autonomy in the Baltic republics, and perhaps in others as well, cast doubt on that reimbursement as a continued budget item. Without reimbursement, the producing regions recover only one half to one-third of the cost of delivering meat to the all-union fund. The emphasis on regional self-sufficiency, universal excess demand for animal products, plus the greater likelihood that exporters would lose money on products delivered to the all-union fund may explain the shortfall in deliveries. It was 5% in 1989, but could be greater in 1990 if feed shortages persist and price policy is not changed.

Food imports remained high throughout the last half of the 1980s, as shown in Table 2. Grain imports neared record highs in 1985, fell in the following year, and fluctuated above and below 35 million tons for the last three years. Imports of meat, vegetables, fruit, and sugar remained at stable relatively high levels. Imports of oilseeds and meal spiked in

1986 and 1987 with the decision to try soy as a protein supplement again.

Analysts of Soviet grain trade have tried for years to establish a predictive link between grain imports and domestic production, herd size, hard currency earnings, and other factors linked either empirically or by common sense to purchases of grain abroad. The simple link between imports and procurements reported by Christian Foster and Ed Cook tells an interesting story.<sup>4</sup> Regression analysis indicates that when procurements during a calendar year (including both winter and spring grain harvests) deviate from the prior year's level, imports during the July to June trade year roughly compensate for the difference.

This linkage is no more helpful as a predictive formula than were past estimates, since the future is unlikely to be an extrapolation of processes driving trade in the 1970s and 1980s. It is useful, however, because it highlights the role of imports as compensation for shortfalls in domestic marketing activity, rather than production. The state imports grain in order to supply users and processors more closely linked to foreign suppliers (through Exportkhleb) than to domestic producers. The situation is particularly stark this year, when, with a relatively abundant crop, the state has failed to move it into the all-union fund for redistribution.

Cheap grain in the mid 1980s and subsidized imports after 1985 reduced the costs of postponing marketing reforms, but the cheap grain is now gone. World wheat stocks are about 20% of annual world use. The stocks to use ratio has not been this low since the global shortages of 1973-4, and the drought continues in much of the American midwest. Grain prices have turned sharply higher, as shown in Table 3. The per unit subsidy on

EEP wheat has dropped from about \$40/ton in May of 1986 to \$20 in March of 1989, and since then to \$10. The purchase of some Soviet domestic grain for hard currency (at approximately half the world price for commercially traded unsubsidized wheat) had very little effect on domestic procurements; purchases for hard currency constituted less than 1% of domestic procurements of high quality wheat.

#### Consumption and the Demand Side

Per capita average consumption of major food items (except fruits and vegetables) is reported to have increased in the last half of the 1980s, and so did consumer dissatisfaction. These apparently paradoxical developments demonstrate again that the food problem cannot be solved solely on the supply side.

Average consumption of major items is shown in Table 4. The national averages conceal wide regional variations in diet, due to differences in demography, income levels, and access to rationed commodities. For example, meat consumption in the Baltic republics is about 80 kilograms per capita, and in Uzbekistan only 29.<sup>5</sup> Uzbek per capita consumption of a number of products has declined since 1985, and meat consumption does not differ much from levels in China.

Even in areas relatively well supplied with food, excess demand grew in the last half of the 1980s. In 1989 money incomes rose by 12.8 percent over 1988. Production of meat and milk, for which income elasticities are still high, increased 1 percent in the same period. More people came to Moscow, Leningrad, and major cities in the Baltic republics in search of consumer electronics, housewares, and clothing, and their arrival added to disequilibrium in food markets there. In some areas purchase of non-food

items is restricted to local residents identified by passport. To the extent that this rationing is effective, it shifts demand to food markets.

The excess demand is evident in prices on collective farm markets that exceed official state prices by a widening margin, as shown in Table 5. Consumers' increased reliance on collective farm markets (with rising prices) and consumer cooperatives (with prices higher than official state levels) has accustomed many to movements in food prices that should ease the psychological adjustment to eventual price reform. The impact of reform on family budgets will be less, as well, since many families are already paying prices much higher than official state prices.

Conditions in food markets make official targets for consumption norms shown in Table 4 irrelevant. People in the Baltic republics have already reached the consumption norm and those in poorer parts of the country are far from it, yet neither group is satisfied. This year's consumption targets will not be met; their use as an evaluative standard for performance of the agricultural economy is symptomatic of the single-minded focus on supply that has thwarted effective policy reform to date.

The consumption data relate only to quantities. Consumers' regularly complain about quality, and random checks conducted by the state's trading inspectors show a remarkable doubling and sometimes tripling since 1985 of food products found to be substandard and either marked down or removed from trade.<sup>6</sup> The deterioration in 1989 is substantial, and may be linked with the general decline in distribution and marketing.

#### The Financial Crisis

In December, 1989, Finance Minister V. S. Pavlov announced that 73.5 billion rubles (approximately half of outstanding farm debt) would be

written off (Sovetskaia Rossia, December 7, 1989). The growth of farm debt in the 1980s as a proportion of total bank indebtedness is shown in Table 6.

The write-off is in some respects of little consequence, since the inflationary impact of bad agricultural lending has already been absorbed, and there was little likelihood that these debts would be recovered. The write-off could have a major impact on future inflation, however. In past write-offs, such as the smaller one that accompanied the passage of the Food Program in 1982 (9.7 billion rubles), the lending capacity of the banking system was augmented by the amount of the write-off, since funds frozen in bad debts were released. The current write-off will trigger a new round of inflationary lending unless both borrowers and lenders are subject to greater controls than they have been in the past.

Conditions attached to the debt relief do not appear to require genuine financial restructuring at the farm level. Farms that received fallout from Chernobyl and those recently converted to agricultural subsidiaries of industrial enterprises will have all debt unconditionally forgiven. Others can write off debt in the same proportion as they lease out their assets under lease contracts. The measure is intended both to encourage and pressure recalcitrant managers to offer land, equipment, and animals to potential leaseholders.

The conditionality raises two interesting questions. How will genuine leaseholds be distinguished from pro forma reorganizations? Applications for debt write-off will be reviewed administratively at the raion (district) level in an effort to weed out the bogus ones, but it is difficult to distinguish new forms of contractual relations from old even

under a review process with the highest degree of objectivity and integrity. The objective of the leasing program is to give the leaseholder decision-making autonomy and financial responsibility. The most common form of leasing encouraged to date is the targeted intra-farm leasehold (Brooks, 1990). This binds the lessee closely to the parent farm, and the degree of the leaseholder's autonomy can be seen only as the manager's behavior is revealed in implementation of the contract.

If the debt write-off releases more funds for agricultural lending, who will get the loans? In the past collective and state farm managers have been effective lobbyists for loans. Will they continue to receive liberal credit, and allow it to trickle down to leaseholders at their discretion? Or will direct credit lines allow leaseholders a modicum of independence? In recent months banks have had an increasing number of applications for loans from small leaseholders and proprietors. Bank administrators complain that their payoff from these small loans at low interest rates does not justify the time required to process them. Reform of agricultural financial institutions and lending practices to prevent an inflationary new round of lending and serve a new clientele of small holders has not yet been initiated.

According to the latest published timetable, "toward the end of 1991 bankrupt collective and state farms will be reorganized as individual farms, cooperatives, etc."<sup>7</sup> The debt write-off intended to spur tenurial reforms may in fact retard more radical reorganizations. It will be difficult to recognize bankrupt farms relieved of their debt, and most will carry on with pro forma leases and renewed credit.

The agricultural financial crisis at the macroeconomic level remains

serious. The direct subsidy to pay the difference between costs to procure, process, and transport food and low retail prices in 1989 was 87.8 billion rubles, and is budgeted to grow in 1990 to 95.7 billion.<sup>8</sup> This is approximately 11% of GNP. Three quarters of the agricultural subsidy pays for meat and milk, as shown in Table 7.

The subsidy is remarkable not only for its size, but for its growth in the 1980s. Since 1985 the subsidy bill has increased 70% (without adjustment for inflation). Procurement price increases and special bonuses introduced in 1983 brought a large increase, and the subsidy rose thereafter as more farms qualified for the bonuses for financially weak farms. Higher levels of production and imports push the subsidy up, since it is paid on a larger volume. In addition to the price subsidy, there are smaller budgetary expenditures for agricultural investment and operating expenses.

The agricultural price subsidy is a contributor to macroeconomic imbalance. In the last two years agriculture has been both perpetrator and victim of inflationary pressure. Producer prices have moved up; increased production alone cannot explain the increase in the subsidy. The bonus system channels the increase to marginal producers who show the smallest supply response. Prices and earnings for lower cost producers have increased more moderately, and have not kept pace either with the rise in the general price level or movements in world prices.

The food price subsidy has encroached on important social welfare programs.<sup>9</sup> Budgetary expenditures for health and education in 1987 were 48% higher than during 1976-80; the food subsidy was 170% higher, as shown in Table 8. The safety net of social welfare programs needed for a more

mobile labor force, including unemployment insurance for the transitionally unemployed and welfare for the marginally employable will be difficult to finance unless the pressure of agriculture on the state budget is relieved.

#### The Reform: Pre and Post March 1989

The March Plenum in 1989 was a turning point in the agricultural reform. At the time many observers inside and the USSR and abroad were disappointed that the price reform was postponed, and that few concrete measures emerged from the plenum. The endorsement of leasing, however, initiated a sequence of tenurial reforms leading to a greater degree of independence for small holders. The tenurial reforms are proving difficult to implement without changes in pricing, marketing, and financial institutions. The tenure reforms themselves have not generated a supply response, but they are highlighting the impediments embodied in current pricing, marketing, and financing arrangements, and may be a catalyst for deeper reform.

It is unfortunate that the agricultural reform is so late in starting, because the costs of adjustment are greater now than they would have been in 1985. Consumer markets are farther out of equilibrium, the ruble overhang is larger, and world prices are higher. In 1983 Soviet producers receiving 100 rubles per ton did not seem particularly disadvantaged compared to American producers receiving \$116 in 1985 and \$86 in 1986. Now, with the ruble overhang yielding an exchange rate of 11 rubles to the dollar on the legal, albeit thin, foreign exchange auction market in January, 1990, and world wheat prices ranging from \$150 to \$200 per ton, 100 rubles per ton is a very low price. It is now more difficult to align



Soviet producer prices with world prices than it would have been when world prices were lower in the mid 1980s. A radical price reform and opening of the agricultural economy to world markets in 1985, instead of Gosagroprom and the fictive collective contract, might have allowed the Soviet economy to benefit instead of suffer from the strong grain prices of the late 1980s and early 1990s.

Why was agriculture neglected? Abel Aganbegyan was asked a similar question in 1987: Why not take agriculture first, instead of starting with a very difficult and ambitious industrial reform? Aganbegyan responded, "We did start first with agriculture by establishing Gosagroprom and encouraging introduction of the collective contract."<sup>10</sup> Gosagroprom, the collective contract, "intensive technology" in grain production (encouragement of proper agronomic practices and application of more purchased inputs) and minor changes in marketing procedures in 1986 constituted the agrarian program of the first four years of perestroika. Output increased under this program, as evident in Table 1, but less than needed to meet the ambitious targets for production and consumption. Costs of production also increased, as shown in the rapidly rising subsidy burden and escalating farm debt (Tables 6 and 7).

The centerpiece of the early Gorbachev agricultural program was the collective contract. Collective contracts began to appear in significant numbers in the early 1980s, and the campaign was increasingly associated with Gorbachev personally after 1983.<sup>11</sup> Under the collective contract, a group of workers negotiated with the farm management to perform a set of tasks in exchange for a specified payment. The group monitored the performance of its members and divided earnings accordingly.

The contracts included elaborate restatements of labor norms and bonus payments for specific tasks. Brigades were encouraged to implement monitoring and accounting schemes using the "coefficient of labor participation [KTU]" to apportion the new bonus among themselves. This was essentially the work point system of the pre-Brezhnev era, and workers who violated discipline could be docked points in the final division of earnings. The collective contract as originally conceived was consistent with Andropov's effort to instill tighter labor discipline. Since the pay of each brigade member depended at least in part on the performance of the team, tolerance for widespread shirking and lax discipline was expected to diminish.

The collective contract system shifted the job of monitoring labor performance from the farm manager to brigade members, and made them residual claimants of income. It also imposed upon them a form of organization that had high costs of monitoring and accounting. Use of the new work point system was cumbersome and tied brigade members to the old norms for job performance. Many of the original brigades were large; the average in reported data is 25, but many were larger still. Membership was diverse and not self-selected. The work point system with a heterogeneous work force was cumbersome and costly to administer. Few brigades bothered to use the work point system, and distributed bonuses in proportion to base pay, as they had under the old system.

The collective contract brought higher, not lower costs of production: "Contract collectives tried to increase output at any price, and did not take costs into account."<sup>12</sup> Workers negotiated wage increases as a price for monitoring themselves. The base tariff wage became the advance

payment, and payment according to output functioned much as the bonus under the old system. Higher wages coupled with poor control over purchased inputs pushed costs of production up.

The collective contract brigade was an unstable organization. Between 1985 and 1987 many brigades dissolved and reconstitute themselves in a search for lower monitoring costs. Brigades reported as successful in the press were increasingly small, although the official aggregate data do not show much diminution. The aggregate data include the wholesale rechristening of large traditional brigades as collective contract brigades, and the simultaneous breakup of older collective contract brigades into smaller self-selected and family units.

Deteriorating finances at the farm and macro level in late 1987 forced a reevaluation of agricultural policy.<sup>13</sup> Profiles of successful leaseholders (arendatory) replaced those of the collective contract brigades in the agricultural press, and many brigades reconstituted themselves under new lease contracts. At the March Plenum (1989), Gorbachev reaffirmed his commitment to the collective contract, but observed, "Experience has shown that there are more radical forms of management now based on long term leasing of land and other means of production with full financial independence."<sup>14</sup> He went on to advocate lease contracts of 25 or even 50 year duration.

That the collective contract would not work could have been seen at the micro level even before it was promoted at the national level in 1985. Rigorous empirical analysis of the experience of farms that adopted the collective contract would have shown that costs per unit increased, indicating that it was not an appropriate policy for augmenting

efficiency. In a failure both of glasnost' and of the agricultural economics profession, the evidence was neither carefully analyzed nor presented. The agricultural economics profession appears even now to contribute little sound empirical analysis of the effects of policies adopted, or quantitative estimates of response to alternative policies proposed. An empirical foundation for public discourse about the agricultural reform is notably lacking.

The episode with the collective contract occurred when the press was already very open about the ills of the Brezhnev era, but the collective contract was not Brezhnev's program. It was the policy most intimately linked with Gorbachev personally until the political and economic programs of later perestroika strengthened his identification with a more diversified program. By 1989 Gorbachev could admit that the collective contract had failed. In 1985 he apparently needed to believe and to convince others that it would work, and the traditional campaign mechanisms: simulated grass-roots enthusiasm, compliant researchers, and a self-censored press accommodated him. It is paradoxical that Gorbachev began his remarkable and salutary course toward pragmatism and democracy by overseeing what one hopes was the last of the great old-fashioned campaigns.

The lease contract was the initial successor to the collective contract. An individual or small group agrees to lease assets belonging to a state or collective farm or individual proprietor in exchange for a rental payment. Lease contract groups are small, self-selected, and members are often related. The lessees do not receive a guaranteed wage, and instead earn residual profits according to the stipulations of the

contract. In the past state or collective farms have been the lessors, but if the draft land law is passed, an individual proprietor will also be able to lease out land.

There are two main forms of the lease contract as it is now being promoted. The first is called the targeted form. It is the more common and it binds producers quite closely to the parent farm. Targeted leases can be simply repackaged traditional labor contracts or genuinely new contractual relations, depending on the terms. A family, individual, or small group contracts to manage a portion of the farm's assets, including land, machinery, animals, and structures. All inputs and output are marketed through the parent farm. The contract specifies quantities of inputs that will be available and their prices, and sets a target quantity of output that should be delivered to the farm in fulfillment of the contract. The mechanism for collecting the rent is a difference between the price the lessee receives for output and the price at which the farm resells output to the state procurement organizations.

If the contracted minimal sale is enforced, this becomes a combination of fixed rent and share contract. The fixed rent is the difference between the contractual price and procurement price times the specified minimal delivery. Earnings on deliveries above the contracted minimum are shared, with the share determined by the ratio between the contractual and procurement prices. It is not likely that minimal deliveries can be enforced, and the targeted lease contract is best considered a share contract with threat of revocation in the following period if deliveries fall below the minimum. Another form of share contract is based on share of profit, not share of crop.

Targeted leases are intended now to be the main form of leasing. As long as farm managers are themselves still subject to state orders and sales quotas, they prefer targeted leases that allow them to retain control over the product mix and input distribution.

The second form of lease is the free or fixed rent contract. This is considered suitable for land and assets for which the manager of the parent farm has little alternative use. Small livestock operations in the nonblack soil zone far from the central farm, or orchard, vegetable, and flower operations that are too labor intensive for the parent farm to manage effectively are offered on fixed rent leases. Lessees under free leases market their own output, although they may market through the parent farm if both sides agree. They also can have their own accounts in the bank.

Data on adoption of lease contracting are scarce and unreliable. There appears to be no mechanism in place to monitor implementation or distinguish new contractual forms from old. Fragmentary data corroborate the anecdotal evidence that few people are signing leases. As of mid 1989 in the Russian republic, 43% of collective and state farms reported that they had signed at least one contract, and only 9% of agricultural workers were working under leases, some of which were undoubtedly not true leaseholds.<sup>15</sup> At the end of 1989, 4,911 or 9% of state and collective farms reported leasing activities, but it is unclear whether all or part of their assets were leased.<sup>16</sup> The offer of debt relief for farms that lease assets made in December 1989 will increase adoption and complicate the distinction between genuine leaseholds and older forms of labor organization.

Several reasons are cited for slow adoption of leasing in 1989:

1) Farm managers do not want to give up control over their assets; 2) potential lessees do not like to be completely dependent on the farm manager for supply of inputs and marketing of output; 3) Potential lessees take on greater risk in exchange for expected returns that may not exceed the guaranteed wage; 4) Even if they earn more the increasing disequilibrium on consumer markets limits the value of their earnings; 5) The current pricing and marketing system discriminates against quasi-independent operators; and 6) Leases do not provide security of tenure even if they are written for as long as 50 years.

Three important pieces of legislation were passed or proposed in late 1989 to bolster the legal status of independent agricultural producers. The laws improve the security of new forms of tenure, but do little to improve their economic viability.

The Basic Law of The USSR and Union Republics on Leasing was issued in draft form in September, formally passed on November 23, 1989, and took effect January 1, 1990.<sup>17</sup> The draft version of the law on ownership was issued November 14, 1989.<sup>18</sup> The draft version of the new land law was published on December 6.<sup>19</sup>

These pieces of legislation strengthen the legal foundation for property relations that deviate from those of traditional collectivized agriculture, but they contain ambiguities and contradictions, many of which relate to land ownership. Each distinguishes between proprietorship of land (vladenie) and ownership (sobstvennost'). A proprietor cannot buy, sell, or mortgage the asset, while an owner has full rights of disposition, including sale and mortgage. The leasing law and drafts on

land and ownership all sanction individual proprietorship of agricultural land, but prohibit full private ownership. The prohibition on ownership proved among the most contested provisions of the draft law. In late January, 1990, the commission of the Supreme Soviet charged with drawing up a final form of the land law for presentation to the parliament was reported to be leaning toward substituting ownership (sobstvennost') for proprietorship (vladenie), but specifying restrictions on purchases and sales of agricultural land.<sup>20</sup>

Conditions restricting purchase and sale will be costly if retained in the long run, but may be useful now. The ruble overhang, paucity of investment assets, and fears of inflation and monetary reform would rapidly drive land prices up if land could be freely bought and sold now. This would defeat the effort to encourage emergence of a group of independent owner or proprietor operators.

The three pieces of legislation have conflicting language on who will distribute the land, and say little about how it will be done, other than to note that laws at the level of the republic and autonomous region will govern procedures for confiscation of state and collective farm land for reassignment to individual proprietors and leaseholders. Despite their ambiguity, the laws alter the purely voluntaristic nature of leasing and proprietorship. Farm managers will no longer be able unilaterally to thwart the desire of workers to have access to land under new contractual relations.

People seeking leaseholds in the past expressed resentment over the monopoly power of farm managers both to set terms and interfere in managerial decisions during the duration of the contract. There are no



systematic reported data yet on terms of leases, but reports from the agricultural press suggest that farms are exacting high rental fees from leaseholders. In an example reported from Tselinograd oblast', a leaseholding brigade sold wheat to the parent farm for 7 rubles per centner, and the farm resold it to the procurement agency for 13.<sup>21</sup> It is unclear from the account who paid for seed, fuel, fertilizer, and other purchased inputs, but these are usually paid in full by the lessee. The leaseholder's share (54%) in this case seems quite low if there is no cost sharing. Another set of contractual prices reported from Orlovskaiia oblast' is also quite low:

Contract Prices and State Procurement Prices  
(Vyshne-Ol'shanskii State Farm, Orlov Oblast', 1988)

	Contract Price	Procurement Price
grain	5.89 rub/cent	10.50 (wheat) <sup>1</sup>
sugar beets	2.75 rub/cent	5.40 <sup>2</sup>
potatoes	8.28 rub/cent	10 - 16 <sup>3</sup>
milk in winter	28.00 rub/cent	36.20 <sup>4</sup>
milk in summer	18.00 rub/cent	

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1. This is the average price for the RSFSR. The zonal price for Orlovskaiia oblast' may be lower, but not less than 9 rubles 70 kopecks. The price for this individual farm may differ from the zonal price. Rye is also grown in Orlov province. The state procurement price for rye on average in the RSFSR is 15 rubles per centner.

2. Average for the RSFSR

3. Depending on quality and time of delivery

4. Average, RSFSR, all seasons

Sources: Selskaia zhizn', August 2, 1988, and A. M. Chursin, Tseny i kachestvo sel'skokhoziaistvennoi produktsii (Moscow: Kolos, 1984).

These contract prices are very low, and suggest a share of at least 40% for the parent farm, although the full parameters of the contract are not reported. The share is probably even higher, since bonus payments raise farm prices above base procurement prices.

The question of whether share contracts are inherently inefficient and/or exploitive of tenants in market economies has generated a rich literature exploring the nature of contracts.<sup>22</sup> Throughout much of the developing world share rents are on the order of 50%, but these contracts are usually complex agreements including risk reduction and insurance, shared costs of purchased inputs, and provision of credit. Crop share rents are not uncommon in Minnesota now, and landlords' shares range from 1/3 on poorer land to 1/2 on better land.<sup>23</sup> These share contracts include very substantial sharing of costs. Soviet share contracts (targeted leases), according to fragmentary and anecdotal evidence available, appear to have high shares for the parent farm and little if any cost sharing. The rent collected as the difference between the leaseholder's sale price and the farm's procurement price pays for land use (and costs, if any, associated with marketing the final product). The leaseholder pays for purchased inputs either at the price the parent farm pays, or at an internal accounting price for inputs produced on the farm, such as feed or seed.

At 40% of output, rents exacted from leaseholders probably exceed land's contribution to output. In production functions measured from Lithuanian farm level data the contribution of land to variation in net output ranges from 5% to 15%.<sup>24</sup> Technology and factor proportions differ greatly throughout the Soviet agricultural sector, but shares of 40% for

land are probably excessive.

Concern about the level of rental payments has had two consequences. The leasing law and the draft law on land both assign the rural Council of People's Deputies the power to secure a land allotment (either leasehold or proprietorship) for any applicant qualified to work it. Workers dissatisfied with terms offered by their farm manager can apply to the Council of People's Deputies, but the extent to which the Council will be able to offset the manager's monopoly power has not yet been tested. There is a growing demand for standard procedures for valuing contracted assets, particularly land. The problem of valuing land when markets are absent is a difficult one, and no workable solution has yet been found.<sup>25</sup>

Support for new tenurial forms and property relations at the highest levels of government and the party is divided. Conservatives argue that state and collective farms still have high potential as productive units, and that small scale contracting should be purely voluntary, not implemented under pressure. As a purely voluntary program throughout 1989 leasing made little progress. Conservatives have the strength of inertia working for them; as long as reforms in pricing, marketing, financing, and input supply can be postponed they retain the advantage, since new tenurial forms function poorly in the old economic environment.

As the agrarian reform in 1989 became more identified with new forms of land tenure, such as lease contracting, proprietorship, and private ownership, representatives of state and collective farms appeared increasingly to identify with conservatives who cast themselves as defenders of the untapped potential of collectivized agriculture. Delegates to the most recent Congress of Kolkhozniki voted to oppose the

new land law legalizing individual proprietorships and granting village councils the authority to confiscate collective or state farm land for proprietors' allotments.

Collective and state farm managers in the past had a litany of complaints against the status quo, including precisely the problems with pricing, marketing, financing, and input supply that a reform should address. These complaints have not been harnessed to the cause of radical reform. Economically viable low cost producers, the best of the state and collective farms, have much to gain from a program that diverts resources to them and away from marginal producers, as would a market oriented reform. The most rapid supply response to reform is likely to come from measures such as price reform that benefit the best of the existing farms and simultaneously allow the emergence of a new sector of independent smallholders. The conservative defenders of the untapped potential of collective and state farms want to preserve marginal farms and upgrade the capital stock on all farms, rather than release the constraints on efficient resource use that have historically plagued collectivized agriculture.

Neither the radical nor the conservative program addresses the acute immediate needs of the better Soviet farms for more rational prices, timely delivery of high quality rationally priced purchased inputs and services, easy access to markets, and autonomy to do the job as they see fit. An economy composed of many independent efficient small holders is a laudable objective, but it will not bring a supply response this season or next, and it is not inconsistent with measures that would.

The emphasis on tenurial reform in 1989 appears to rest on the

assumption that new contractual relations will bring a supply response independent of reforms in pricing, marketing, finance, and input supply. Increased supply would, according to this view, ease shortages and make consumers more willing to accept price reform. Successful tenure reform is apparently considered a precursor to changes in the economic environment.

This strategy is flawed for several reasons. Without higher prices consumer markets are so out of equilibrium that even a substantial supply response simply will go unnoticed. Consumers do not know whether they ate 67 kilograms of meat last year or 70; they know only whether they can buy meat in the stores. If tenure reform does bring a supply response, it will be felt in the longer, not the short, run. Moreover, the Soviet experience with lease contracting in 1989 demonstrates how difficult it is to reform tenure relations without changing pricing and marketing.

The current distorted pricing system impedes reform of land tenure and marketing. Land has historically been offered to farms in the Soviet Union without charge. The state has collected implicit land rents through differentiated, farm specific output prices. Under reforms introduced in 1989, leaseholders pay the parent farms for land use, but the collective and state farms do not yet pay the state. If land is leased out by the farm that now commands its use, the farm manager, in negotiating the contract, will demand at minimum recovery of producer rents inherent in the price system. Those rents are substantial because differentiated output prices are a poor instrument for collecting rents.

The valuation of land through the bargaining process inherent in leasing without price reform is both highly idiosyncratic and distorted

relative to the post-reform price structure. In the absence of a land market, there are few reliable guides for valuing land. Yet the assignment or reassignment of property rights without valuation and transfers confers windfall gains to recipients. The multiplicity of prices complicates the contractual negotiations and leads to monetization of current distorted asset values.

Price reform, assignment of user fees for all categories of agricultural producers, not just independent operators, and changes in marketing of inputs and output will spur adoption of new tenurial forms. They will furthermore improve the economic environment for the better state and collective farms, and promote the much needed supply response.

### Conclusions

Five years of perestroika have not remedied chronic problems of Soviet agriculture. In 1989 difficulties of more recent origin; i.e., transport problems, growing excess demand, and a deteriorating distribution system worsened the performance of the agricultural economy and heightened public anxiety about food supply. Agricultural policies adopted in 1985 failed, and were replaced in 1989 by an effort to change fundamental tenurial and contractual relations of collectivized agriculture. These tenure reforms have become increasingly radical, and offer managers and workers who choose to remain with the better collective and state farms little reason to be enthusiastic about the cause of reform, and little opportunity to improve their farms' performance. These farms will have to be the source of the short run supply response that the economy so needs, but without reform of prices, marketing, credit, and input supply they will do little. Reforms in pricing, marketing, input supply, and credit are also necessary if the new tenurial forms are to be economically viable and attractive to agricultural workers. The problem of land valuation shows this clearly: leasing and private ownership or proprietorship require land valuation, but the current distorted price system yields nonsensical and irrational land values.

The tenure reforms of 1989 and 1990 are important but incomplete without corollary changes in the economic environment that will make them work, and improve the performance of the better state and collective farms. The agricultural reform has thus hardly begun, and it must move ahead quickly if this sector is to promote rather than hinder perestroika.

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Table 1: Soviet Agricultural Production

Commodity	Annual average				
	1981-85	1986-89	1987	1988	1989
	(million metric tons)				
Grain (uncleaned)	180.3	206.9	211.4	195.0	211.1
Grain (cleaned)	168.8	191.1		180.2	196.4
Sugarbeets	76.4	88.9	90.4	87.8	97.5
Sunflowerseed	5.0	6.1	6.1	6.2	7.0
Cotton (raw)	8.3	8.4	8.1	8.7	8.6
Potatoes	78.4	74.4	75.9	62.7	72.0
Vegetables and melons	33.3	33.9		34.5	33.5
Fruits and Berries	10.4	9.6	8.2	8.9	9.9
Grapes	7.1	5.7		5.6	4.9
Meat					
(slaughter weight)	16.2	18.8	18.9	19.7	20.0
Milk	94.6	104.1	103.8	106.8	108.1
Eggs (billions)	74.4	82.7	82.7	85.2	84.6
Wool (1,000 tons)	457	469	461	476	474

Source: "Sotsial'no-ekonomicheskoe razvitie SSSR v 1989 godu"  
Ekonomika i zhizn', No. 6, February, 1990.

Table 2  
Principal Agricultural Imports, USSR  
(000 metric tons)  
calendar year

	1970	1975	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989 <sup>5</sup>
Grain 1/	2933	16659	31319	46403	40392	33977	44702	46043	27429	31235	35000	36000
Meat 2/	165	515	821	980	939	985	805	857	936	858		
Eggs 3/	33	767	737	556	526	530	451	378	387	196		
Butter	2	12	249	215	151	203	198	276	194	403		
Sugar raw	3003	3236	3839	4190	6161	4797	4972	4305	5158	5035		
Sugar refined	---	4	1056	963	1115	1128	732	195	23	20		
Oilseeds	43	424	1155	1459	1582	1422	696	924	2062	1927		
Oilseed meal	NA	73	546	737	1661	2411	325	696	375	2800		
Vegetable oil (edible)	65	61	446	698	946	799	766	813	451	825		
4/												
5/												

Notes-- = None or negligible. NA = Not available.

1/ Estimates for 1976-79 and 1981-84. Official Soviet sources report only value.

2/ Does not include live animals

3/ Million pieces.

4/ Includes FAO estimates for linseed oil, 1979-84.

5/ Preliminary trade data indicate that the volume of food imports in aggregate increased more than 20% in 1989. (*Ekonomika i zhizn'*, No 6, February 1990).

Source: *Vneshniaia torgovlia SSSR*, annual, and *Narodnoe khoziaistvo SSSR* v. 1986. Compiled by USDA.

Table 3: World Wheat Prices

\$/ metric ton

	US Gulf Ports Hard Winter, f.o.b.	Rotterdam #2 dark northern spring c.i.f.
1980	176	213
1981	176	210
1982	161	187
1983	158	185
1984	153	180
1985	137	169
1986	117	148
1987	114	141
1988	146	165
1989		
Jan.	175	205
Feb.	173	207
Mar.	179	192
Sept.	164	180

Source: Wheat Outlook and Situation Report, USDA ERS November 1989.

Table 4: Soviet Per Capita Food Consumption

Year	Meat and fat	Fish and fish products	Milk and milk products 1/	Eggs 2/	Sugar	Vegetable oil	Potatoes	Grain 3	Vegetables and melons	Fruit and berries
1950	26	7.0	172	60	11.6	2.7	241	172	51	11
1960	40	9.9	240	118	28.0	5.3	143	164	70	22
1970	48	15.4	307	159	38.8	6.8	130	149	82	35
1980	58	17.6	314	239	44.4	8.8	109	138	97	38
1981	57	18.0	304	247	44.5	9.1	104	137	99	40
1982	57	18.4	295	249	44.5	9.3	110	137	101	42
1983	59	17.4	313	256	44.3	9.6	109	134	102	44
1984 4/	61	17.5	319	258	44.0	9.5	108	133	102	48
1985	62	18.0	325	260	42.2	9.7	104	133	102	48
1986	62	18.6	333	268	44.0	9.8	107	132	102	56
1987	64	18.0	341	272	47.2	10.0	105	132	100	55
1988	65	18.0	355	275	46.0	10.0	103	131	100	52
1990 plan	70	19.0	330-340	260-266	45.5	13.2	110	135	126-135	66-70
Consumption norm 5/	82	18.2	405	292	40.0	9.1	110	115	130	91

1/ Including milk equivalent of butter.

2/ Number.

3/ Flour equivalent.

4/ Vestnik statistiki, No. 3, 1986, p. 57.

5/ Narodnoe blagosostoyanie SSSR (National Welfare in the USSR), 1983, p. 165.

Source: USSR Agriculture and Trade Report. Situation and Outlook Series, USDA ERS RS 89-1, May 1989, p. 33.

Table 5

## Collective Farm Market Prices Relative to State Retail Prices

(State Prices - 100)

	1980	1985	1986	1987	1989/1988 <sup>a</sup>
All Products	257	263	263	272	107
Plant Products	265	265	263	275	
Potatoes	360	351	361	345	108
Vegetables	250	269	269	282	110
Fresh Cabbage	425	406	412	458	
Onion	199	260	257	212	
Beets	678	661	628	725	
Carrots	494	464	470	490	
Fruit	238	222	212	230	
Vegetable Oil	172	193	198	207	
Animal Products	242	257	260	264	
Meat	239	253	256	259	106
Milk Products	323	383	402	410	

a: Increase in kolkhoz market prices 1989 relative to 1988.

Source: Ekonomika i zhizn' No. 6 February 1990.

Table 6  
Agricultural Debt Relative to Total Bank Debt  
USSR (billion rubles)

	1960	1965	1970	1975	1980	1985	1987
Total Bank Debt	46.5	74	126.2	204	342.5	521.3	432.1
Short Term Agricultural Debt	3.0	4.5	8.6	25.5	57.6	82.3	87.0
Long Term Agricultural Debt	2.4	3.9	10.8	22.9	42.4	57.1	61.0
Total Agricultural Debt	5.4	8.4	19.4	48.4	100.0	139.4	148.0
Agricultural Debt as % of Total	11.6%	11.3%	15.3%	23.7%	29.2%	26.7%	34.2%

Sources: Narodnoe khozlaistvo SSSR 1980 p. 528  
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Table 7  
State Subsidy to Cover Price Differences  
(billion current rubles)

	1960 r.	1965 r.	1970 r.	1975 r.	1980 r.	1985 r.	1986 r.	1987	1988	1989
Meat and Poultry	1,4	2,8	8,8	12,2	14,0	26,6	27,8			
Fish	0,1	0,1	0,2	0,2	0,2	2,2	1,8			
Milk	-	-	2,1	4,0	7,5	18,9	19,2			
Grain	-	0,3	0,8	0,6	0,8	4,4	4,4			
Potatoes, Vegetables, canned goods	-	-	0,2	0,7	1,4	3,0	3,7			
Sugar	-	-	-	-	-	1,0	1,2			
Total	1,5	3,2	12,1	19,7	23,9	56,0	57,9	65	77	88
As % Payments of State Budget	2,1	3,2	7,8	9,2	8,1	14,5	14,0			

Source: Semenov, "Sovershenstvovanie finansovogo mekhanizma agropromyshlennogo kompleksa," Ekonomika sel' skogo khoziaistva, No. 9, 1987, p. 35. V. Semenov, "Khozraschet i samofinansirovanie," APK 1989(3).

Table 8: Total Expenditures on the Social Consumption Fund (Billion Rubles) 1960-1987.

	1960	1971-1975	1976-1980	1981-1985	1985	1986	1987
1. Total	36.8	105.8	139.4	190.0	214.8	226.8	242.4
2. Holiday pay	4.5	11.0	14.4	17.4	18.5	19.1	20.0
3. Total (excluding holiday pay)	32.3	94.8	125.0	172.6	196.3	207.7	222.4
4. Money Transfers	10.0	32.1	43.7	57.6	63.4	68.9	71.4
5. Total social insurance	9.4	32.1	41.3	55.1	60.8	66.3	68.7
6. Pensions	7.1	30.3	29.1	40.1	44.9	49.3	51.7
7. Collective farmer social fund		2.2	3.0	3.5	3.1	4.0	3.8
8. Allowances	2.3	7.0	9.2	11.5	12.8	13.0	13.2
9. Sick leave	1.3	4.7	6.1	7.1	7.4	7.4	7.3
10. Maternity leave	0.5	1.1	1.5	1.6	1.6	1.7	1.7
11. Child allowances	0.6	1.8	2.4	2.5	2.6	2.6	2.7
13. Non-money transfers	22.3	62.7	81.4	115.0	133.0	138.8	151.0
14. Subsidies	n/a	n/a	n/a	n/a	n/a	n/a	n/a
15. Food	5.4	17.3	24.2	44.6	56.0	58.0	64.9
16. Housing	1.7	4.3	6.0	8.3	9.3	9.8	10.4
17. Other	n/a	n/a	n/a	n/a	n/a	n/a	n/a
18. Free service	15.2	41.1	51.2	62.1	67.7	71.0	75.7
19. Education	9.1	26.1	32.6	39.2	43.1	45.3	48.1
20. Health and physical fit.	5.7	13.4	17.2	21.0	22.5	23.5	25.3
21. Other social payments	0.4	1.6	1.4	1.9	2.1	2.2	2.3

Source: Gur Ofer, "The Welfare State in Soviet Economic Reform: Also Converging?" Paper presented at the Allied Social Science Association Annual Meeting, December 28-30, 1989, Atlanta, Georgia.