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# Agriculture in the Former Soviet Union: The Long Road Ahead

*By Alan Barkema, Mark Drabenstott, and Karl Skold*

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The authors spent two weeks traveling in Russia and Ukraine in August 1992 as participants in a program sponsored by Iowa State University and the Iowa International Development Foundation. The aim of the program is to explain market economics to farm and food executives in the former Soviet Union while encouraging agribusiness ties between the United States and the former republics of the Soviet Union. The authors presented seminars at two newly established Agribusiness Centers at Stavropol, Russia and Kakhovka, Ukraine and took extensive tours of farms and food plants in both regions. The authors also met with key farm officials in Moscow.

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The world watches with wonder at the momentous transformation now taking place in the former Soviet Union. Amid the manifold uncertainties surrounding the economic transition under way, many regard the establishment of a market-based food system to be prerequisite to success elsewhere in the economy. Indeed, ubiquitous food lines had stood out as a clarion metaphor of the failure of the command economy. The food lines are mostly gone now—replaced as a rationing agent by higher prices. But what are the prospects for building a market-based food system after more than 70 years of a failed command food system?

This article, after briefly describing the current economic situation, reviews the problems facing the farm and food sector in the former Soviet

Union, and then outlines the building blocks for moving to a market-based food system.<sup>1</sup> The article concludes that critical legislative reforms for agriculture could come quickly, but building necessary market institutions, enhancing entrepreneurial skills, and upgrading technology will require years, even decades. Though the road may be long, the United States will have an unparalleled opportunity to market its world-class food technology in this part of the world.

## *THE ECONOMIC BACKDROP*

The reform of agriculture will take place against an extraordinarily difficult general economic backdrop. Real output is falling, the ruble is declining as inflation soars, and living standards are sinking as real incomes drop and wealth evaporates.

The economic conditions one finds in the former Soviet Union are sobering, to say the least. Through the first half of this year, industrial

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*Alan Barkema is a senior economist at the Federal Reserve Bank of Kansas City. Mark Drabenstott is a vice president and economist at the bank. Karl Skold is a senior buyer at the Quaker Oats Company in Chicago, Illinois.*

output was 13.5 percent less than a year ago. The downward spiral in the economy is being driven by military cutbacks, falling consumer incomes, and halting trade among former republics. While in Moscow, we learned of a modern, 7,000 worker textile plant that was closing because cotton could no longer be obtained from Uzbekistan.

The declining ruble has encouraged barter while wiping out savings. During our two-week stay, the ruble fell from 160 to the dollar to 175. More recently, it has fallen to nearly 400. To avoid the sting of devaluation, businesses and consumers resort to barter. One Ukrainian farm we visited was bartering fruit for Siberian oil. Consumers convert ruble paychecks quickly into hard goods; one young entrepreneur who was making money as a grain broker had filled her home with such hard goods as Japanese VCRs and television sets.

The falling ruble has also wiped out the life savings of many older citizens. A leading professor at an agricultural institute now tends a huge garden and a clutch of chickens to supplement his income. Prospects for his approaching retirement are bleak.

At the personal level, the hardship of life in the former Soviet Union is striking wherever one goes. In Russia, the average annual income at the time of our visit was about 30,000 rubles, or less than \$200 at the exchange rates that existed then. Consumer goods are limited and quality is poor. Many goods that American consumers take for granted are priced beyond the reach of average citizens. For example, automobiles cost at least ten years' income. Housing is cramped by American standards—the average family lives in an apartment with 300 to 400 square feet.

Basic foodstuffs were plentiful, but sharp increases in food prices the past year and a half require average consumers to spend a big portion of their income on food. One government official in Moscow offered a casual estimate that on average Russians spend about a third of their income on food, although the fraction varies widely. But

others, including the U.S. Department of Agriculture, suggest the average could be as high as 60 percent. Yet despite spending so much, consumers receive poor quality and limited selection. Processed foods and luxury items like fruit juice are in scarce supply. Frozen foods are nonexistent. There is no escaping the fact, therefore, that an overhaul of the food system is long overdue.

### *CURRENT STATUS OF THE FORMER SOVIET FOOD SYSTEM*

We discovered problems throughout the food system in Russia and Ukraine, but in-depth discussions with farm and food managers suggest that the biggest problems lie in food processing and distribution.

Farm production, in many ways, resembles U.S. agriculture. We were impressed by the sheer scale of production agriculture. State and collective farms in the regions we visited generally had 10,000 to 15,000 hectares (25,000 to 37,000 acres). A gridwork of big fields separated by neatly tended windbreaks stretched as far as the eye could see. Each farm was the hub of a village of workers that might number a few thousand. Indeed, the state and collective farms serve as the social fabric in rural areas; they organize schools and medical services, for example. The farms were organized around brigades of workers that might tend a quarter of the farm's land and machinery. Machinery lagged somewhat behind the U.S. technology standard, but the equipment was large and well-matched to the scale of production. Most equipment was stored outdoors and appeared poorly maintained.

Agricultural productivity is mixed when measured against U.S. standards. Crop yields are good. In the Russian region we visited, winter wheat yields were comparable to U.S. yields. Yields from irrigated fruit production in Ukraine compared favorably with arid regions in the United States. But livestock productivity is low compared with the United States. Russian and Ukrainian farms

raise “dual-purpose” cattle—cattle intended for both dairy and beef purposes. The result is poor dairy cows and poor beef cattle. Measured by livestock output per unit of feed input, farms in the former Soviet Union underperform their U.S. counterparts by half.

Moving to private land ownership will lead to more farm output, but the gains may be marginal. Crop yields are high and farms in the former Soviet Union are only slightly behind in cultivation practices. The efficiency of livestock production can be enhanced, but the livestock sector will probably get much smaller as falling incomes and rising prices force consumers to cut back on meat purchases.

Bigger gains in efficiency lie in the food processing segment of the food system, a segment that might best be described as a chaotic black hole. Farm products are converted into food products with little or no guidance from market prices. Consumer demand does not figure into food production decisions. And no one knows how food products are distributed once they leave the plant.

We toured plants making vodka, candy, bread, pasta, dairy products, meat, and canned fruit. The plants are big, but their technology is outdated. Most food products were quite basic, without the added processing most U.S. consumers now expect. Moreover, lacking any federal food safety and inspection laws, hygiene was generally determined by the local manager. In some plants, standards for quality and sanitation were low, and we were reluctant to sample the products that the plant managers graciously offered at the conclusion of our tours.

The biggest problem in food processing and distribution is the utter lack of market-based decisions. Production decisions are made without regard to production costs or product prices. Even though food prices have risen dramatically, production has not changed because the decisions still rest with the government. There is simply no competition in food processing and distribution, which

remains a state monopoly.

In short, food processing and distribution in the former Soviet Union are ruled by an engineering rather than an economic mentality. Farm products enter the system, and food products go out. But what products to produce in what quantities for which markets are questions that are never answered in the marketplace. Moving to competitive food processors, a wholesale market that sends accurate price signals, and a rational distribution system amounts to a tall order in the former Soviet Union.

### *BUILDING BLOCKS FOR A NEW FOOD MARKET*

What building blocks are needed to construct a market food system in the former Soviet Union? Our observations suggest four blocks are critical to the building effort. And as with any building job, putting the blocks in place in the proper order is as important as choosing the proper blocks. The first step is to put in place a set of market-based reforms. The second step is to build the institutional framework to support a growing market system. The third step is to provide economic education so the population learns how to use and manage the new market tools and institutions. The fourth step is to replace outmoded technology used in the old food system with up-to-date technology appropriate for a new market system.

Some of the building blocks can be set in place quickly, virtually with the stroke of a pen. But the building effort as a whole will require much more time, probably measured in decades rather than years.

#### *Market-based reforms*

The foundation building block of a new farm and food system in the former Soviet Union links two closely related market-based reforms: 1) a balanced macroeconomic policy and 2) a system of market-determined prices to replace the old

command economy. Little progress in establishing a new market-based food system is likely until balance is achieved in macroeconomic policy. While some progress has been made in controlling government budget deficits, huge subsidies to inefficient state enterprises continue to flood the economy with freshly printed rubles. The result is soaring inflation which erodes the value of the ruble and undermines efforts to establish a meaningful system of market prices.

A system of market-determined prices is the second reform essential to rebuilding the food system in the former Soviet Union. Under the old command economy, the dictates of government officials determined what would be produced. In a market economy, on the other hand, prices guide both consumption and production decisions, matching food supply and demand.

A successful market price system requires two key elements. First, producers must be independent. Then they can increase or decrease production when prices signal a change in consumer needs. Second, producers must be financially accountable for their production decisions. In other words, they must be appropriately rewarded for responding to price signals or justifiably penalized for ignoring them. Both requirements are met in a private enterprise system where prospective profits or losses encourage the right responses to price signals.

In contrast, production in the government-controlled food processing plants we visited droned on, oblivious to shifting food prices and profit margins. The bright young manager of a bread factory expressed surprise when we asked about the profitability of his plant. He replied that bread is a staple and therefore must carry a low price, irrespective of how much it costs to produce.

To implement a market price system, then, the former Soviet Union must take the farm and food system out of government control and put it into the hands of private owners. The huge stock of government-owned assets in the former Soviet Union makes privatization of the food system a mind-boggling but essential task.

### *Institutional framework*

As the market food system evolves, a whole new framework of laws, regulations, and institutions will have to be built from the farm gate to the retail shelf.

A critical, immediate need is private ownership of farmland. Today, a private farmer can gain lifetime use of land and pass the right on to heirs—but the farmer's ownership interest is restricted. Farmland in private use cannot be mortgaged, and rental and sale of the land are prohibited during the first ten years of use. The moratorium on farmland sales prevents the use of farmland as collateral to secure credit, hamstringing the privatization process.

To improve the availability of credit for private farmers, it is vital to provide more rights to land owners. With that goal in mind, the Peasant Farmers Union (AKKOR), which represents more than a 100,000 private farmers, and the Agrarian Institute, a Moscow thinktank, are lobbying for new land ownership rules in the Russian parliament. They propose that the moratorium on land sales be shortened to five years, and to three years for farmers who purchased or inherited land. By freeing farmland for use as collateral, these changes might open the door to establishing an effective system for providing rural credit.

Currently the former Soviet Union has no rural credit system. The state remains the main source of credit. Private farmers can borrow from the state, but most money flows through state and collective farms. The Russian government did provide a 1-billion-ruble subsidy in 1991 that was used to guarantee loans to private farmers. And models for a private rural credit system are under discussion, but action appears months or years away.

A market food system will also require a whole new set of market intermediaries linking producers with consumers. Under the old command system, the government monopoly bought and processed raw farm commodities and sold

them to consumers. But now the old command structure must be replaced with a new set of market institutions—including commodity buyers, processors, wholesale distributors, and food retailers.

Some of these market institutions are already springing up. Nearly 700 commodity exchanges are starting up across Russia, partially filling the marketing void left by the demise of the old command system. Many of the exchanges are little more than “flea markets” that will probably evolve into private trading companies. Others are large, highly sophisticated, computerized markets. Foremost among these is the Moscow Commodities and Raw Materials Exchange, where nearly 2,000 registered brokers trade everything from corn to VCRs in a converted post office.

While the new commodities exchanges are an important market link between producers and consumers, they serve a relatively small slice of the food system. Moreover, an antiquated telecommunications system limits the access of most rural residents to the new markets. In rural areas, most marketing operations are primitive. One of our translators, for instance, owned a small food and general merchandise store in Stavropol. He also owned three small trucks that roamed as far as Moscow and St. Petersburg (a round trip of more than 2,000 miles) to scavenge goods to stock his store’s shelves. The selection, quantity, and quality of goods available for sale varied widely. While our translator’s store appeared successful, his crude merchandise supply network is both a tribute to his entrepreneurial flair and a striking example of the need for new, more efficient marketing institutions.

### *Economic education*

Market-based reforms and supporting institutions are not likely to be successful if no one knows how they should work. More than 70 long years of central planning have virtually wiped out any knowledge of how a market economy and its institutions function.

Time and again in our travels we came face to

face with the need for economic education. Many of those who prospered under the old system resist economic reforms today. Some fear a loss of their personal standing. But we also discovered that many remain unconvinced that any significant change in the old system is needed. Instead, the prevailing view is that the failure is not the economic system but outmoded technology. Key officials of the agricultural research establishment recounted for us the critical need for updating production techniques on Russian farms. But they fell silent when we asked about price reform and private ownership of farmland.

Similarly, during our tours of food processing plants, plant managers described in detail production capacities and the strengths and weaknesses of plant equipment. But none could answer our questions on production costs and product pricing. In some cases, when we pressed plant managers about how they made production and pricing decisions, their answers were cut off by local political authorities, who turned out to be former Communist party officials.

Uncertainty over the perils of a market economy is clear among rural residents. Many have a deep, abiding skepticism toward promises from government officials. The rural population has heard for decades pronouncements of initiatives and decrees to improve rural life. But too often the policies implemented locally only benefited the bureaucracy.

Still, many fear the loss of the government refuge. A frequent line of questioning during our seminars was, “What happens if a farmer in the United States cannot repay a bank loan? Do farmers really go bankrupt in the United States? How many people are unemployed in the United States, and how do they live?” One manager of a large collective farm suggested, “I would support a market system in which 70 percent of my crop is sold to the government at a guaranteed price and the other 30 percent is sold at market prices. Otherwise the risks of farming are too great.”

Although the majority of the participants in

our seminars viewed a market economy with a mixture of confusion and apprehension, a few wholeheartedly embraced the fledgling market reforms already underway. One group of new private farmers displayed a refreshing entrepreneurial zeal during our visit to their farm near Stavropol. These farmers had formed a partnership after breaking away from a large collective farm. They assured us that their modest farm of about 400 acres of wheat was only a beginning. But the collective farm from which they rented their land and purchased their production inputs was doing whatever it could to discourage them. These new private farmers certainly have a hard road ahead of them, but if they fail it will not be for a lack of determination.

### *Technology*

As we observed the food system in Russia and Ukraine we found that the most critical need for new technology is in the food processing and distribution system rather than on the collective and state farms. To be sure, U.S. farm machinery, genetics, and crop and livestock production practices are generally years ahead of those we saw in Russia and Ukraine. But farm production is not the limiting factor in their food system.

The bottleneck in the system is the processing and distribution channel, which receives raw farm commodities from the farm gate and delivers finished food products to consumers. Much of the food processing equipment we saw is three decades or more out-of-date and also poorly maintained. In addition, most food plants are built on the huge scale favored by government planners in the old system. The large scale of the old plants limits their flexibility to adapt to a new market system where consumer needs—rather than government quotas—are the target. Many of the old plants will be too inefficient to use in the new market economy, creating a need for new, modern plants to take their place.

The need for new technology is enormous, but

it is also clear that technology is the fourth building block—not the first—required to build a market food system in that part of the world. The most modern farm and food technology acquired on the most favorable credit terms will not solve the food distribution problems in the former Soviet Union unless the fundamental problems in the economic system are resolved first. The new technology must be built upon a solid foundation of sweeping market reforms, well-functioning market institutions, and a population trained in the workings of a market economy.

### *WHAT LIES AHEAD?*

Today, the food system in the former Soviet Union is trapped in transition between a decaying command structure and a new market system. The old production and distribution system has broken down, but the new system is not yet ready to take its place. As a result, demand for imported food from the United States and elsewhere remains large. But that demand is being sustained only through generous credit allocations.

Looking ahead, the outlook for U.S. grain sales to the former Soviet Union appears bleak. In the next few years, demand for imported grain will drop due to a major prospective adjustment in the livestock industry. Consumers in the former Soviet Union consume first-world quantities of meat on third-world incomes. That cannot continue. Falling meat demand could quickly shrink the need for U.S. grain as livestock production plummets. Longer term, building a market food system will take years, but once built it will mobilize the huge productive capacity of former Soviet agriculture, curtailing the need for U.S. grain.

Building the food system, however, will require an enormous infusion of modern farm and food technology, thus opening a huge new market for U.S. suppliers. The market for farm and food technology in the former Soviet Union is clearly a long-term bet. The long process of political and economic reform has only begun, and the market

institutions that would support the wholesale infusion of new technology are not yet in place. But once the economic foundation is laid, the market may be enormous for U.S. suppliers who carefully and patiently cultivate long-term business relationships in the former Soviet Union.

The former Soviet Union is embarking on a historic economic journey. After more than 70

years of a failed command economy, the food system is in tatters. Faced with poor quality, high-priced food, the people of the former Soviet Union must solve their food problem to ensure broader economic success. Thus far, however, they have taken just a few tentative steps down the long road to a market food system.

#### ENDNOTE

<sup>1</sup>This article is based on the authors' observations in Russia and Ukraine, the two major food producers among the 15 former republics of the Soviet Union. Russia and Ukraine

hold about three-fourths of the arable land and account for about three-fourths of the grain, meat, and milk production of the former Soviet Union.