

The Agricultural Sector Before and After the Breakup of the Soviet Union

Pre-Reform Agricultural Policy in Russia

In the late 1960s and early 1970s, the leaders of the Soviet Union noted that consumption of meat and animal proteins of Soviet citizens lagged behind that of Americans and Europeans. Consequently, Soviet leadership placed a high priority on increasing the supply of meat products, a strategy pursued until the dissolution of the Soviet Union in 1992. Planners also sought to maintain stable retail prices, the result being an implicit and gradually increasing real subsidy on retail food prices.

In the drive to increase per capita meat consumption, Soviet livestock herds expanded to such an extent that domestic grain production, itself subsidized and expanded to a significant degree, could not satisfy the increased feed demand. The Soviet Union and Eastern European satellite countries began to import substantial quantities of grains for feed. The USSR's livestock subsidization policy had a significant impact on world grains markets. In 1992, just as the reforms began, net grain imports (imports minus exports) for Russia and Ukraine were 21.7 million mt, about 10 percent of total world imports. U.S. grain exports to Russia and Ukraine in 1992 were 7.2 million mt and accounted

for over 8 percent of total U.S. grain exports (table 2). However, the grain imports of Russia and Ukraine were erratic and sometimes very large, which added significant volatility to world markets. The volatility was due largely to the linkage of grain purchases to revenues earned from oil and gold exports (USDA, 1988).

The livestock expansion policy also led to increasing agricultural subsidies. By 1989, total subsidies in the USSR amounted to 13.5 percent of GDP, of which subsidies to agriculture accounted for 11 percent of GDP (fig. 2). The policy did succeed in raising per capita meat consumption, which in 1990 was equal to or higher than that in the United Kingdom, despite the fact that per capita income in the United Kingdom was over two times that of the USSR (Sedik, 1993).

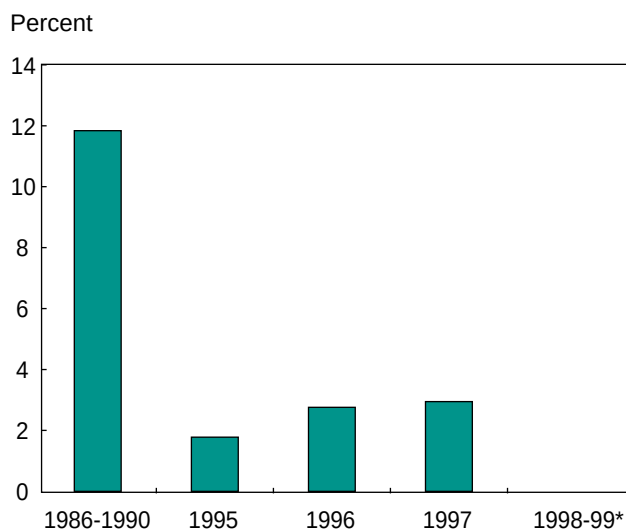
The Consequence of Reform

Following reforms in 1992, the subsidies supporting expanded livestock inventories were removed, affecting both livestock and grain production. Livestock inventories fell dramatically in all countries of the former Soviet Union and Eastern Europe, and so far have recovered only slightly in Poland and Hungary. Between 1992 and 2000, cattle inventories in Russia and Ukraine fell from 78 to 38 million head. Average grain production in Russia and Ukraine declined from 145 million mt in 1988-90 (about 8.7 percent of total world grain production) to 78 million mt in 1998-2000, a 46-percent decline (table 3).³

Another factor behind the production declines was the fall in income that accompanied reforms (fig. 3), which came about because final goods prices rose faster than nominal incomes. The reforms also unleashed a period of hyperinflation that was brought down to single digits annually only in 1996.

These large structural changes had a significant impact on agricultural trade in Russia and Ukraine. The fall in livestock inventories led to a fall in demand for feed grain (fig. 4), resulting in diminished grain imports. In 2000, net grain imports for Russia and Ukraine were less than 1 million mt. Because livestock production had fallen faster than meat consumption (fig. 5), Russia had become a significant meat importer, a development consistent with Russia's relatively high

Figure 2
Agricultural subsidies as a percent of national income, selected years, USSR/Russia



*Agricultural subsidies during 1998-1999 were effectively zero.
Source: OECD, (2001).

³Given the tendency to overreport production during the Soviet era, the actual output drop may have been somewhat lower.

Table 2—Changes in net grain imports in Russia and Ukraine, 1989-2001

Year	Russia and Ukraine total net imports	Total world imports	U.S. net exports to Russia and Ukraine	Total U.S. exports
-----1,000 metric tons-----				
1989	20,200	207,400	0	119,442
1990	17,918	189,600	0	104,252
1991	22,763	206,200	563	98,723
1992	21,813	205,900	7,197	102,641
1993	6,438	188,100	3,335	101,115
1994	221	200,000	548	91,514
1995	3,698	187,100	229	118,884
1996	1,168	194,400	176	106,131
1997	(1,189)	189,900	99	91,120
1998	(3,691)	198,500	1,072	91,762
1999	4,267	217,200	1,471	104,597
2000	645	207,500	45	101,726
2001	(8,305)	207,900	0	98,716

For additional detail, see appendix table 1.

Numbers in parentheses indicate net exports.

Source: USDA (2002a,d).

cost of meat production (Liefert, 1994; 2002). In 2001, the volume of total meat imports into Russia was 2.5 million mt (carcass weight equivalent of beef, pork, and poultry), about 19 percent of world total meat imports. U.S. poultry meat exports to Russia were slightly over 1 million mt in 2001, which accounted

for about 79 percent of Russian total poultry imports and 33 percent of total U.S. poultry exports. The net result of the reforms was a 50-percent decrease in the total value of agricultural imports, a 30-percent decrease in grain production, and a 55-percent decrease in livestock inventories.

Table 3—Changes in agricultural production, Russia and Ukraine, 1987-2001

Year	Total grains	of which:		Beef & veal	Pork	Poultry
		Wheat	Coarse grains			
----- Million metric tons -----						
1987	137.25	56.52	79.92	...	...	...
1988	130.80	61.57	68.38	6.17	4.98	0.70
1989	146.66	71.40	74.52	6.27	5.09	2.56
1990	157.82	79.97	77.20	6.32	5.06	2.51
1991	121.86	60.06	61.24	5.87	4.61	2.41
1992	137.60	65.68	71.37	5.29	3.96	1.93
1993	137.33	65.33	71.51	4.68	3.45	1.64
1994	109.97	45.96	63.63	4.67	3.02	1.33
1995	93.03	46.37	46.31	3.92	2.67	1.09
1996	89.91	48.45	41.16	3.62	2.49	0.92
1997	119.92	62.60	57.06	3.26	2.32	0.82
1998	71.56	41.94	29.29	2.89	2.21	0.85
1999	77.40	44.59	32.39	2.69	2.15	0.84
2000	86.26	44.65	41.19	2.59	2.18	0.85
2001	121.95	68.30	52.00	2.35	1.99	0.91

For additional detail, see appendix table 2.

... = not available.

Source: USDA (2002a).

“Irreversible” Output Decline

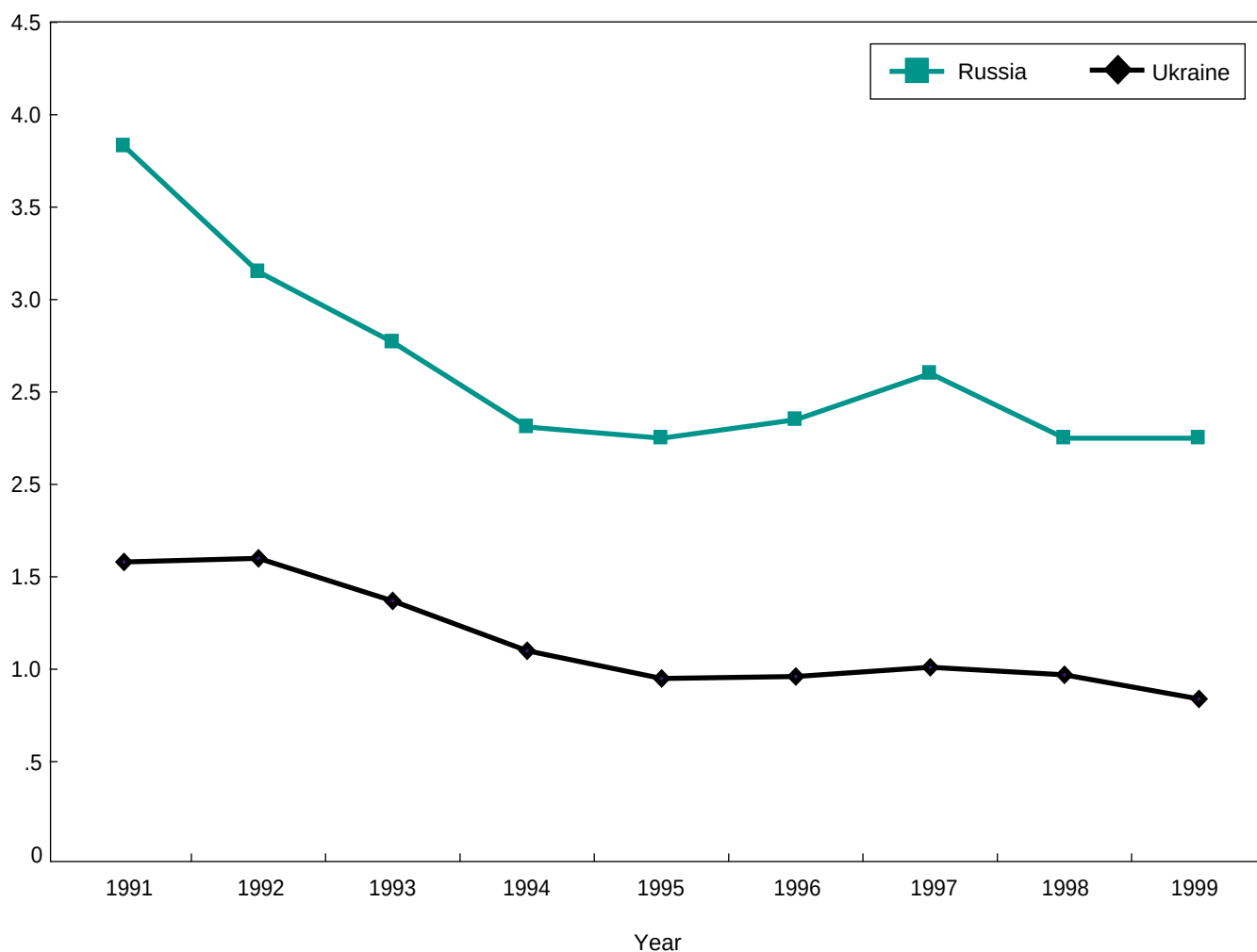
Some of the loss in agricultural output in Russia and Ukraine is a direct result of the implementation of price and trade liberalization and the corresponding reduction in producer and consumer subsidies. As prices began to respond flexibly to market conditions and producers were exposed to foreign competition, input and output prices adjusted to reflect the real costs of production, as well as the true preferences of consumers. Current prices in world markets have exposed the unfavorable cost structure of the agricultural sectors in Russia and Ukraine. Consequently, market liberalization has had a direct negative impact on agricultural production.

ERS has examined the effect of reforms on the livestock sector for all the countries of Eastern Europe and the CIS (USDA, 2002a). Following the 1992 price liberalization in Russia and Ukraine, farmgate prices in those countries rose much more slowly than prices for feed (feed is the main input and cost component in meat production). Demand for meat also fell as output prices rose faster than wages, making meat products less affordable to the general population.

Figure 3

Annual per capita income in Ukraine and Russia, 1991-1999

\$1,000



Source: World Bank, (2001).

The crop sector suffered similar problems. The increase in the crop price was outstripped by rises in the price of fuel, fertilizer, and other agricultural chemicals like pesticides and herbicides. Table 4 shows the large increases in fertilizer and fuel prices as they adjusted to world prices. The effect of the devaluation of the ruble after the 1998 financial crisis can be seen as Russian fertilizer and gasoline prices fell compared with U.S. prices after 1998.

“Reversible” Output Decline

The consensus among observers of Russia and Ukraine in the early 1990s was that agricultural sector reform would lead to less waste and improved productivity. The potential for improvement in agricultural practices is well recognized within Russian policy circles. One

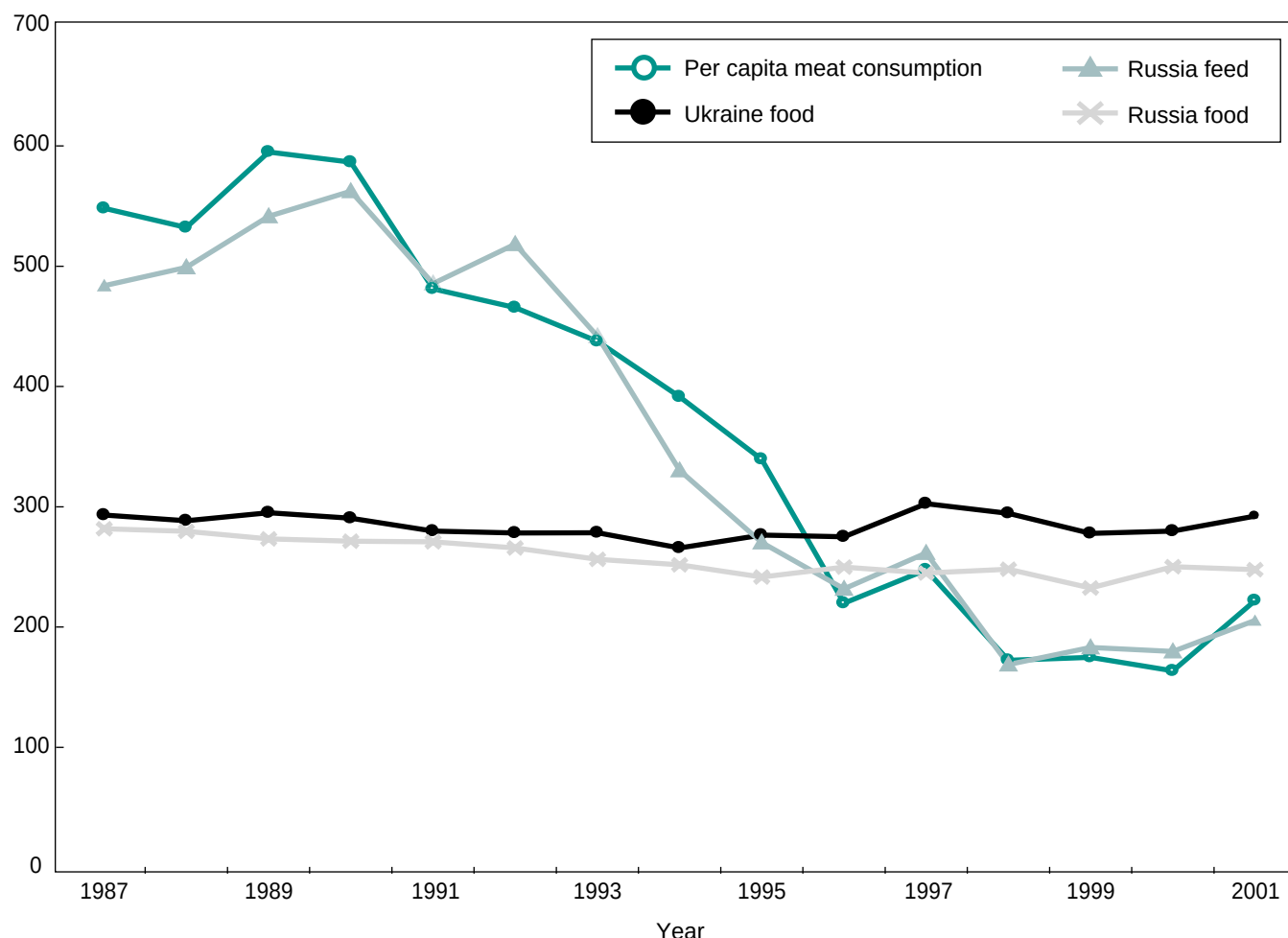
recent study attempting to explain the superior performance of the U.S. agricultural sector (Cherniakov, 1997) concluded that U.S. agriculture used a number of “technical and technological solutions that allowed for increased labor productivity, ... the minimization of losses, and increased quality.”

Because Russian policymakers feel that these productivity increases will come from large-scale, capital-intensive agriculture, they have been reluctant to allow the large corporate farms inherited from the Soviet era to go bankrupt. The view that large-scale agriculture is more efficient in Russia is supported by findings of Russian analysts. The Cherniakov study noted that the most financially successful farms (and those least likely to go bankrupt) are the large-scale commercial farms that are capital-intensive and highly specialized.

Figure 4

Grain food and feed use, Russia and Ukraine, 1987-2001

Kilograms per capita



Source: USDA, (2002b).

Table 4—Russian prices for fertilizer and gasoline realign with world prices, 1992-99

Year	Ammonium nitrate		Gasoline	
	Russia	United States	Russia	United States
	----- \$/kg -----		----- \$/gal. -----	
1992	0.005	0.178	0.13	1.13
1993	0.015	0.186	0.32	1.11
1994	0.037	0.196	0.47	1.11
1995	0.089	0.223	0.99	1.11
1996	0.150	0.233	1.15	1.23
1997	0.149	0.227	1.16	1.23
1998	0.091	0.193	0.71	1.06
1999	0.041	0.181	0.58	1.17

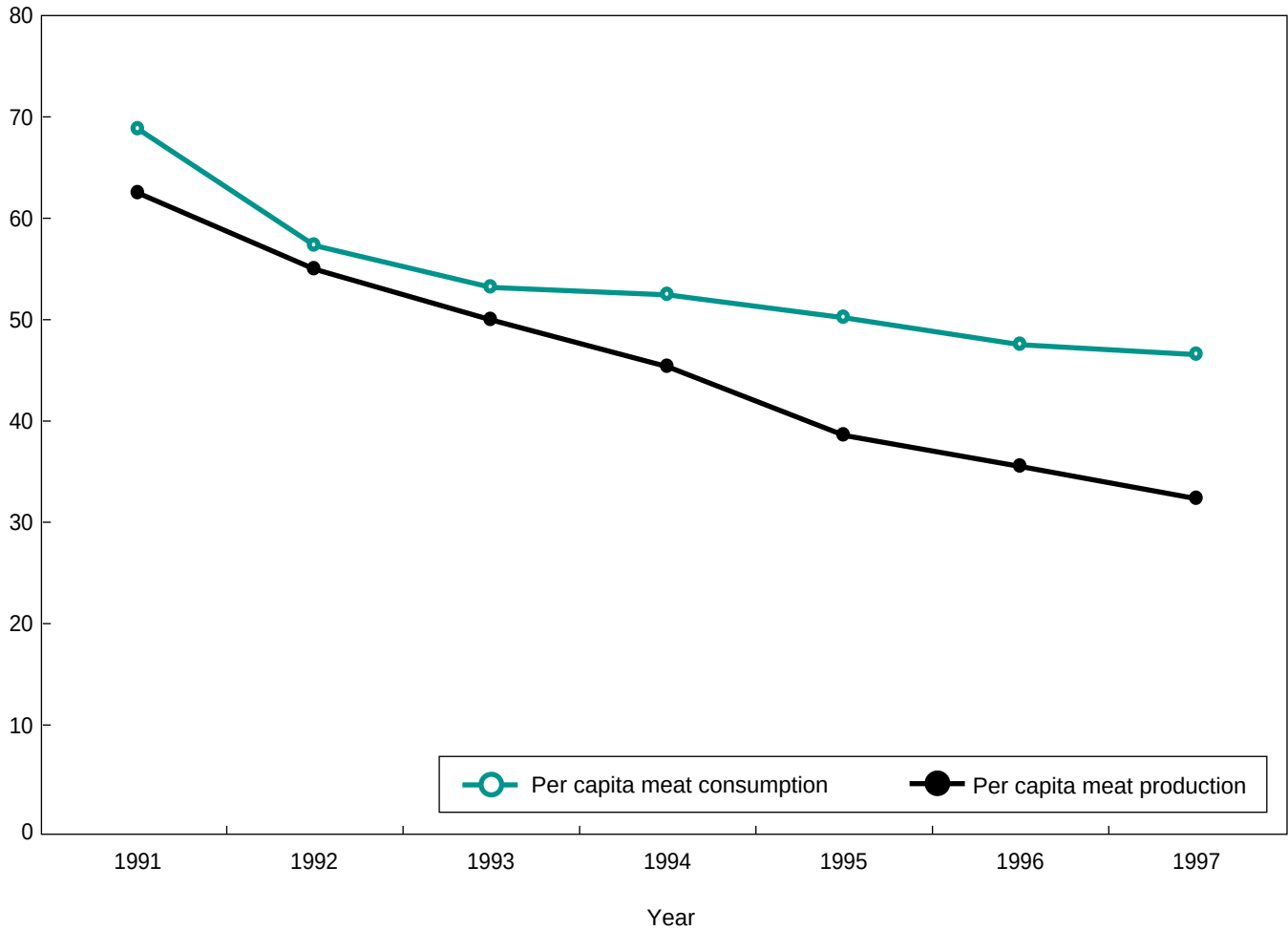
Source: Goskomstat, (2001); U.S. Department of Agriculture, (2001); U.S. Department of Energy (2002).

A different study of Russian farms by Uzun (2001) reported a similar finding for the 300 most successful agricultural enterprises from 1997 to 1999. The study found that the 300 most successful agricultural enterprises were, on average, 1,000 hectares larger than the average agricultural enterprise in Russia. These 300 farms used 2 percent of total area sown but earned 16 percent of total revenue from agricultural production.

Figure 5

Russian per capita meat consumption and production, 1991-97

Kilograms per capita



Source: USDA, (2002b).

However, corporate farms in Russia and Ukraine have performed poorly since reforms began in 1992. ERS has completed a number of analyses of Russian and Ukrainian corporate farms, all of which paint a consistent picture of deteriorating economic performance

during the 1990s. These studies use data from a number of publications from Goskomstat that surveyed 10 percent of Russia's corporate farms from 1991 to 1998.