The Russian Grain Embargo: Dubious Success

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ON January 4, 1980, the President announced an embargo on grain exports to the Soviet Union in response to the Soviet armed invasion of Afghanistan. In announcing the embargo, the President reported:

> "The 17 million tons of grain ordered by the Soviet Union in excess of that amount which we are committed to sell under a five-year agreement will not be delivered. This grain was not intended for human consumption but was to be used for building up Soviet livestock herds.
>
> I am determined to minimize any adverse impact on the American farmer from this action. The undelivered grain will be removed from the market through storage and price support programs and through purchases at market prices. We will also use increased amounts of grain to alleviate hunger in poor countries and for gasohol production here at home.
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> After consultation with other principal grain exporting nations, I am confident that they will not replace these quantities of grain by additional shipments to the Soviet Union."[1]

Secretary of Commerce Philip M. Klutznick stated that the embargo was imposed "in order to show the U.S.S.R. in tangible ways that aggression is costly and will be met with firmness. . . . Thus it was decided that action should be taken to cut off these significant resources and to exert pressure on the U.S.S.R. in this area to convince the Soviet leaders to halt their aggression in Afghanistan and to dissuade them from making new military thrusts in Pakistan and Iran."[2]

Expected Impact on Soviet Union

Prior to the embargo, Soviet consumption of grain was projected to be 228 million metric tons (MMT) for the July/June 1979-80 marketing year. This figure was approximately 3 MMT less than the previous year's consumption due to the Soviet Union's below average grain crop in 1979-80. Of their projected consumption, the Soviets planned to import 35 MMT.[3] U.S. exports of grain to the Soviets in 1979-80 were

[1] "Text of Carter Speech on Soviet Ties," *St. Louis Post Dispatch*, January 6, 1980, p. 2E.

[2] Statement by Philip M. Klutznick, Secretary, U.S. Department of Commerce, in *U.S. Embargo of Food and Technology to the Soviet Union*, Hearings before the Subcommittee on International Finance of the Committee on Banking, Housing, and Urban Affairs, 96th Congress, 2 Sess. (Washington, D.C.: Government Printing Office, 1980), p. 28.

[3] Klutznick, "Statement," p. 31.

expected to total 25 MMT, valued at about $2.3 billion and equal to about 11.2 percent of Soviet grain consumption for the year, considerably above the 4.8 percent supplied in 1978-79.[4]

The embargo was designed to limit U.S. grain exports to the Soviet Union to 8 MMT, an amount to which the U.S. was committed under the 1975 five-year grain sale agreement. Following the embargo, USDA officials estimated that the Soviets would be unable to import more than 22 MMT of grain from all sources.[5]

The embargo was expected to have its chief effect on livestock output and the consumption of animal-derived foods rather than on human consumption of grain. The U.S.S.R.'s dependence on U.S. grain resulted from a Soviet decision to improve the people's diets. The Soviet Union had maintained a commitment to increase domestic consumption of livestock and poultry and had achieved a 25 percent increase in meat production during the past decade.[6] President Carter told Congress that the embargo could cause Soviet meat consumption to drop by 20 percent.[7] Vice President Mondale expressed a similar view: "We estimate they will have to liquidate substantial numbers of livestock. . . . While this does not affect nutrition levels," he added, "it will undermine the U.S.S.R.'s objective of supplying high-protein meat to the Soviet people."[8] Similarly, Secretary of Agriculture Bergland reported, "it is possible the grain embargo, if it forces large-scale livestock slaughter in the Soviet Union, may result in long-term change in U.S.S.R. diets."[9]

Soon after the embargo, specific forecasts of its impact on the Soviet livestock industry were made. Based on the assumption that the Soviets would obtain an increase in grain supplies of about 3 MMT from non-U.S. origins in March-July 1980 and reduce their stocks by 3 MMT, feed use of grain in the March-July period was forecast at about 44 MMT, down from a figure of 51 MMT that had been estimated prior to the embargo.[10] The 7 MMT March-July cutback would reduce the intended 128 MMT level of feeding for the entire 1980 calendar year by 5 percent.

The USDA reported that the cutback in grain availability for 1980 could reduce U.S.S.R. meat production by approximately one million tons. This reduction represents a cutback of about 7 percent in U.S.S.R. meat production, which currently totals about 15 million tons annually. The expected cutback would be somewhat greater than indicated by the 5 percent reduction in grain, because the imported grain was fed mainly to hogs and poultry, which have a relatively high grain-to-meat conversion rate.[11] If, as a result of the feed shortage, the Soviets would decide to liquidate herds by increasing current slaughter, they could defer the cutback in meat production until later in the year.

Expected Impact on Grain Trade

The embargo has been in effect long enough to measure its effectiveness in restraining U.S. grain exports and reducing Soviet grain imports. One way is to compare the USDA forecasts of U.S. exports and Soviet imports made immediately prior to the embargo with forecasts made following the embargo.

As shown in table 1, a summary of the forecasts from December 1979 through mid-1980 indicates that, initially, the embargo was expected to have a major impact on Russian grain supplies. However, subsequent revisions indicate that the embargo's impact was much less pronounced than originally expected. For example, in December 1979, net Soviet imports for the July-June 1979-80 year were estimated at 33.2 MMT. Immediately following the embargo, the January 15, 1980 forecast of imports was reduced sharply to 24.4 MMT, or 27 percent less than the pre-embargo total. In succeeding months, however, the estimates were revised upward until the June estimate of 30.4 MMT was only 2.8 MMT or 8 percent less than the pre-embargo estimate. The June estimate indicated that the overall Soviet grain supplies (excluding changes in stocks) would be down only 1.3 percent from the pre-embargo forecast.

The pre-embargo supply of grain for livestock feeding for 1979-80 in the U.S.S.R. was estimated at 128 MMT. This estimate was reduced to 122 MMT, down

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[4]Statement by Dale E. Hathaway, Under Secretary for International Affairs and Commodity Programs, U.S. Department of Agriculture, in *U.S. Embargo of Food and Technology to the Soviet Union*, p. 54.

[5]Hathaway, "Statement," p. 53.

[6]Ibid.

[7]Irwin Ross, "Who Broke the Grain Embargo?" *Fortune* (August 11, 1980), p. 125.

[8]*Daily Report for Executives* (Washington, D.C.: The Bureau of National Affairs Inc., January 7, 1980), p. L-5.

[9]Ibid.

[10]*Foreign Agriculture Circular* (Washington, D.C.: U.S. Department of Agriculture, January 15, 1980), p. 2.

[11]Ibid.

Table 1

USDA Estimates of Russian Grain Supplies, Utilization for 1978-79, and Forecasts for 1979-80 (Million Metric Tons)

July-June estimates for	Production	Imports (net)	Production plus imports	Feed utilization
1978-79	237	12.8	249.8	125
Forecasts for 1979-80 as of:				
12/11/79	179	33.2	212.2	128
1/15/80	179	24.4	203.4	122
2/11/80	179	27.5	206.5	125
3/10/80	179	29.7	208.7	126
4/10/80	179	29.7	208.7	126
5/09/80	179	29.7	208.7	126
6/11/80	179	30.4	209.4	126

Source: *Foreign Agriculture Circular* (Washington, D.C.: U.S. Department of Agriculture).

5 percent, immediately following the embargo. By June, however, the estimate was raised to 126 MMT, only 2 percent below the pre-embargo level. The revised estimates of grain for livestock feed were not based on revisions in estimated production. Production estimates remained unchanged at 179 MMT throughout the period from December 1979 to June 1980. While the tight grain supplies in the Soviet Union resulted in a slower growth of herds and flocks than was expected earlier, there was no evidence of liquidation of breeding animals.

Estimates of total United States exports likewise indicated that the impact of the grain embargo was declining each succeeding month. January-February 1980 estimates of total U.S. exports of feed grains, soybeans, and wheat for the marketing year 1979-80 were well below the December 1979 estimates (table 2). For example, estimated exports of feed grain for the 1979-80 marketing year were reduced from 71.1 MMT in December 1979 to 65.9 MMT in January-February 1980, and wheat estimates were reduced from 1,400 to 1,325 million bushels. By July, however, these estimates had been revised upward so that they closely approximated the pre-embargo levels. Corn exports, estimated at 2,400 million bushels, were somewhat less than the pre-embargo estimate, but the July estimate of 71.1 MMT for all feed grains was equal to the pre-embargo estimate. The July estimate for wheat, at 1,375 million bushels, was only 25 million bushels less than the pre-embargo estimate.

Impact on Grain Prices

Grain prices in the U.S. declined sharply immediately after the announcement of the embargo, reflecting the expected decline in export demand for grain (chart 1). The price of cash wheat declined 9 percent, from $4.39 per bushel on January 4, 1980 to a low of $4.01 per bushel on January 10. Cash corn dropped 10 percent, from $2.56 to $2.30 per bushel, and other feed grains declined by similar amounts.

Following the low point on January 10, most grain prices rose rapidly and regained their pre-embargo levels within less than a month. By February 1, the price of corn was more than 2 percent above its pre-embargo level, at $2.62 per bushel, and the price of wheat, at $4.45 per bushel, was also above its pre-embargo level.

While government purchases of both the contracts for grain sales to the Soviet Union and cash grain may have been a factor in the domestic grain price recovery, such copious supplies often tend to suppress prices. Furthermore, by July, the government had resold export rights to 95 percent of the 352 million bushels of corn that it acquired as a result of the embargo.[12]

Monthly movements in grain prices in other non-socialist nations indicated that a decline in world

[12]*Farmers Newsletter* (Washington, D.C.: U.S. Department of Agriculture, August 1980/F-14).

Table 2
Estimated U.S. Grain Exports for 1979-80*

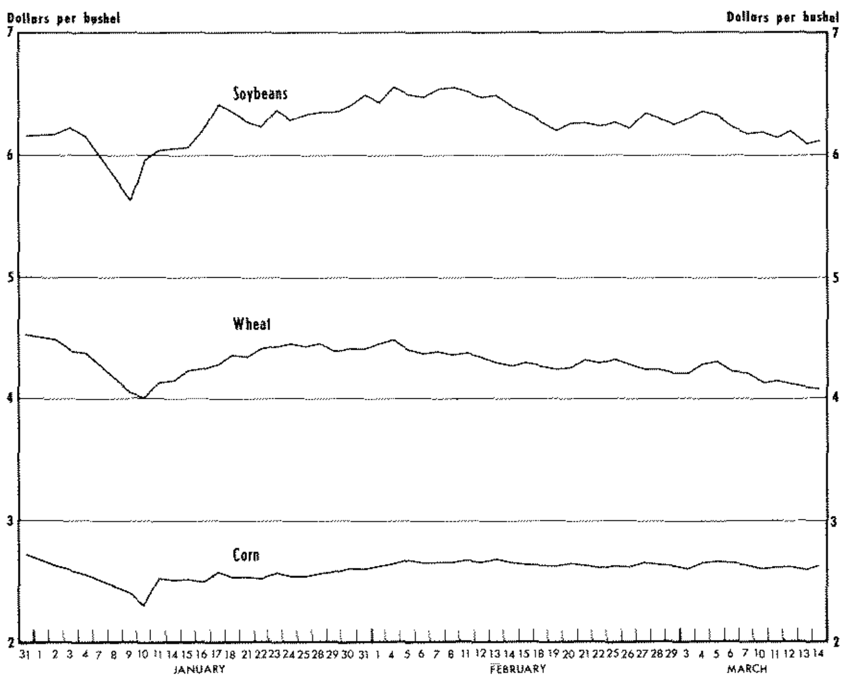
Estimate	Feed grains (mil. metric tons)	Corn (mil. bu.)	Soybean (mil. bu.)	Wheat (mil. bu.)
December 1979	71.1	2,500	825	1,400
January-February 1980	65.9	2,275	815	1,325
March	65.9	2,275	815	1,325
April	69.1	2,400	820	1,325
May	71.0	2,400	820	1,350
June	71.0	2,400	825	1,375
July	71.1	2,400	850	1,375

*Marketing year began October 1 for feed grain and corn, September 1 for soybeans, and June 1 for wheat.

Source: *Agricultural Outlook* (Washington, D.C.: U.S. Department of Agriculture).

grain supplies was expected following the embargo. Apparently, these nations thought that the 17 MMT of grain withheld from the Soviets would be withheld from world markets. By February and March, however, this expectation was reversed as indicated by grain price movements in some major market centers. For example, Canada feed no. 1 rose from $4.40 per hundred weight (cwt) in December 1979 to $4.51 in January 1980 and declined to $4.31 in March 1980 (table 3). Similarly, Rotterdam pellets (a livestock feed) rose in January (following the embargo) and then declined in February. By February, estimates of a large U.S. wheat crop were coming in and wheat prices declined on a month-to-month basis.

Chart I
Specified Farm Commodity Prices: Before, During, and After Embargo



Note: Data plotted for periods when the market was open.

Source: Wall Street Journal

Table 3
Prices of Grain in Specified Markets (in U.S. Dollars at Current Exchange Rates)*

	1979-80			
	December	January	February	March
U.S. No. 2 Yellow corn, $ per bu.	$2.93	$2.69	$2.89	$2.80
Canada feed No. 1, $ per cwt.	4.40	4.51	4.35	4.31
Rotterdam pellets, $ per cwt.	7.71	8.21	7.85	7.17

*All exchange rates are *monthly averages.*

Source: *FAO Monthly Bulletin of Statistics* (Rome, Italy: Food and Agriculture Organization of the United Nations, May, 1980), vol. 3.

Doubts Expressed About Effectiveness of Embargo

Opposition in the U.S. to the embargo developed shortly after its announcement. The Senate Subcommittee on International Finance of the Committee on Banking, Housing, and Urban Affairs began hearings in late January to "consider whether the embargoes are an effective means of making the Russians pay a price for their invasion of Afghanistan, their effect on the U.S. economy, and prospects for a positive effect upon Russian behavior. . . ."[13] The American Farm Bureau, while favoring stiff sanctions for the Soviets, expressed doubt during the hearings that the embargo would reduce Russian meat production by more than 3 percent.

Patterns of Trade Changed

While the embargo reduced direct shipments of grain from the U.S. to the Soviets, it did not succeed in greatly reducing the availability of grain to the Russians. Grain is a highly fungible commodity. Not only can one carload be replaced by another carload, but one type of feed grain can be substituted for another. Even wheat, which is largely used for human food, can be substituted for feed grain with relatively moderate losses in value. Furthermore, most animal feeds are to some extent substitutes. Hence, tracing the flow of American grain through various commercial channels to make certain that the embargoed grain or substitute feed would not ultimately reach the Soviets would be virtually impossible. Most feed grains and wheat are produced throughout much of the world, and the destination points of American grain offer little information as to the ultimate availability of the shipment or of substitute grains to the Russians. Any nation willing to supply more grain to Russia and less to other nations (which, in turn, purchase U.S. grain as replacement) would nullify the embargo. Such nations would not have to be net exporters of grain. Net importers who would be willing to purchase more U.S. grain while simultaneously selling their own grain to the Soviets would reduce the effectiveness of the embargo as much as would net exporters who increase their sales of grain to the Soviets.

If the embargo was effective, it would result in two prices for grain in the international market. A relatively low price would prevail among those nations that cooperate with the U.S. and deny exports to the Soviets, and another higher price would prevail for the Soviets and those nations that sell grain to them. As Robert Gilpin points out, the Soviets can easily switch their purchases of grain to countries that have the incentive to arbitrage the two price situations.[14]

Although there is insufficient evidence to determine which nations permitted increased grain shipments to the Soviets following the embargo, the available data indicate certain unusual patterns of trade. Table 4 shows a number of countries that sharply increased grain imports from the U.S. in the first four months of 1980, compared with the first four months of other recent years. For example, the Democratic Republic

[13]Statement by Senator Adlai E. Stevenson, Chairman of The Subcommittee on International Finance, in *U.S. Embargo of Food and Technology to the Soviet Union*, p. 1.

[14]Statement by Professor Robert Gilpin, Princeton University, in *U.S. Embargo of Food and Technology to the Soviet Union*, p. 184.

Table 4

Estimated January-April Imports of Feed Grains by Selected Countries (Thousands of Metric Tons)

COUNTRY	1975	1976	1977	1978	1979	1980
Brazil	N.A.	N.A.	0	0	79.6	308.8
Federal Republic, Germany	1,221.0	1,458.0	1,399.3	813.0	376.8	642.6
Democratic Republic, Germany	N.A.	N.A.	106.5	98.4	236.0	1,175.5
Poland	410.0	849.0	403.2	500.7	341.9	756.0
U.S.S.R.	519.0	4,584.0	1,606.1	4,159.0	1,857.6	2,303.0
Spain	1,435.0	849.0	648.7	907.0	871.8	1,649.5
Other	9,707.0	8,397.0	10,383.8	10,060.2	13,226.9	15,152.6
All nations	14,369.0	16,635.0	14,924.1	16,777.6	17,579.9	24,113.9

Source: *Foreign Agricultural Trade of the United States* (Washington, D.C.: U.S. Department of Agriculture), supplemented by verbal communications with USDA staff.

of Germany, which had not previously been a major importer of U.S. grain, suddenly became a major importer in 1980. Other major grain producing nations, such as Argentina, could have sold less grain to other grain importing countries and sold a larger portion of their grain to the Soviets. In effect, this action would allow the Soviets to import Argentine grain, for example, as a substitute for U.S. grain. The data suggest that a world market for grain continued to function, but through new channels of trade, following the embargo's impediment to established channels.

Concept of World Grain Market Ignored

The embargo's major weakness was its failure to recognize the fact that there is a world commercial grain market that continues to function despite government controls and despite trading between governments that often ignores the market price. Since grain continues to move from areas where grain prices are relatively low to areas where prices are relatively high, the only sure way of enforcing a grain embargo on the Soviets would have been to obtain guarantees from each nation that it would not export more grain to the Soviets (produced either in the U.S. or locally) than it would have exported without the embargo.

The apparent failure of the U.S. grain embargo to achieve its stated objective does not mean that it had no impact on U.S. farm income or on the cost of grain to the Soviets. It undoubtedly had some impact on both. It interrupted the efficiency of the market channels from the U.S. to the Soviet Union, thus increasing the grain handling and shipping costs. For example, part of the grain which ultimately reached the Soviet Union was shipped initially through non-Soviet ports before finally entering the Soviet Union; in these cases, this additional step increased shipping costs and commissions for handling the grain. Both the grain consumer and the producer pay for such inefficiencies. Consequently, the U.S. farmer obtained a somewhat lower price for his grain and the Soviets paid somewhat more for their food and feed as a result of the embargo.

SUMMARY

Although the embargo on grain sales to the Soviets was designed with the best of intentions, it had only a negligible impact on Soviet grain supply and on total U.S. grain exports. Estimates of the Soviet grain supply for the year ending in June were only one percent less than the pre-embargo forecasts. Estimates of U.S. grain exports were reduced sharply immediately following the embargo, but rose very soon after it was announced and, by July of this year, were approximately the same as the pre-embargo estimates.

Domestic prices for grain declined sharply immediately following the embargo, but regained most of the loss by early February. The embargo apparently altered world patterns of grain trade, as evidenced by the sharp increase in imports of U.S. grain by some nations following the embargo. Hence, there is evidence that large quantities of U.S. grain were shipped to nations which normally purchase grain from other sources, thereby permitting these sources to supply grain to the Soviet Union.

Nevertheless, the embargo did have an impact on both the Soviets and the U.S. in that it resulted in less efficient patterns of trade and less efficient means of marketing. These inefficiencies increased somewhat the cost of food and feed to the Soviets and reduced somewhat the returns to U.S. farmers.