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USSR: Adjusting to the US Grain Embargo

An Intelligence Assessment

CIA HISTORICAL REVIEW PROGRAM
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February 1981

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USSR: Adjusting to the US Grain Embargo

An Intelligence Assessment

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on 7 January 1981.*

This report was prepared by
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and queries are welcome and may be addressed to

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USSR: Adjusting to the US Grain Embargo

Key Judgments

The impact of the US grain embargo on the USSR last year was substantially lessened by Moscow's ability to find alternative sources of grain. Only the United States actually cut back on grain exports; Argentina refused to cooperate, and the other exporters sold more grain to the Soviets than projected when the embargo was announced. Consequently, the Soviets were able to replace half of the 17 million tons of grain denied them by the United States in the Long-Term Agreement (LTA) year ending 30 September 1980.

The embargo reduced Soviet grain imports in the LTA year 1979/80 from an expected 36 million to 28 million tons, which exacerbated an already tight feed situation. It reduced grain available for feed by roughly 8 percent—assuming no equivalent drawdown in stocks—or an amount sufficient to produce 650,000 tons of pork (carcass weight), equal to about 4 percent of meat production in 1979. To soften the impact of the sanctions, however, the Soviets by drawing down stocks were able to hold the drops in grain fed to livestock to 2 percent and in meat production to 3 percent. The low stock level has left Moscow more dependent on grain imports in 1980/81 following another disastrous grain harvest in 1980. We estimate that to maintain a status quo in 1981 livestock production would require the importation of over 40 million tons of grain during the 1980/81 LTA year. Such a high level of import is not feasible.

Whether or not the US partial embargo is continued, the Soviets should be able to obtain enough grain in world markets—including 8 million tons from the United States—to import during the year ending 30 September 1981 equal to their current handling capacity of 34 million tons—6 million tons more than in 1979/80. Support for the embargo among our allies has eroded to the point where availability of non-US grain will be less of a problem for Moscow than port congestion. In addition, the Soviets should have no difficulty purchasing 2-3 million tons of soybeans and products, including some US origin from West European firms. Should the embargo be lifted, the Soviets would take additional quantities of US corn and soybeans, if offered, and probably would defer or cancel delivery on similar quantities from other origins. Such a move would enable Moscow to use larger ships to carry grain, thereby reducing shipping costs and easing congestion at Soviet ports.

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Per capita production of meat in calendar year 1981 will be down for the consecutive year. Meat production is forecast to be no larger, and possibly smaller, than last year, when it dropped 3 percent below 1979. Prior to the embargo we had projected no drop in 1980 meat production. The dominant problem for Soviet meat production in 1981 is a second successive bad harvest of grain and other feeds. A continuation of the US partial embargo on grain would have little effect.

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USSR: Adjusting to the US Grain Embargo

Introduction

In January 1980, following the Soviet intervention in Afghanistan, the United States and its major allies adopted a package of economic denial measures against the USSR. The denial measure that shocked the Soviet Union the most and since has been the most controversial was the partial embargo placed on grain shipments by the United States and cooperating exporters. Differences continue to exist in the media and among exporters about the effectiveness of the US sanctions denying the USSR 17 million tons of US wheat and corn in the US-USSR Long-Term Agreement (LTA) year ending September 1980.

In an effort to clarify the grain embargo's impact, this paper traces our preembargo estimate of Soviet grain import intentions through the US postembargo period and analyzes its effectiveness. It covers the embargo's impact on (1) 1979/80 grain imports for July/June and October/September marketing years, (2) the livestock sector, and (3) port congestion. The probable effects on Soviet grain imports and meat production of lifting the US grain sanctions in early 1981 are also discussed.

Soviet Grain Import Needs, 1979/80

In the fall of 1979 Moscow expected to use large grain imports and drawdown of stocks to soften the impact of a poor grain harvest on the livestock sector. A disastrous 179-million-ton grain crop and poor forage crops implied a very large deficit (in the 50-60 million ton range) relative to requirements to maintain herds and flocks, and fulfill livestock production goals for 1980. Carryover stocks from the 1978 crop were very roughly estimated to be about 20 million tons.

By mid-September trade sources were reporting relatively large Soviet purchases of non-US grain and Soviet interest in being permitted to buy considerably more than 8 million tons of US grain permitted under the upcoming LTA year beginning 1 October 1979.

The confirmation of Soviet intentions to launch a massive grain import program surfaced at the October US-USSR grain consultations when US Department

of Agriculture (USDA) officials offered them 25 million tons of wheat and corn in the year ending 30 September 1980. The Soviets would take all the US grain offered (including some barley), plus about 10 million tons of non-US grain, and 2.5 million tons of soybeans and meal. The total expected purchases of roughly 38 million tons during the year ending 30 September 1980 was near the limit of our estimated Soviet annual port capacity for handling bulk agricultural commodities.

Maximizing imports and drawing down stocks would have softened, but not eliminated the adverse impact of the production shortfall on livestock goals. Supplies of grain for feed still would have been below requirements.

US Sanctions Imposed 4 January 1980

The unilateral suspension of US agricultural exports to the USSR on 4 January 1980 was targeted at the important and highly vulnerable livestock sector of the Soviet economy. It immediately denied the USSR 17 million tons of grain, 1.2 million tons of soybeans and meal, and smaller quantities of poultry scheduled for delivery in the LTA year ending 30 September 1980.

The trade sanctions imposed several restrictions on US exporters:

- The remainder of the 8 million tons of wheat and corn allowed but not shipped as of 4 January had to leave US ports by 1 April 1980.
- Export licenses were required to ship grain to the USSR.
- It was illegal to sell the Soviets US grain not licensed under the 8-million-ton limit through a third country.
- Processed agricultural products made in foreign countries from US raw products could not be sold to the USSR, for example, soy meal made from US soybeans.
- Non-US grain could not be sold by US traders to the USSR. (This restriction was rescinded last June.)

To make the US embargo effective, US officials after imposing the embargo met with representatives of other major grain exporter nations on 12 January to obtain their cooperation. None of the exporters—Argentina and the EC—agreed to cut back grain sales to the Soviets but stated they would not replace directly or indirectly the 17 million tons of US wheat and corn denied. In turn, the United States agreed not to increase sales to other exporters' traditional markets. Because commodities other than grain were not discussed, no agreement was reached on sales of oilseeds, meal, and livestock products. Subsequent discussions with the exporter governments concerning their actions to control grain exports to the USSR made it clear that Argentina was not going to cooperate. Moreover, the other exporters could not be pinned down on specific export ceilings, but only on "traditional or historic levels." This turned out to mean a level as large as or larger than in any other previous year.

The exporters, including Argentina, agreed to participate in monitoring grain trade to the USSR. They have met regularly with US officials to exchange information on new sales, measures taken to control exports to the USSR, and actual shipping data. The EC has not cooperated in providing transshipping data through north European ports, citing commercial secrets as the reason.

CIA and USDA estimated that in the marketing year ending 30 September 1980, the Soviets could probably replace 12-15 million of the denied 17 million tons of grain if major exporting countries failed to support the US embargo and 6-9 million tons if exporters cooperated with the United States. Considerably less grain was available in the marketing year ending 30 June 1980 because of the shorter time the Soviets had to arrange new chartering and shipping schedules to move large quantities of Argentine corn and soybeans available from the April harvest.

Sanctions Reduced Soviet Grain Imports, 1979/80.
We estimate that Soviet grain imports in the 1 October 1979-30 September 1980 year totaled nearly 28 mil-

lion tons, as shown in table 1.¹ This amount fell 8.4 million tons short of preembargo expectations. Imports included 8.4 million tons of US grain and 19.2 million tons from other origins. Without the suspension, we had expected the United States to export about 26 million tons and other suppliers 10 million tons to the USSR. Thus, the Soviets have been able to make up only about half of the 17 million tons of US grain embargoed—at the high end of the 6-9 million ton range we estimated last January.

Estimated imports in the 1 July 1979-30 June 1980 marketing year (MY 1980) were larger at nearly 31 million tons but still 6 million tons below preembargo projections. US exports at 15 million tons were nearly 7 million tons larger, however, than during the October/September year (see table 2). This reflects the large US grain shipments during July-September 1979, before the LTA year began on 1 October 1979 and the year in which the sanctions applied.

Circumvention of Embargo. We have no evidence that large amounts of US grain were diverted through third countries to the USSR. Based on incomplete information we estimate that 500,000 tons of US grain could have gone that route—divided between Romania and northern European transshipping operations. Similar quantities of US soybeans and meal were probably transshipped through northern European ports.

The individual EC countries refused to provide shipping information.

¹ The press—both domestic and foreign—has contributed to some confusion regarding the effectiveness of the embargo because import statistics differ between the marketing and the LTA years. The usual marketing year for grain begins 1 July and the years under the LTA begin 1 October. It was under the agreement year beginning 1 October 1979 that we denied the Soviets 17 million tons of US wheat and corn. Some published reports have incorrectly chosen to use the July/June year statistics to show that US exports greatly exceeded the 8 million tons agreed to under the sanctions. The marketing year ending 30 June is normally used to analyze availability of grain for livestock feeding.

Table 1

Million Metric Tons

USSR: Grain Imports ^a

| Exporters | I.T.A. Years, 1 October - 30 September | | | | 1980/81 | | |
|--------------------|--|--------------|--------------|--------------------------|---------------------|-------------|------------------------------------|
| | 1976/77 | 1977/78 | 1978/79 | 1979/80 | Preembargo Forecast | Forecast | Actual Sales or Agreements to Date |
| Total | 8.79 | 21.38 | 20.32 | 27.64^b | 36.0 | 34.1 | 29.0 |
| United States | 6.1 | 14.8 | 15.3 | 8.40 | 25.9 | 8.0 | 8.0 |
| Canada | 2.1 | 2.7 | 1.9 | 1.30 | 2.4 | 2.5 | 6.5 |
| Australia | 0.2 | 0.1 | 0.2 | 4.40 | 3.0 | 3.5 | 3.3 |
| European Community | | | 0.2 | 1.60 | 0.6 | 2.1 | 1.5 ^c |
| Argentina | 0.23 | 3.2 | 1.6 | 6.00 | 3.0 | 10.0 | 7.0 |
| Eastern Europe | 0.4 | 0.22 | 0.7 | 1.80 | 0.9 | 1.8 | 0.8 |
| Thailand | | | 0.02 | 0.10 | | 0.4 | 0.4 |
| South Africa | | | | 0.10 | | | |
| Sweden | | | | 0.30 | 0.2 | 0.6 | 0.4 |
| Turkey | | | | 0.10 | | 0.2 | 0.1 |
| New Zealand | | | | 0.04 | | | |
| Brazil | 0.06 | 0.16 | | | | | |
| Spain | | | | | | 1.0 | 1.0 |

^a Excluding rice.^b Including an assumed but undocumented 500,000 tons received through diversion.^c Including 900,000 tons of barley.^d Including wheat flour and 500,000 tons mixed feed, at least 65 percent of which is grain.^e Calculated from calendar year statistics.

Reports from Western Europe claiming large amounts of US grain were transshipped through Eastern Europe are exaggerated and unsubstantiated. Larger East European imports were needed to support livestock production goals because of a shortfall in their 1979 harvests. We estimate that less than a million tons out of Eastern Europe's total import of 17 million tons—3 million more than 1978/79—were used to replace exports of domestic grain and transshipments to the USSR.

About 75 percent of the estimated 8.6 million tons of grain replacement came from Argentina, Canada, and Australia (see table 1). Shipments to the USSR in 1979/80 were a record for all of the major exporters except Canada. The other 25 percent was imported

from a number of exporters, including Sweden, Thailand, Eastern Europe, and France.

Embargo Imposed Logistic Constraints. The US sanctions added to logistical constraints on the quantity of imported grain and oilseeds the USSR could handle in 1979/80. We estimate the throughput capacity of the ports was reduced by several million tons. Thus, even if more non-US grain had been available, it is doubtful the Soviets could have imported much more than the estimated 30 million tons (including soybeans) they were able to purchase during the I.T.A. year 1979/80.

Table 2

Million Metric Tons

USSR: Grain Imports^a
1 July-30 June

| Exporters | 1978/79 | 1979/80 Preliminary | 1980/81 Forecast | 1980/81 Sales and Agreement ^b |
|----------------|---------|------------------------|---------------------|--|
| Total | 15.1 | 30.7 | 30.8 | 29.0 |
| Argentina | 1.4 | 5.1 | 8.0 | 7.0 |
| United States | 11.1 | 15.3 | 8.0 | 8.0 |
| Canada | 2.0 | 3.1 | 5.7 | 3.5 |
| Australia | 0.7 | 4.0 | 3.5 | 3.5 |
| EC | 0.2 | 1.0 | 1.8 | 1.3 ^c |
| Eastern Europe | 0.2 | 1.5 | 1.5 | 0.8 |
| Spain | 0 | 0 | 1.0 | 1.0 |
| Sweden | 0 | 0.2 | 0.5 | 0.4 |
| Thailand | 0 | 0.1 | 0.4 | 0.6 |
| Turkey | 0 | 0 | 0.2 | 0.1 |
| South Africa | 0 | 0.1 | 0 | 0 |

^a Excluding 0.5 million tons of rice.^b As of 25 January 1981.^c Because of rounding, components may not add to totals shown.^d Including wheat flour.

Prior to the embargo, CIA estimated the annual Soviet grain-handling capacity of its major ports at 36 million tons. Adding 2-4 million tons for imports to minor ports and by rail gives a total of 38-40 million tons. Suspending shipments of over 18 million tons of US grain, soybeans, and meal, which would have moved in large bulk ocean carriers, forced the Soviets to buy from a larger number of suppliers who were unable to sustain the same scale of grain movements. The shift away from US deepwater ports substantially increased the number of smaller ships arriving in Soviet ports. For example, because of draft limits roughly twice as many ships are needed to move the same quantity of grain out of Argentine ports. Congestion existed at most ports during 1980, with berth throughput rates down and turnaround times up. The increased use of transshipment facilities in Western Europe, which re-

^e This estimate was also supported in October 1979 by trade sources based on their knowledge of known purchases and delivery schedules for grain and oilseeds worked out with the Soviets for 1979/80. See appendix for discussion of Soviet port and transport capabilities for handling grain.

quired the use of large numbers of coasters, also added to congestion in Baltic ports.

Impact of Sanctions on Soviet Livestock Sector. The consequences of reducing grain imports from 36 million to less than 28 million tons because of the embargo have fallen most heavily on the livestock sector. Because port capacity limited imports, even without the embargo the poor 1979 grain and forage crops would have forced the Soviets to make adjustments. Meat production in 1980 probably would have shown no increase, and a downward adjustment in growth of livestock inventories also would have been needed to match the reduced feed base. However, the embargo worsened the situation by further limiting grain imports.

The 8.4 million tons of grain denied the Soviets by the embargo would have resulted in roughly an 8-percent reduction in grain available for feed, assuming it was not replaced from stocks. Expressed in another way, this was enough to produce roughly 650,000 tons of pork (carcass weight), equivalent to 4 percent of meat output in 1979. Because of a large stock drawdown, however, the total grain available for feeding only dropped an estimated 2 percent in 1979/80. The short feedgrain supplies actually impinged on the livestock sector in three ways—a lower meat and milk output, lower animal weights, and slower growth in herd numbers.

Meat production in 1980 came to 15.1 million tons—3 percent less than last year and 4 percent below the sharply reduced plan of 15.7 million tons. Livestock inventories at yearend 1980 were roughly equal to those of a year earlier because of a determined campaign to sustain herds in the socialized sector. Poultry is probably the only category that showed much increase in numbers and product output over last year. Given official data for egg production, the poultry sector undoubtedly received priority in the distribution of concentrated feed supplies because of its relatively high efficiency in converting feed into products.

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Outlook for 1980/81 Soviet Grain Imports

Following a second successive poor grain harvest, the USSR will try to import as much grain as possible during 1980/81 to hold down losses in the livestock sector. A 1980 grain harvest of 189 million tons will leave the Soviets far short of requirements.¹ We also believe Soviet dependence on imports is much greater than a year ago because of smaller grain stocks and a poor potato crop. The estimated large stock drawdown in 1979/80 probably has reduced operating stocks to a dangerously low level by Soviet standards.² Additional drawdowns this year may be tempered by Moscow's likely concerns over the uncertain outlook for the 1981 winter grain crop and Western threats of new grain embargo action over Poland.

We expect Moscow to import about 34 million tons of grain in the *current I.T.A. year ending September 1981*, more than 6 million tons above 1979/80, even if the US partial embargo continues. Imports will be limited more by port and internal transport constraints than by Moscow's ability to buy grain in world markets, especially if Argentina has a good coarse grain harvest this spring. Although grain supplies are tight, the willingness of the Soviets to pay premium prices should attract all the non-US grain they can handle. Moscow also should have no difficulty purchasing some 2-3 million tons of soybeans and meal. So far we estimate the Soviets have purchased or agreed to purchase some 29 million tons of grain and 2 million tons of soybeans, soy meal, and manioc.

The continued effectiveness of the partial US embargo on grain exports is being rapidly eroded by increased sales from other exporting countries and by the Soviet ability to circumvent some of the logistical constraints present during the last I.T.A. year. Only Australia and the EC of the major exporters are cooperating with the United States to hold exports at last year's level, but both planned to review this policy after 20 January. US diplomatic representations that the embargo was

¹ We estimate a deficit of roughly 40 million tons exists if: (1) livestock herds are not reduced, (2) no additions to grain stocks are made, (3) livestock production is maintained at current levels, and (4) no decrease occurs in nonfeed uses of grain. (C)

² The USSR holds an unknown quantity of strategic stocks of grain to supply their military forces and civilian consumers in time of war. This is in addition to operating and buffer stocks accumulated or drawn down in years of good and bad harvest, respectively.

important as a continuing sign of disapproval to the Russians have been undercut by the signing of the US-China grain agreement. Both Canada and Australia regard that agreement as a violation of the US pledge not to increase grain sales to their traditional markets during the embargo.

In the *marketing year ending 30 June 1981 (MY 1981)*, the 12-month period normally used to analyze feed availability, Soviet grain imports will be limited to about 31 million tons plus 2-3 million tons of oilseeds and bulk feeds or roughly the same as MY 1980. This reduced level of grain import compared to the 34 million tons projected for the I.T.A. year ending 30 September 1981 reflects the continued adverse impact of January's partial embargo on both availability of grain from non-US sources and congestion at Soviet ports in the July-December 1980 period. Nonetheless, we expect Moscow to contract for delivery in MY 1981 for more than the 31 million tons of grain they can handle logistically to ensure adequate supplies should unforeseen shipping delays by selected exporters develop. The USSR has already purchased 29 million tons of grain plus 2 million of soybeans and bulk feeds for delivery by 30 June 1981.

Lifting the Embargo

Should the United States lift the partial embargo on grain this month, the Soviets could help ease port congestion by rescheduling larger bottoms to move it and stretch out or reduce deliveries of Argentine grain. For the same reason, if no longer embargoed US soybean meal would be imported directly rather than transshipped or processed through West European suppliers. These measures would have little impact on

During this period we estimate that a total of only 17 million tons of grain, soybeans, and meal were unloaded at Soviet ports or transported by rail from Europe. Without the embargo we expected the USSR to import upwards of 20 million tons in this period. Thus another 17 million tons will have to be imported in the first half of 1981 to achieve our total estimate of 33-34 million tons for MY 1981.

We believe the Soviet ports will be hard pressed to handle more than 17 million tons of grain and oilseeds during January-June 1981. This period includes the usually severe winter months of January-March that normally reduce the number of active Baltic ports, slows offloading operations, and disrupts rail transport. For the first time, the Soviets have chartered six grain ships with rice cutters in an apparent effort to maximize imports this winter through Baltic ports. ~~...~~ claim there must be no hitches in shipping schedules from the ports of two major Western suppliers, Argentina and ~~...~~

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total imports in the first half of 1981, but by the third quarter of the year they might ease the port problem enough to raise grain import potential by some 2 million tons. The railroad system hauling grain away from the ports, however, would have to be assigned a higher priority to move the additional grain to interior locations. Problems of railcar shortages at Odessa, the largest Soviet port, indicate that such a priority has yet to be assigned to hauling grain.

Moscow would be more interested in additional quantities of US corn rather than wheat. We would expect Moscow to purchase immediately for nearby delivery several million tons of corn, if made available, and cut back or delay shipments of Argentine wheat and possibly sorghum. Shifting to US grain could substantially reduce Moscow's costs by lowering shipping charges and largely eliminating current high premiums being paid for non-US grain []
[] Eksporthleb* officials have already discussed with US traders the possibility of importing US soybean meal in 1981. And the president of Eksporthleb, Victor Pershin, told []
[] they preferred to buy US to Argentine grain

Impact of Continued Embargo on Livestock Sector, 1981

Following a second successive poor grain crop--estimated at 189 million tons--the Soviet feedgrain problem will be worse this marketing year. The use of grain stocks will be limited by the large drawdown last year necessitated to a large extent by the embargo. Given the level of projected grain imports for 1980/81, as outlined above, and no stock drawdown, we estimate that grain available for feed use could be down roughly 5 to 10 percent from a year ago. If the Soviets allow

livestock herds to decline, we believe 1981 meat production would equal roughly the 1980 level of 15.1 million tons. Alternatively, should the Soviets attempt to maintain herds on the assumption of a return to normal grain crops in 1981, meat production could drop to 14.5 million tons, or 4 percent. If the United States rescinded the partial embargo on grain, another 100,000 tons of meat might be produced in 1981 from the net increase in imported grain

Meat shortages will be serious during 1981 with or without an embargo. Moscow can be expected to be active in international markets for large meat imports to help fill the gap. We estimate that Soviet meat imports reached at least 700,000 tons in calendar year 1980--a record--and could approach 1 million tons this year.

* The Soviet agency responsible for purchasing foreign grain

Appendix

Transport Constraints on Soviet Grain Imports

In addition to external grain market conditions, the amount of grain that can be imported annually by the USSR is constrained by three key transportation factors:

- The capacity of Soviet ports to offload grain.
- The limited ability of the internal Soviet transportation network—primarily the railroads—to haul the grain from the ports to storage areas.
- Soviet grain storage capacity

Soviet Port Capacity

We estimate that Soviet ports have the capacity to handle as much as 36 million tons of grain imports annually under normal conditions. The four main Soviet ports—Odessa, Leningrad, Ilichevsk, and Novorossiysk—have a combined annual capacity to import grain in excess of 18 million tons. Imports above this rate were observed for short periods during 1973, 1975, and recently when grain imports reached historic peaks. We also know of 14 other Soviet ports that have been used to unload grain and these are factored into our total estimate (see table A-1).

The task of handling large quantities of grain up to port capacity is difficult. The Soviets have a barely adequate inventory of excess railroad cars to move grain imports inland and have had difficulty in developing efficient transportation schedules from the port to internal storage areas. Moreover, the entire Soviet rail system suffers from poor management.

The USSR's major grain ports are currently working the same number of ships as during the peak periods of past lifts, but are operating at reduced efficiency. The maximum number of berths currently used for grain is near historic highs, but the average load delivered is

* To estimate grain handling capacity at Soviet ports, the following factors were considered:

- Total number of berths used for grain imports at 18 ports.
- Average grain unloading rate.
- Ship turnaround time and average deliveries.
- Port working hours (assumes two eight hour shifts and a 240-day work year).

Table A-1

USSR: Unloading Capacity at Grain Ports

| | Maximum Number of Berths Used for Grain | Average Daily Unloading Rate per Berth (Metric Tons) | Total Daily Grain Unloading Capacity (Tons) |
|----------------------|---|--|---|
| Total | 73 | | 150,250 |
| Black Sea | 36 | | 79,500 |
| Odessa | 8 | 2,500 | 20,000 |
| Novorossiysk | 7 | 2,500 | 17,500 |
| Ilichevsk | 7 | 2,500 | 17,500 |
| Nikolayev | 3 | 1,750 | 5,250 |
| Tuapse | 3 | 1,750 | 5,250 |
| Kherson | 3 | 1,750 | 5,250 |
| Poti | 2 | 1,750 | 3,500 |
| Zhdanov | 2 | 1,750 | 3,500 |
| Batumi | 1 | 1,750 | 1,750 |
| Baltic Sea | 31 | | 60,250 |
| Leningrad | 8 | 2,500 | 20,000 |
| Kaliningrad | 6 | 1,750 | 10,500 |
| Klaipeda | 5 | 1,750 | 8,750 |
| Riga | 4 | 1,750 | 7,000 |
| Ventspils | 3 | 1,750 | 5,250 |
| Baltiysk | 3 | 1,750 | 5,250 |
| Tallinn | 2 | 1,750 | 3,500 |
| Pacific Ocean | 6 | | 10,500 |
| Nakhodka | 3 | 1,750 | 5,250 |
| Vladivostok | 3 | 1,750 | 5,250 |

down while turnaround time is up (see table A-2). There are several factors contributing to this inefficient performance:

- The US embargo, which has forced Moscow to increase grain imports from Argentina. Such imports must move on smaller ships due to draft restrictions at Argentine grain ports compared to Gulf ports. This has increased the number of ships that now must be handled at Soviet ports to deliver a given quantity of grain and has led, in some cases, to longer turnaround times.

Table A-2

Soviet Grain Ports: Average Load and Turnaround Time

| | Load (Thousand Metric Tons) | Turnaround Time (Number of Days) | Turnaround Time (In Days, During Peak Imports) |
|-----------------------------|-----------------------------------|---|--|
| 1973 | 24.7 | 15.5 | 22.7 |
| 1975 | 32.0 | 19.7 | 35.9 |
| 1979 | 31.1 | 18.7 | |
| 1980 (January- November) | 18.1 | 21.4 | |

- Continued problems in the USSR with railcar availability, especially those designed to carry grain.
- Increased transshipment of grain on Soviet account in Antwerp, Hamburg, and Rotterdam for delivery by small coastal vessels to river and sea ports in the Soviet Baltic area, which has increased congestion there.
- Ongoing Soviet labor and management problems in coordinating the grain import program

Internal Transportation Constraints

The Soviet transportation system moves a large volume of grain annually in conjunction with the domestic harvest and the distribution of imported grain. The overwhelming share is transported by rail—the primary mode of transportation in the Soviet Union; some 93 percent of all grain tonnage was shipped by rail in 1975 while only 6 percent was transported on the rivers.

Until the early-to-mid-1970s, when nearly all economic activity was concentrated west of the Urals, railroads were able to handle the increased demand for freight and passenger services along with the growth of the Soviet economy. In recent years, however, the continued growth of the economy, the geographical shift in demand for longer haul freight services as Soviet dependence on Siberian resources has increased, and the relative neglect of the railroads in the

allocation of investment resources have severely strained the capacity and flexibility of the rail system. Shocks to the rail system, such as surges in demand for rail transport services in connection with larger grain imports and transit traffic to Iran have resulted in disruptions, delays, and temporary embargoes

While the Soviet rail system serving the grain ports has sufficient capacity to handle more than the 36 million tons of grain that the ports can handle, the actual operation of the rail system is stretched so tightly that any additional strain would lead to further deterioration in performance. The current strains in the system are reflected in several ways:

- Railcar turnaround time is increasing rapidly, leading to inefficient fleet utilization.
- Labor productivity on the railroads is declining.
- Train speeds are slowing.
- The annual rate of increase in traffic hauled is stagnating.

Only by enhanced rail productivity (decreased turnaround time, increased average loads, shorter average length of haul), improved management (particularly more efficient scheduling and allocation of railcars and locomotives), and by not moving low-priority items or assigning these to other transport modes can the rail system relax some of its tautness and be able to accept the movement of additional grain.

Moscow must make a decision on economic priorities for this to occur. If the internal grain supply situation becomes critical enough, we feel that the Soviets will divert nonessential trade and allocate the required transport assets to do so. The drawback to such an undertaking, however, would be disruptions to the domestic economy.