

**20TH QUARTERLY REPORT TO THE CONGRESS  
AND THE EAST-WEST FOREIGN TRADE  
BOARD ON TRADE BETWEEN  
THE UNITED STATES AND  
THE NONMARKET  
ECONOMY COUNTRIES  
DURING  
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## INTRODUCTION

This series of reports by the United States International Trade Commission is made pursuant to section 410 of title IV of the Trade Act of 1974 (19 U.S.C. 2440), which requires the Commission to monitor imports from and exports to the nonmarket economy countries (NME's). These countries include those listed in headnote 3(e) of the Tariff Schedules of the United States (TSUS) and other Communist countries even if they are not listed in the headnote, such as Hungary, Poland, Romania, and Yugoslavia. <sup>1/</sup> This is the same group of countries whose imports can be investigated by the Commission under section 406 of title IV. They are Communist countries that, through control of the distribution process and the price at which articles are sold, could disrupt the domestic market in the United States and thereby injure U.S. producers. Under the statute, the Commission publishes a summary of trade data not less frequently than once each calendar quarter for Congress and the East-West Foreign Trade Board. As requested by the statute, an important objective of the report is the analysis of data for identification of those imported items which may have an impact on the relevant U.S. industry and on employment within that industry.

The nonmarket economy countries for which trade statistics are included in this series of reports are Albania, Bulgaria, the People's Republic of China (China), Cuba, Czechoslovakia, the German Democratic Republic (East Germany), Hungary, Mongolia, North Korea, Poland, Romania, the U.S.S.R., Vietnam, and Yugoslavia. These are the countries whose current trade with the United States is at least at a level that could present problems for domestic industry. Most of these countries have not been accorded most-favored-nation (MFN) tariff treatment by the United States during the last 27 years. At the present time, only Poland, Yugoslavia, Romania, and Hungary receive MFN treatment.

In the TSUS, the unconditional MFN rates are set forth in rate-of-duty column 1. The rates applicable to products of designated Communist nations are set forth in rate-of-duty column 2; for the most part, these are the original statutory rates, enacted in 1930. The underlying rate policy was made effective in 1951 and 1952 pursuant to section 5 of the Trade Agreements Extension Act of 1951. The act directed the President to take appropriate action to deny the benefit of trade-agreement concessions to imports from certain Communist nations or areas. The rate discrimination resulting from this policy varies considerably from item to item, and it is not present at all for products which have been historically duty free or dutiable at the same rates in columns 1 and 2. Actual or potential U.S. imports from those countries which do not enjoy MFN privileges therefore depend in some measure on the rate treatment of the specific item involved.

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<sup>1/</sup> The following countries or areas are listed under headnote 3(e) of the TSUS: Albania, Bulgaria, the People's Republic of China, Cuba, Czechoslovakia, East Germany, Estonia, those parts of Indochina under Communist control or domination, North Korea, the Kurile Islands, Latvia, Lithuania, Mongolia, Southern Sakhalin, Tanna Tuva, Tibet, and the U.S.S.R.

This report contains a summary of U.S. trade with the NME's during July-September 1979 which examines U.S. exports, imports, and the balance of trade on a country-by-country basis and analyzes the commodity composition of such trade. Important changes in U.S. commercial relations with the NME's and pertinent economic and trade developments in NME's are also discussed. In addition, individual sections in this report present a detailed analysis of the effect on the relevant U.S. industry and its employment of exports of oil and gas well machinery to the U.S.S.R. and China, and exports of soybeans to the NME's.

## SUMMARY OF THIRD QUARTER DEVELOPMENTS

Total trade between the United States and the nonmarket economy countries increased 5.9 percent from April-June 1979 to \$2.8 billion in July-September 1979. This was a quarterly record, but an indeterminate amount of the increase in the value of trade reflects a rise in price rather than a growth in volume. Exports increased 6.2 percent to a record \$2.0 billion, mainly on the strength of increased sales of agricultural products. Imports increased 5.0 percent to a record \$757 million owing to increased imports of gold bullion from the U.S.S.R. and of miscellaneous manufactured articles, principally from China.

The United States achieved a record \$1.3 billion trade surplus with the NME's during the quarter. The U.S. trade surplus with the NME's has been growing steadily since the fourth quarter of 1978. During July-September 1978, the United States achieved trade surpluses with all major NME trade partners except Hungary. Nearly 38 percent of the current quarter's surplus, or \$767,178, occurred in trade with the Soviet Union.

About 40 percent of total U.S. exports to the NME's during July-September 1979 consisted of food shipped to the Soviet Union. Grain sales to the Soviet Union are expected to increase further in the near future, as the 1979 Soviet grain harvest was approximately 40 million metric tons below the planned target. In early October 1979, the U.S. Department of Agriculture informed the Soviets they could purchase up to 25 million tons of grain during FY 1980, the highest amount ever offered to the Soviet Union.

Several developments of interest occurred during the quarter which may have an effect on U.S.-NME commercial relations. On July 7, 1979, in Peking, U.S. Ambassador Leonard Woodcock and China's Foreign Trade Minister signed a bilateral trade agreement which is expected to contribute substantially to expanded economic ties between the United States and China. Then, on July 8 China adopted a joint equity venture law which should significantly expand the role of foreign firms in China. Later, in August, the Vice President of the United States visited China and announced that the United States is prepared to establish U.S. Export-Import Bank credit arrangements for China on a case-by-case basis up to a total of \$2 billion over a 5-year period.

Also, during the quarter, the United States International Trade Commission conducted an investigation of imports of anhydrous ammonia from the U.S.S.R. under section 406 of the Trade Act of 1974 to determine whether market disruption exists with respect to domestically produced ammonia. On October 11 the Commission reported to the President its determination, by a 3-2 vote, that market disruption exists with respect to imports of ammonia from the U.S.S.R. Those Commissioners determining market disruption recommended a quota as a remedy. However, on December 11, 1979, President Carter determined that the imposition of a quota on imports of anhydrous ammonia from the Soviet Union is not currently in the national interest.

Most-favored-nation (MFN) status for Romania and Hungary was extended for another year when the U.S. Congress took no action to terminate the authority by which the President can waive the freedom of emigration condition for MFN treatment. In addition, the Export-Import Bank (Eximbank) approved several

lines of credit for Romania and Hungary. For Hungary, it was the first financial support from the Eximbank since 1968. In that year a prohibition against Eximbank financing of exports to or for use in Communist countries was added to the Bank's enabling legislation, a prohibition which is waived if the President determines such financing to be in the national interest. The President made such a determination in August 1978.

U.S. exports of oil and gas well machinery to NME's, primarily the U.S.S.R. and China, increased substantially in 1978 and January-July 1979. During the latter period, exports to the NME's accounted for nearly 7 percent of total U.S. exports of this equipment. NME demand for oil and gas well machinery is expected to increase, particularly in the U.S.S.R. and China, as these countries seek to develop their oil resources. Since the United States is the principal source of oil- and gas-drilling technology, its exports of oil and gas well machinery to NME's will most likely continue to grow.

The NME market is significant for U.S. soybeans and soybean products. In 1978, NME's accounted for nearly 9 percent of the total U.S. export value of such products. The United States is the principal source of NME purchases, although its dominance has been challenged in this decade by Brazil. U.S. prospects for exports to all three major NME markets, the Soviet Union, China, and East Europe, continue to be good.



### THIRD QUARTER DEVELOPMENTS IN TRADE BETWEEN THE UNITED STATES AND THE NONMARKET ECONOMY COUNTRIES

Total trade between the United States and the nonmarket economy countries increased 5.9 percent from April-June 1979 to a record \$2.8 billion in July-September 1979 (table 1). Both exports and imports reached record levels, exceeding the previous records established during the April-June 1979 quarter. Exports increased 6.2 percent to \$2.0 billion on the basis of increased exports to the U.S.S.R., China, Poland, and Czechoslovakia. Imports increased 5.0 percent to \$757 million, reflecting increased deliveries from the U.S.S.R., China, and Hungary. Total trade between the United States and several NME's--Yugoslavia, Romania, East Germany, and Bulgaria--decreased during July-September 1979 compared with trade during the previous quarter.

U.S. total trade with the world also reached a record in the third quarter of 1979, amounting to \$97.8 billion, 3.4 percent more than the previous record registered in April-June 1979. Both total exports and imports achieved record levels during July-September 1979.

The United States experienced an overall \$1.3 billion surplus in its trade with the NME's during July-September, in contrast with an \$8.4 billion deficit in trade with the world. The \$1.3 billion trade surplus with the NME's establishes a record and is primarily the result of the high level of agricultural exports. The NME's accounted for a larger share--4.5 percent--of total U.S. exports than has been the case during any other recent quarter. The share of imports from the NME's in total U.S. imports was 1.4 percent in July-September 1977, the same as in April-June 1979.

The distribution within broad product groups of U.S. trade with the NME's and with the world for January-September 1978 and January-September 1979 is shown in table 2. With respect to U.S. exports, the total value of U.S. exports to the world increased 26.1 percent to \$128.0 billion between the two periods, while U.S. exports to the NME's increased 42.5 percent to \$5.4 billion. The value of exports both to the world and to the NME's increased in all broad category groups. Compared with U.S.-world trade, U.S. trade with the NME's is much more heavily weighted by agricultural products and crude materials, while mineral fuels, chemicals, semimanufactures (SITC 6), and manufactured items (SITC 7, 8, 9) are of relatively less importance. The share of food, beverages, and tobacco and of crude materials in total U.S. exports to the NME's declined in January-September 1979 compared with shares during the corresponding period of the previous year. Exports of manufactured items also declined in relative importance, while the shares of mineral fuels, chemicals, and semimanufactured goods increased. These last three groups of exports accounted for only 11.4 percent of total U.S. exports to the NME's during January-September 1979.

Total U.S. imports from the world increased 16.2 percent to \$148.4 billion between January-September 1978 and January-September 1979, while U.S. imports from the NME's increased 18.4 percent to \$1.9 billion over the same period. Imports increased in all product groups from the world and from the NME's, except crude materials from the NME's. U.S. imports from the world are dominated by manufactured goods and mineral fuels, which together accounted for over 67 percent of total U.S. imports. Manufactured goods account for 45

Table 1.--U.S. trade with the world and with the nonmarket economy countries,  
by quarters, July 1978-September 1979

Item	1978		1979		
	July- September	October- December	January- March	April- June	July- September
U.S. world trade:					
Exports-----million dollars--	35,281	40,363	41,080	44,452	44,681
Imports-----do-----	43,145	45,129	45,387	50,119	53,121
Balance-----do-----	-7,864	-4,766	-4,307	-5,667	-8,440
U.S. trade with nonmarket economies:					
Exports-----million dollars--	1,170	1,194	1,478	1,911	2,029
Imports-----do-----	542	592	478	721	757
Balance-----do-----	628	602	1,000	1,190	1,272
Trade turnover (exports plus imports) million dollars--	1,712	1,786	1,956	2,632	2,786
Share of U.S. total trade with nonmarket economy countries:					
Exports-----percent--	3.32	2.96	3.60	4.30	4.54
Imports-----do-----	1.26	1.31	1.05	1.44	1.43

Source: U.S. Department of Commerce publication FT990. Export data are from tables 7 and E-3 and include domestic and foreign merchandise and Defense Department military assistance grant-in-aid shipments. Import data are from tables 8 and I-6 and are general imports. Both exports and imports are valued on an f.a.s. basis.

Note.--General imports are used in this table as a more accurate measure of the U.S. balance of trade for any given time period. The totals for general imports in this table will not, therefore, correspond with totals for imports for consumption listed in all other tables in the report.

Table 2.—U.S. trade with the world and with the nonmarket economy countries, by SITC 1/  
Nos. (Revision 2), January–September 1978 and January–September 1979

SITC commodity code No.	Description	U.S. trade with the world		U.S. trade with NME's	
		January- September--		January- September--	
		1978	1979	1978	1979
		Exports (million dollars)			
0,1	Food, beverages, and tobacco-----	15,167	16,979	2,057	2,835
2,4	Crude materials-----	11,987	15,704	741	1,039
3	Mineral fuels and lubricants-----	2,572	3,984	45	94
5	Chemicals-----	9,222	12,607	113	279
6	Manufactured goods classified by chief material-----	9,024	11,625	96	243
7,8,9	Other manufactured goods and miscellaneous-----	53,518	67,050	722	889
	Total-----	101,491	127,950	3,774	5,379
		Imports (million dollars)			
0,1	Food, beverages, and tobacco-----	11,425	12,700	281	305
2,4	Crude materials-----	7,105	8,261	118	113
3	Mineral fuels and lubricants-----	31,444	41,138	90	123
5	Chemicals-----	4,835	5,456	98	131
6	Manufactured goods classified by chief material-----	20,605	22,063	381	386
7,8,9	Other manufactured goods and miscellaneous-----	52,324	58,789	661	871
	Total-----	127,738	148,407	1,629	1,929
		Percent of total exports			
0,1	Food, beverages, and tobacco-----	14.9	13.3	54.5	52.7
2,4	Crude materials-----	11.8	12.3	19.6	19.3
3	Mineral fuels and lubricants-----	2.5	3.1	1.2	1.7
5	Chemicals-----	9.1	9.9	3.0	5.2
6	Manufactured goods classified by chief material-----	8.9	9.1	2.5	4.5
7,8,9	Other manufactured goods and miscellaneous-----	52.7	52.4	19.1	16.5
	Total-----	100.0	100.0	100.0	100.0
		Percent of total imports			
0,1	Food, beverages, and tobacco-----	8.9	8.6	17.2	15.8
2,4	Crude materials-----	5.6	5.6	7.2	5.9
3	Mineral fuels and lubricants-----	24.6	27.7	5.5	6.4
5	Chemicals-----	3.8	3.7	6.0	6.8
6	Manufactured goods classified by chief material-----	16.1	14.9	23.4	20.0
7,8,9	Other manufactured goods and miscellaneous-----	41.0	39.6	40.6	45.2
	Total-----	100.0	100.0	100.0	100.0

1/ Standard International Trade Classification.

Source: Data on U.S. trade with the world are from U.S. Department of Commerce publication FT990, tables 3 and 6. Data on U.S. trade with the NME's are from the U.S. Department of Commerce, Bureau of East-West Trade. Imports are for consumption and valued on a customs basis. Exports are domestic merchandise only, and valued on an f.a.s. basis.

Note.—Because of rounding, figures may not add to the totals shown.

percent of U.S. imports from the NME's, but substantial imports of gold bullion are included in this figure. Gold bullion imports from the Soviet Union are often sizable, and during January-September 1979 accounted for 30 percent of items imported in SITC groups 7, 8, and 9. <sup>1/</sup> Mineral fuels, on the other hand, account for only a small share of total U.S. imports from the NME's. Imports from the NME's of both manufactured goods and mineral fuels increased in relative importance during January-September 1979 compared imports during January-September 1978, while the share of imports decreased in all other categories except chemicals.

Table 3 shows the distribution of U.S. exports to individual NME's in each product category for July-September 1979. During this period, exports of food and live animals accounted for 64.6 percent of total U.S. exports to NME's. Purchases by the Soviet Union, the principal customer, were valued at \$809.8 million and accounted for 61.9 percent of exports in this category and 40.0 percent of total U.S. exports to the NME's. Exports of food and live animals accounted for more than 70 percent of the total value of exports to the U.S.S.R., Poland, East Germany, Czechoslovakia, and Bulgaria; 56 percent of total exports to Romania; 36 percent of total exports to China; and 27 percent of exports to Yugoslavia. The major food exports were corn (\$722.6 million) and wheat (\$484.5 million), with a total value of \$1.2 billion, or 92 percent of total food exports, and 60 percent of total exports.

Crude materials was the second largest category of exports, accounting for 10.2 percent of total U.S. exports to the NME's. Items exported in this group included soybeans to the U.S.S.R., China, Poland, Romania, Yugoslavia, and East Germany; cattle hides to Czechoslovakia, East Germany, Hungary, Poland, and Romania; wood pulp to Bulgaria, East Germany, Romania, and Yugoslavia; polyester fibers to China; and molybdenum ore to the U.S.S.R. <sup>2/</sup>

Machinery and transport equipment accounted for another 9.5 percent of U.S. exports to the NME's during the quarter. The U.S.S.R., China, and Yugoslavia together purchased about \$155 million worth of the \$192 million total. U.S. exports to the U.S.S.R. included tractors and parts, pipehandlers, oil and gas drilling machinery, oilfield and oil well pumps, computer equipment, and other mining machines. <sup>3/</sup> China's main purchases were oil and gas drilling machinery and off-highway trucks, while Yugoslavia purchased, among other things, airplanes and parts, tractors, off-highway trucks, and excavators.

U.S. exports of semimanufactures were valued at \$127.0 million. Over 80 percent of these exports went to China, and over one-half of the Chinese purchases consisted of oil field equipment.

Exports of chemicals accounted for another 4.3 percent of U.S. exports to NME's during the quarter. Principal exports included phosphoric acid, cellulose compounds, and ammonium compounds to the U.S.S.R. and polyester resins and urea to China.

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<sup>1/</sup> See Appendix table A-1 for exact value of U.S. gold bullion imports from the U.S.S.R.

<sup>2/</sup> An analysis of U.S. soybean exports to the NME's begins on page 46.

<sup>3/</sup> An analysis of U.S. exports of oil and gas well machinery begins on page 22.

Table 3.--U.S. exports to the nonmarket economy countries, by SITC 1/ Nos. (Revision 2), July-September 1979

(In thousands)									
SITC commodity: code No. :	Description	:Albania:	Bulgaria:	China	Cuba	Czecho- slovakia:	East Germany	Hungary	Mongolia
0	: Food and live animals-----	-	\$9,754	\$133,721	-	\$48,753	\$46,135	\$199	-
1	: Beverages and tobacco-----	-	916	24	-	11	-	134	-
2	: Crude material--inedible, except	:	:	:	:	:	:	:	:
	: fuel-----	\$151	1,289	50,871	-	8,227	1,158	2,685	-
3	: Mineral fuels, lubricants, etc-----	2,985	-	64	-	1	-	1	-
4	: Oils and fats--animal and vegetable--	-	-	602	-	-	-	14	-
5	: Chemicals-----	-	296	23,195	-	1,370	2,023	1,201	-
6	: Manufactured goods classified by	:	:	:	:	:	:	:	:
	: chief material-----	-	138	104,314	-	671	515	1,817	\$1
7	: Machinery and transport equipment----	289	700	48,417	\$29	2,478	1,804	4,346	4
8	: Miscellaneous manufactured articles--	-	548	15,203	8	1,646	961	1,207	3
9	: Commodities and transactions not	:	:	:	:	:	:	:	:
	: elsewhere classified-----	-	18	157	-	270	114	56	6
	: Total 2/-----	3,425	13,659	376,569	37	63,427	52,709	11,659	14
		: North	Poland	Romania	U.S.S.R.	Vietnam	Yugoslavia	Total	
		: Korea	:	:	:	:	:	:	:
0	: Food and live animals-----	-	155,970	59,874	809,791	-	43,368	1,307,565	
1	: Beverages and tobacco-----	-	4,480	-	911	-	7,917	14,393	
2	: Crude material--inedible, except	:	:	:	:	:	:	:	
	: fuel-----	-	27,643	25,973	62,463	-	26,504	206,964	
3	: Mineral fuels, lubricants, etc-----	-	6	-	2,572	-	11,682	17,311	
4	: Oils and fats--animal and vegetable--	-	11,158	-	8,782	-	4	20,560	
5	: Chemicals-----	13	5,294	888	36,704	54	15,238	86,276	
6	: Manufactured goods, classified by	:	:	:	:	:	:	:	
	: chief material-----	-	4,023	1,631	7,990	-	5,899	126,999	
7	: Machinery and transport equipment----	-	10,126	16,535	66,138	98	41,530	192,494	
8	: Miscellaneous manufactured articles--	-	2,050	2,048	21,348	33	5,156	50,211	
9	: Commodities and transactions not	:	:	:	:	:	:	:	
	: elsewhere classified-----	-	482	69	445	61	839	2,517	
	: Total 2/-----	13	221,230	107,018	1,017,143	247	158,139	2,025,291	

1/ Standard International Trade Classification.

2/ Because of rounding, figures may not add to the totals shown.

Source: U.S. Department of Commerce, Bureau of East-West Trade.

The distribution of U.S. imports from individual NME's in July-September 1979 is shown in table 4. Miscellaneous manufactured articles was the largest category of imports with a total value of \$189.5 million. Of this amount, approximately 38 percent was supplied by China. Imports from China in this category included antiques, wearing apparel, bags and baskets of bamboo, and footwear. Other manufactured imports included footwear from Romania, Yugoslavia, Poland, Hungary, Czechoslovakia, and Bulgaria; wearing apparel from Romania, Yugoslavia, Poland, Hungary, East Germany, Czechoslovakia, and Bulgaria; wood furniture from Romania, Yugoslavia, Poland, and Czechoslovakia; artworks from the U.S.S.R. and Hungary; snow skis from Yugoslavia; metal coins from the U.S.S.R.; still cameras from East Germany; and glass prisms from Czechoslovakia.

The second largest category of imports was commodities and transactions not elsewhere classified. Imports in this category consisted almost wholly of gold bullion from the Soviet Union. Indeed, imports of gold bullion from the Soviet Union accounted for 45 percent of total U.S. gold imports of \$355.7 million. Moreover, the 158.9 million dollars' worth of gold imported from the Soviet Union during July-September 1979 represents almost 60 percent of total U.S. gold imports from that country for January-September, 1979. There are several factors which may explain the increased gold imports from the Soviet Union during July-September. First, the rising price of gold made selling more profitable. The unit value of imported gold bullion from all sources was \$308.77 during July-September 1979 compared with \$262.20 during April-June 1979 and \$235.49 during January-March 1979. Second, the Soviets may have decided in the face of another harvest shortfall to sell gold as a means of earning hard currency to pay for anticipated grain imports.

Imports of semimanufactured items (SITC 6) were valued at \$141.4 million and accounted for 18.5 percent of total U.S. imports from the NME's. The major source of these items was the Soviet Union, followed by Yugoslavia, China, and Poland. Imports in this group included platinum group metals, nickel, titanium, diamonds, hardboard, and birch plywood from the Soviet Union; ferrous metals, unwrought aluminum, and silver bullion from Yugoslavia; textiles and textile products, pile floor coverings, and nails from China; and steel plate, textiles and textile products, nails, screws, and brass rods from Poland.

Imports of food items were valued at \$81.9 million and accounted for another 10.7 percent of U.S. imports from the NME's. Poland was the main source for these items, which consisted largely of canned hams and frozen fish. China was the second largest source of food imports and supplied such items as shrimp, tea, honey, and cashew nuts. The principal item imported from other NME's was canned ham.

Other items imported included machinery and transport equipment from Poland, Romania, and Hungary; chemicals from China and the Soviet Union; crude materials from the Soviet Union and China; and mineral fuels from China and Romania.

Table 4.--U.S. imports from the nonmarket economy countries, by SITC 1/ Nos. (Revision 2), July-September 1979

(In thousands)									
SITC commodity: code No. :	Description :	Albania :	Bulgaria :	China :	Cuba :	Czecho- slovakia :	East Germany :	Hungary :	Mongolia :
0	Food and live animals-----	\$1	\$445	\$15,717	-	\$1,343	\$49	\$9,065	-
1	Beverages and tobacco-----	94	3,962	199	-	102	77	334	-
2	Crude material--inedible, except fuel-----	2,430	519	14,194	-	24	23	41	\$560
3	Mineral fuels, lubricants, etc-----	-	-	16,032	-	-	351	-	-
4	Oils and fats--animal and vegetable--	-	-	17	-	-	-	-	-
5	Chemicals-----	-	416	13,013	-	377	1,033	2,468	-
6	Manufactured goods classified by chief material-----	-	130	21,825	-	2,750	2,389	2,854	-
7	Machinery and transport equipment-----	-	595	384	-	3,591	2,258	9,729	-
8	Miscellaneous manufactured articles--	1	874	71,524	-	3,314	1,603	7,043	-
9	Commodities and transactions not elsewhere classified-----	-	23	575	\$12	69	106	144	-
	Total 2/-----	2,527	6,964	153,481	12	11,569	7,889	31,678	560
		North Korea :	Poland :	Romania :	U.S.S.R. :	Vietnam :	Yugoslavia :	Total	
0	Food and live animals-----	-	35,885	9,107	127	-	10,132	81,871	
1	Beverages and tobacco-----	-	93	153	2,076	-	5,348	12,438	
2	Crude material--inedible, except fuel-----	-	176	3,567	14,644	-	788	36,966	
3	Mineral fuels, lubricants, etc-----	-	7,034	11,548	2	-	-	34,967	
4	Oils and fats--animal and vegetable--	-	637	-	5	-	2	661	
5	Chemicals-----	-	6,352	2,137	20,650	-	3,371	49,817	
6	Manufactured goods, classified by chief material-----	-	21,322	18,987	40,782	-	30,390	141,429	
7	Machinery and transport equipment-----	-	13,661	11,718	2,310	-	7,607	51,853	
8	Miscellaneous manufactured articles--	67	25,615	32,814	10,146	156	36,385	189,542	
9	Commodities and transactions not elsewhere classified-----	-	178	141	159,222	-	3,447	163,917	
	Total 2/-----	67	110,954	90,172	249,965	156	97,470	763,462	

1/ Standard International Trade Classification.

2/ Because of rounding, figures may not add to the totals shown.

Source: U.S. Department of Commerce, Bureau of East-West Trade.

Note.—Total imports shown are imports for consumption and differ from the figures in table 1, which are general imports.

Table 5 compares U.S. exports to individual NME's in various periods. The table shows that, relative to January-September 1978, exports in January-September 1979 decreased to Poland and Hungary. Exports to the other major NME trading partners increased, in some cases by substantial amounts. For example, exports to China increased by 145.1 percent, to Czechoslovakia by 105.9 percent, to East Germany by 93.6 percent, and to Yugoslavia by 75.4 percent. Moreover, exports to the U.S.S.R., China, Yugoslavia, Romania, Czechoslovakia, East Germany, and Albania exceeded their value for 1978 during January-September 1979. The decrease in exports to Poland combined with the increase in exports to Yugoslavia was sufficient to cause Yugoslavia to surpass Poland in importance as a destination for U.S. exports during January-September 1979.

U.S. imports from individual NME's in various periods are presented in table 6. The table shows that compared with imports in January-September 1978, imports from four countries--Yugoslavia, Poland, Czechoslovakia, and East Germany--decreased during January-September 1979. However, in the case of Poland and East Germany, the decrease in imports was very small. Imports from all other NME's combined increased by 36.1 percent. The largest percentage increases occurred in imports from Albania--178.4 percent, Cuba--129.1 percent, Hungary--63.3 percent, China--59.0 percent, and the U.S.S.R.--40.0 percent. Moreover, during January-September 1979, imports from China, Hungary, Albania, and Cuba had already surpassed their level during the full year 1978.

The U.S. trade balance with each NME separately and with all NME's combined can be determined from tables 5 and 6. During January-September 1979, the United States enjoyed an overall positive trade balance with the NME's of \$3,450 million, 36.7 percent higher than the surplus registered in January-September 1978. More than one-half of this surplus, or \$1,986 million, occurred in trade with the Soviet Union. This 9-month surplus exceeds the \$1,719 million surplus which the United States achieved with the Soviet Union during the full year 1978. The United States also achieved a healthy trade surplus of \$695.3 million in its trade with China during January-September 1979, slightly more than 3-1/2 times the size of the surplus during the corresponding period of 1978.

Although the United States had incurred small deficits with Yugoslavia and Romania during January-September 1978, it enjoyed significant trade surpluses of \$218 million and \$110 million, respectively, with these countries during January-September 1979. With Poland, the U.S. trade surplus of \$175 million was only two-thirds the size of the trade surplus the United States enjoyed during January-September 1978. Substantially increased exports to Czechoslovakia and East Germany caused the U.S. trade surplus with those countries during January-September 1979 to exceed the trade surplus registered during any previous year. The United States experienced small trade deficits with Hungary, Albania and Mongolia. With Hungary, \$20 million of the \$26.5 million trade deficit registered during January-September 1979 occurred during the July-September quarter. The tables also show that the United States had a negative balance in trade with Vietnam and North Korea. <sup>1/</sup>

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<sup>1/</sup> If these figures are ultimately verified by the Census Bureau, which is looking into the matter, then Vietnam and North Korea are in violation of the Trading with the Enemy Act, which prohibits U.S. imports from Vietnam and North Korea among others. In addition, the Export Administration Act prohibits U.S. exports to these countries, except for humanitarian reasons.



Table 5.—U.S. exports to the individual nonmarket economy countries and to the world, 1977, 1978, January-September 1978, January-September 1979, July-September 1978, and July-September 1979 <sup>1/</sup>

(In thousands)							
Market	1977	1978	January-September--		July-September--		
			1978	1979	1978	1979	
U.S.S.R-----	\$1,623,484	\$2,249,020	\$1,952,690	\$2,473,805	\$430,081	\$1,017,143	
China-----	171,318	818,241	440,764	1,080,438	230,221	376,569	
Poland-----	436,536	677,022	586,346	496,118	243,994	221,230	
Yugoslavia-----	355,436	471,298	294,929	517,271	118,897	158,139	
Romania-----	259,405	317,423	227,258	366,682	85,411	107,018	
Czechoslovakia-----	73,989	105,349	71,233	146,660	9,556	63,427	
East Germany-----	36,099	170,121	98,677	191,028	27,208	52,709	
Hungary-----	79,717	97,682	69,886	53,345	11,837	11,659	
Bulgaria-----	23,910	48,120	30,993	44,792	9,306	13,659	
Albania-----	2,209	4,469	458	7,609	58	3,425	
Cuba-----	588	340	264	295	17	37	
Mongolia-----	11	62	48	70	11	14	
Vietnam-----	46	1,879	1,874	385	10	247	
North Korea-----	-	1	-	13	-	13	
Total-----	3,062,747	4,961,027	3,775,422	5,378,512	1,166,607	2,025,291	
Total U.S. exports to							
the world-----	118,943,700	141,068,900	101,427,700	127,842,800	34,695,200	43,870,300	

<sup>1/</sup> Because of the inclusion of nonmonetary gold in the statistics effective Jan. 1, 1978, data for 1977 have been adjusted to include nonmentary gold. Therefore, data in this table for 1977 are not comparable with data for 1977 in table 5 in the Commission's 13th quarterly report to the East-West Trade Board.

<sup>2/</sup> These figures do not correspond exactly to those in table 1 because export figures in table 1 include U.S. exports of foreign merchandise and Department of Defense military-assistance shipments, whereas figures in this table do not. Exports are valued on an f.a.s. basis.

Source: U.S. Department of Commerce publication FT990, and Bureau of East-West Trade.

Note.—Because of rounding, figures may not add to the totals shown.

Table 6.--U.S. imports for consumption from the individual nonmarket economy countries and from the world, 1977, 1978, January-September 1978, January-September 1979, July-September 1978, and July-September 1979 <sup>1/</sup>

(In thousands)							
Market	1977	1978	January-September--		July-September--		
			1978	1979	1978	1979	
U.S.S.R-----	\$421,581	\$529,579	\$353,780	\$488,128	\$99,449	\$249,965	
China-----	197,400	316,743	242,227	385,131	80,259	153,481	
Poland-----	326,508	435,947	325,616	321,379	103,879	110,954	
Yugoslavia-----	347,899	406,553	317,373	298,973	112,670	97,470	
Romania-----	231,020	344,561	242,682	256,565	104,107	90,172	
Czechoslovakia-----	36,392	57,359	42,932	35,624	13,292	11,569	
East Germany-----	16,863	35,220	28,182	27,076	9,059	7,889	
Hungary-----	46,800	69,153	48,896	79,834	17,935	31,678	
Bulgaria-----	26,043	27,909	22,077	24,423	6,114	6,964	
Albania-----	3,399	3,497	2,754	7,667	472	2,527	
Cuba-----	106	66	55	126	28	12	
Mongolia-----	2,076	3,679	2,580	3,194	711	560	
Vietnam-----	428	203	188	600	132	156	
North Korea-----	94	21	17	126	9	67	
Total <sup>2/</sup> -----	1,656,611	2,230,490	1,629,360	1,928,847	548,116	763,462	
Total U.S. imports from							
the world <sup>2/</sup> -----	149,749,366	172,952,194	127,738,446	148,407,427	43,639,501	53,131,355	

<sup>1/</sup> Because of the inclusion of nonmonetary gold in the statistics effective Jan. 1, 1978, data for 1977 have been adjusted to include nonmentary gold. Therefore, data in this table for 1977 are not comparable with data for 1977 in table 5 in the Commission's 13th quarterly report to the East-West Trade Board. Data for 1977 are not adjusted for date of importation.

<sup>2/</sup> These figures do not correspond exactly to those in table 1 because these figures are imports for consumption valued on a customs basis, whereas the import figures in table 1 are general imports valued on an f.a.s. basis.

Source: U.S. Department of Commerce publication IM-146, and Bureau of East-West Trade.

Note.--Because of rounding, figures may not add to the totals shown.

U.S. exports of cereals and cereal preparations reached a record level of \$1,251 million during July-September 1979, nearly three times the value of grain exports during July-September 1978, and 3.3 times the 1973-78 quarterly average of \$378.4 million (table 7). Grain sales increased to all countries except Hungary and Bulgaria during both the July-September 1979 quarter and the January-September 1979 period, compared with grain sales during the corresponding periods of 1978. Grain sales to the Soviet Union accounted for approximately two-thirds of U.S. grain sales to the NME's during July-September 1979 and about 60 percent of exports for January-September 1979. The current Soviet harvest is approximately 179 million metric tons, roughly 40 million tons below the planned target. The damage occurred in the Ukraine, the North Caucasus, and the Russian federation because of an exceptionally cold winter, spring flooding, and a drought which lasted from last April to the end of June. This year's poor harvest is the worst since the disastrous 1975 harvest, which was only 140 million metric tons. The Soviets are expected to import approximately 34 million metric tons of grain, with about 60 percent to come from the United States. 1/ In early October 1979, the U.S. Department of Agriculture informed the Soviets they could purchase up to 25 million tons of grain during FY 1980, the highest amount ever offered to that country. Most of the Soviet imports will probably be corn used to feed livestock. The U.S.S.R. is committed to building up meat production and wants to avoid any repetition of the panic slaughtering which followed the 1975 harvest.

The relative shares of U.S. exports to and imports from the nonmarket economy countries in 1978 and January-September 1979 are shown in figures 1 and 2. The figures show a sizable increase in the relative importance of China as a trading partner and a sizable decrease in the relative importance of Poland. Yugoslavia and Romania have become relatively more important as markets for U.S. exports and relatively less important as sources for U.S. imports. The relative importance of the Soviet Union, both as a market for U.S. exports and as a source for U.S. imports, increased in January-September 1979 after declining for several years. The relative share of the smaller NME trading partners grouped under "all other" decreased on the export side, but increased on the import side.

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1/ U.S. Department of Agriculture revised estimate reported in Washington Post, Dec. 12, 1979.

Table 7.—U.S. exports of cereals and cereal preparations to the nonmarket economy countries and to the world, 1977, 1978, January-September 1978, January-September 1979, July-September 1978, and July-September 1979

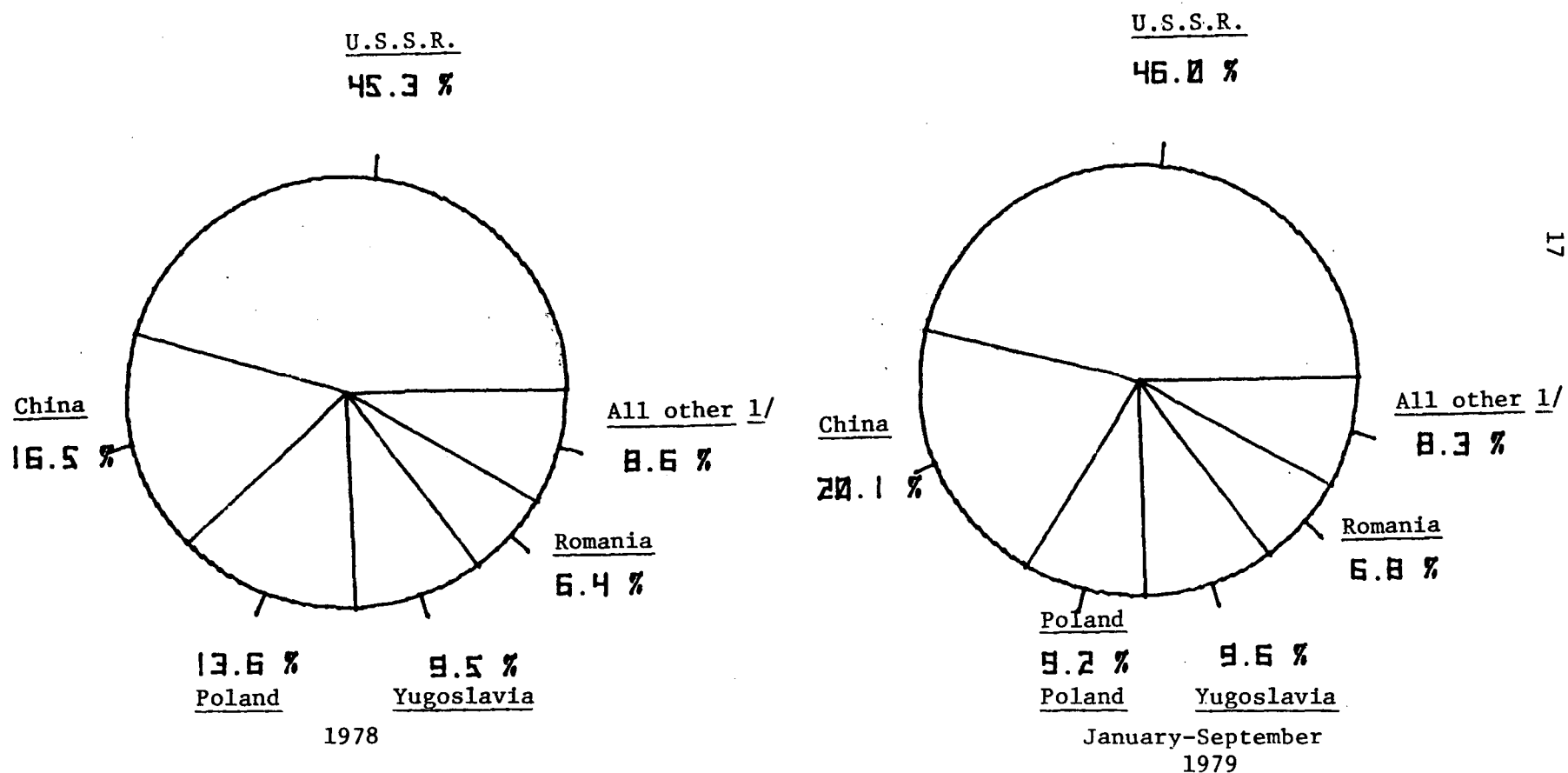
Market and Item	1978	1979	January-September--		July-September--	
			1978	1979	1978	1979
Bulgaria-----1,000 dollars--	175	25,010	20,602	5,515	4,293	3,031
China-----do-----	-	361,902	117,886	371,527	87,012	133,715
Czechoslovakia-----do-----	8,936	44,643	34,222	71,412	8	46,309
East Germany-----do-----	20,246	106,813	72,286	100,525	12,215	39,604
Hungary-----do-----	9,875	12,439	12,342	666	62	-
Poland-----do-----	197,686	270,474	179,467	248,369	63,415	146,063
Romania-----do-----	36,840	32,546	9,892	91,644	2,908	38,306
U.S.S.R-----do-----	848,629	1,417,438	1,290,253	1,545,905	279,469	801,623
Yugoslavia-----do-----	129	28,575	7,492	104,708	6,915	42,743
Total 1/-----	1,122,312	2,299,840	1,744,442	2,540,271	456,297	1,251,394
Total U.S. cereal exports to the world						
1,000 dollars--	8,754,798	11,633,969	8,865,528	9,884,492	3,164,904	4,173,516
U.S. exports of cereals to the nonmarket economy countries as a share of total cereal exports-----percent-----	12.8	19.8	19.7	25.7	14.4	30.0

1/ Because of rounding, figures may not add to the totals shown.

Source: U.S. Department of Commerce publication EM-450/455, and Bureau of East-West Trade.

Note: Data for 1977 are based on old Schedule B, Division 04. Data for 1978 and 1979 are based on new Schedule E, Division 04.

Figure 1.--Relative share of U.S. exports to the nonmarket economy countries  
in 1978 and January-September 1979

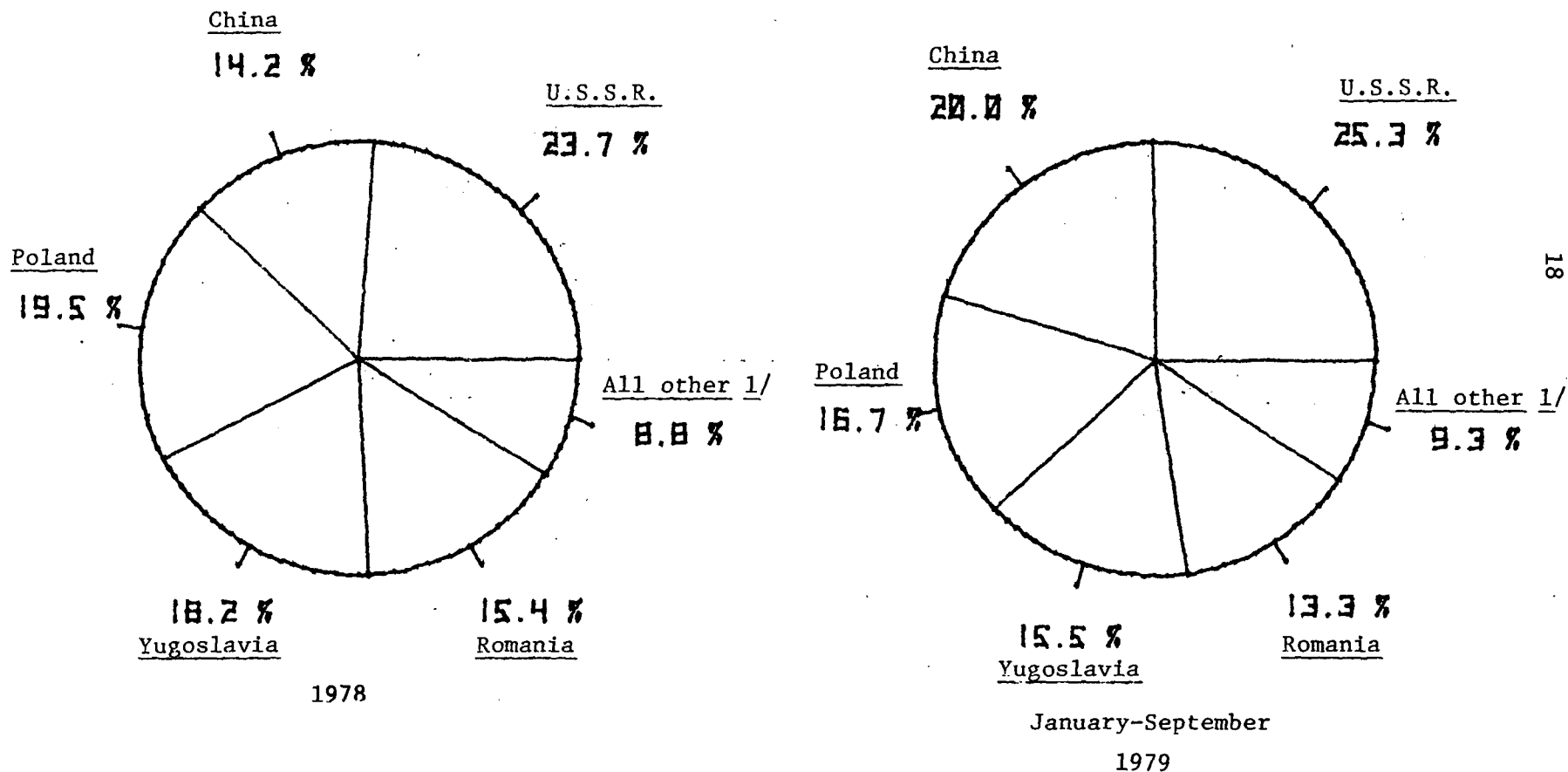


<sup>1/</sup> Czechoslovakia, East Germany, Hungary, Bulgaria, Albania, Cuba, Mongolia, Vietnam, and North Korea.

Source: Based on data from table 5.

Note.--Because of rounding, percentages may not add to exactly 100.

Figure 2.--Relative share of U.S. imports from the nonmarket economy countries  
in 1978 and January-September 1979



1/ Czechoslovakia, East Germany, Hungary, Bulgaria, Albania, Cuba, Mongolia, Vietnam, and North Korea.

Source: Based on data from table 6.

Note.--Because of rounding, percentages may not add to exactly 100.

THIRD QUARTER DEVELOPMENTS AFFECTING U.S. COMMERCIAL RELATIONS  
WITH NONMARKET ECONOMY COUNTRIES

United States-China trade pact signed

On July 7, 1979, U.S. Ambassador Leonard Woodcock and China's Minister of Foreign Trade Li Qiang signed a trade agreement in Peking. The various provisions of the agreement are designed to facilitate business and trade, and will substantially contribute to expanded economic ties between the United States and China. Most importantly, the agreement provides that China will obtain most-favored-nation treatment, entitling it to a much lower average U.S. tariff rate on exports to the United States, 1/ and will be eligible to receive U.S. Export-Import Bank credits. The agreement further specifies that there will be nondiscriminatory treatment of each nation's trade including the levy of customs duties, procedures concerning customs clearance, warehousing and transshipment of products; taxes, laws and regulations affecting internal sale, purchase, transportation, and distribution; and administrative formalities involving issuance of import and export licenses. The agreement also calls for establishment of business offices and the stationing of business representatives, the creation of Government trade offices, reciprocal protection of patents, trademarks and copyrights, and third-country arbitration for commercial disputes. Moreover, the agreement specifies that either party may take whatever action necessary to protect itself from market disruption resulting from rapidly rising imports. In this connection, the United States has already imposed unilateral restraints on imports from China for five categories of apparel products, with two more categories currently being considered for restraints. The latest round of informal consultations with the Chinese concerning a bilateral textile agreement under the Multifiber Arrangement (MFA) was held during October 1979. No agreement was reached, and it appears unlikely that an agreement will be reached at least until 1980.

U.S. Vice President visits China

Vice President Walter F. Mondale visited China from August 25 to September 1, 1979, for the purpose of further cementing ties between the United States and China. During his visit, the Vice President pledged several steps which the United States will take to advance the economic relationship between the two countries. First, he promised that President Carter would submit for the approval of the U.S. Congress the trade agreement signed on July 7. 2/ Second, he said that the United States is prepared to establish Export-Import Bank credit arrangements for China on a case-by-case basis up to a total of \$2 billion over a 5-year period. If the pace of development warrants it, he said the United States would be prepared to consider additional credit arrangements. Third, he pledged that the Carter Administration would seek congressional authority to encourage American businesses to invest in China by providing the guarantees and insurance of the Overseas Private Investment Corporation. 3/ Lastly, the Vice President noted

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1/ On the basis of 1978 data, the USITC estimated that the average tariff levied on imports from China would decrease from 24 to 10 percent.

2/ President Carter submitted the trade agreement for Congressional approval on Oct. 23, 1979.

3/ On Oct. 22, 1979 (legislative date, Oct. 15, 1979), Senators Javits and Pell introduced a bill (S. 1916) to authorize operations by the Overseas Private Investment Corporation (OPIC) in China.

that he would be signing an agreement on the development of hydroelectric energy in China. He said that U.S. Government agencies are now ready to help develop China's hydroelectric power on a compensatory basis.

#### China adopts joint equity venture law

In a significant departure from past policies, China adopted a joint equity venture law on July 8, 1979, which is expected to provide for significant expansion of the role of foreign firms in China. In so doing, China anticipates that export earnings, technology inflow, and labor training will increase. Prior to the promulgation of this law, China allowed product-buyback agreements and compensation trade, but did not allow foreign ownership. The new law sets no upper limit for foreign ownership, but in most cases it is expected that foreign ownership will be kept to less than 50 percent to assure Chinese control. In addition, under the new law, China will grant a tax holiday of 2 to 3 years for foreign investors who provide "up-to-date technology by world standards." Moreover, foreign partners' after-tax profits may be repatriated.

On October 4, 1979, China officially entered into its first joint venture with a U.S. firm. The U.S. company involved is the E-S Pacific Corp., an investment company. The investment contract is for \$150 million over a 3-year period. Reportedly, the Chinese will use the money to invest in other joint ventures and compensation trade.

#### Anhydrous ammonia imports from the U.S.S.R.

On July 11, 1979, 12 U.S. producers and 1 U.S. distributor of anhydrous ammonia petitioned the U.S. International Trade Commission for import relief under section 406 of the Trade Act of 1974. The petition alleged that market disruption existed with respect to domestically produced ammonia because of ammonia imported into the United States from the U.S.S.R. The Commission instituted an investigation of these imports on July 18, 1979. On October 11, 1979, the Commission reported to the President its determination, by a 3-2 vote, that market disruption exists with respect to imports of anhydrous ammonia from the U.S.S.R. <sup>1/</sup> The three Commissioners determining market disruption recommended as a remedy a 3-year quota on ammonia imports from the U.S.S.R. On December 11, 1979, President Carter determined that the imposition of a quota on imports of anhydrous ammonia from the Soviet Union is not currently in the national economic interest. The President indicated that given anticipated growth in demand for grains and other crops, it is critical that farmers have access to sufficient fertilizer supplies at reasonable prices. Furthermore, he stated that relief would not limit growth in U.S. imports of anhydrous ammonia, but would merely shift the source of foreign supplies to other low-cost producers. Thus, the domestic industry would realize little benefit from relief, and relief would be unlikely to promote adjustment. However, the President asked the U.S. International Trade Commission to review market conditions for ammonia annually so that the Government can anticipate possible future problems, should they arise.

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<sup>1/</sup> Anhydrous Ammonia from the U.S.S.R., Investigation No. TA-406-5, USITC Publication 1006, October 1979.



### Extension of MFN for Romania and Hungary

On June 1, 1979, President Carter recommended to the Congress that waivers of subsections 402(a) and 402(b) of the Trade Act of 1974 be extended to Romania and Hungary for an additional 12-month period. The recommendation set in motion a schedule of procedures by which the Congress could either terminate, by adoption of a simple resolution in either House, or permit by inaction the extension of the authority by which the President can waive the freedom of emigration condition on MFN treatment. Since Congress took no action to terminate MFN treatment for Romania and Hungary by the September 1, 1979, deadline, the waiver authority was automatically extended until July 3, 1980.

### Export-Import Bank financing for Hungary

For the first time in 11 years, the Export-Import Bank of the United States will be able to provide financial support for U.S. export sales to Hungary. Eximbank has not assisted sales to Hungary since March 13, 1968, when the prohibition against Eximbank financing of exports to or for use in Communist countries was added to Eximbank's enabling legislation unless the President determines such financing to be in the national interest. On August 18, 1978, President Carter signed Presidential Determination 78-17, stating that Eximbank financing of U.S. export sales to Hungary is in the national interest. Detailed operating procedures enabling Eximbank to reopen for business in Hungary were concluded in Budapest in July 1979 by the chairman of the Eximbank and the president of the National Bank of Hungary. On September 6, 1979, Eximbank approved an authorization for a \$10 million line of credit for the National Bank of Hungary. The credit line, which should be operational by the end of 1979, will support more than \$11.7 million in U.S. exports to Hungary.

### Export-Import Bank financing for Romania

In July 1979, the Export-Import Bank authorized financing for a \$7.9 million sale of U.S. machine tools to Romania. The machine tools will be used in an automotive wheel-rim-manufacturing facility. The U.S. firm supplying the machine tools is Grotnes Machine Works, Chicago, a wholly owned subsidiary of the Inland Steel Co. Reportedly, the sale will provide 30 months of employment for employees of Grotnes and other machine tool manufacturers in Illinois, Michigan, Missouri, and Pennsylvania, and will help to improve the global competitiveness of U.S. machine tools. Eximbank is financing approximately 40 percent of the contract at 8-1/8 percent annual interest.

In August 1979, the Export-Import Bank authorized financing for Romchim, the Romanian foreign trade organization for the chemical industry, to purchase U.S. chemical equipment and services worth \$5.3 million. The units will process petrochemicals used in the manufacture of polyester fiber. The equipment consists of control consoles, rotary valve and hydraulic systems, flow meters and controls, chromatograph systems, technical documentation, and technical advisory services. Eximbank is financing approximately 40 percent of the contract at 7-7/8 percent annual interest.

## OIL AND GAS WELL MACHINERY

The worldwide demand for oil and gas well machinery has increased dramatically since the oil crisis of 1973. Total U.S. shipments increased in value from \$1.5 billion in 1973 to an estimated \$4.1 billion in 1978, including exports of \$1.6 billion in 1978. With increasing worldwide demand, U.S. exports probably amounted to \$1.9 billion in 1979.

U.S. exports of oil and gas well machinery to NME's reached \$95 million in 1978, or about 6 percent of total U.S. exports of this equipment. During January-July 1979, U.S. exports to NME's climbed to 6.7 percent of the total. In 1978 and January-July 1979, the overwhelming share of U.S. exports to NME's went to China and the U.S.S.R., reflecting the emphasis these two countries have accorded their oil and gas exploration and development drive.

The U.S. oil and gas industry, and therefore the oil and gas well machinery industry, has been faced with two important obstacles in its attempts to compete for business within certain NME's. They are the unavailability of low-cost U.S. Government-backed financing and U.S. Government restrictions on the transfer of oil and gas technology.

An important determinant of competitiveness with respect to international oil and gas machinery sales is the sellers' ability to offer long-term loans at low interest and deferred payment loans. The latter are particularly important in international oil and gas well machinery sales since many years may be required before the initial investment in successful wells can be recovered. Most NME's cannot or will not tie up hard-currency assets for the length of time it takes to develop producing wells.

Since at this writing most-favored-nation (MFN) status has not been granted to the U.S.S.R. and China (the two largest NME oil and gas producers), they are not eligible for U.S. Eximbank loans. As a result, U.S. firms cannot arrange financing for these sales which is as competitive as financing offered by Japan, France, and Great Britain. For example, the Government of Japan is currently negotiating a substantial extended yen-denominated credit to China through the Japanese Eximbank. That credit is for developing oil and coal reserves that would be partly exported to Japan.

Even if the Soviet Union and China were granted MFN status, such a grant alone would not remove all constraints on Eximbank loans to those countries. The Export-Import Bank Act of 1945, as amended, requires that any transaction of \$50 million or more with a Communist country be determined by the President to be in the national interest. Further restrictions on credit to the Soviet Union were put into effect in 1974 through a \$300 million ceiling on new Eximbank authorizations to finance U.S. exports to the U.S.S.R. (the normal limit to other NME countries is \$2 billion). Of the \$300 million, only \$40 million may be used for the purchase, lease, or procurement of any product or service pursuant to research in and exploration for fossil-fuel energy resources in the U.S.S.R. Credit for production, processing, and distribution of fossil-fuel energy resources in the Soviet Union is prohibited.

It is expected that until the United States provides MFN status to China and the U.S.S.R., thereby permitting Eximbank loans, and until the United States liberalizes Eximbank loan limitations, the sale of U.S. oil and gas well machinery to these two markets will be somewhat suppressed.

U.S. Government controls on the export of strategic goods and technical data also act as a constraint on the export of oil and gas well machinery to the NME's. The Office of Export Administration (OEA) must approve a validated license on a case-by-case basis for the export of strategic goods and technical data to all Communist countries with which the United States has trade relations except Yugoslavia. Among other things, exporters complain that the licensing procedure often results in long delays before the machinery is shipped. Further, on August 1, 1978, the U.S. Government placed additional specific restrictions on U.S. exports of sophisticated oil and gas well machinery to the U.S.S.R. This action added an extra review step to the OEA's licensing procedure. However, to OEA's knowledge, exporters experienced no discernible delays strictly as a result of these new restrictions. No export licenses have been disapproved because of these restrictions.

U.S. sales of oil and gas well machinery to both the U.S.S.R. and China are expected to increase significantly in the next decade. Both countries have recently announced ambitious goals for expanding their oil and gas reserves, and much of the equipment needed for this expansion would likely come from the United States. The potential for U.S. exports of oil and gas well machinery to NME's would be further enhanced by the granting of MFN status to China and the Soviet Union.

### U.S. Industry

U.S. shipments of oil and gas well machinery reached \$3.3 billion in 1976, up from \$1.5 billion in 1973. Preliminary data from the Bureau of the Census put 1977 and 1978 shipments at approximately \$3.6 billion and \$4.1 billion, respectively, and include a forecast of \$4.7 billion in 1979. Reflecting the increase in domestic shipments, total industry employment grew to approximately 60,300 in 1978 from 38,900 employees in 1973.

### Equipment description

Oil and gas well machinery and equipment can be divided into two broad product segments, a drilling products segment and an oil-production machinery segment. The drilling products segment includes surface and subsurface drilling equipment. The draw works, rotary tables, blocks, crown and traveling equipment, elevators, and blowout preventers belong to the surface drilling group, while the subsurface drilling equipment includes the bits, reamers, coring equipment, drill collars, fishing, and cutting tools. Other drilling equipment includes portable rotary rigs, derricks, cementing, floating, guiding, and shoe equipment.

The oil and gas well production machinery segment includes all equipment, both surface and subsurface, used to pump or "lift" oil or gas from a well to a container or pipeline. Included in this segment are the devices used to control the flow of the oil or gas such as Christmas tree valve assemblies, well chokes and manifolds, surface and subsurface pumps, and oil and gas separating and metering equipment. Also included in this segment are the oil and gas well tubulars such as drill pipes, casings, and tubing. In addition, large compressors and pumps used for water or gas injection could be included within this product segment, although application of this equipment is not strictly limited to the oil and gas well machinery industry.

### Industry description

There are slightly more than 300 U.S. manufacturers of oilfield machinery according to statistics published by the Department of Commerce. Most of these manufacturers are located in major oil-and gas-drilling areas geographically concentrated in the States of Texas, California, Oklahoma, and Louisiana.

The U.S. oil and gas machinery industry is a highly concentrated one, with approximately 20 of the largest manufacturers accounting for about 65 to 75 percent of total industry production. This increase in concentration of approximately 5 to 10 percentage points during the past decade is largely the result of recent acquisition activity on the part of a few major companies.

The major customers for oil and gas field machinery in non-Communist countries are independent drilling contractors, well-servicing companies, and oil and gas companies. The drilling contractors perform most of the exploration and development of oil and gas wells under contract with oil and gas companies. Therefore, changes in the drilling and production programs of major oil and gas companies affect the demand for oilfield machinery and equipment. In the United States there are about 700 drilling contractors, operating 85 percent of the oil and gas rigs in use in the non-Communist world.

### Market conditions

The demand for oilfield machinery is directly related to the level of exploration, development, and production programs of oil and gas companies. Capital expenditures on these programs have grown at an unprecedented rate since 1972 in both the United States and the remainder of the world. As a result of the increased expenditure, U.S. drilling activity, as measured by the average number of rotary oil and gas rigs, according to various issues of Oil and Gas Journal, is now at a 10-year high, as shown in the following tabulation.

<u>Period</u>	<u>Within the United States</u>	<u>World total</u>
1979 (January-November)--	2,374	1/
1978-----	2,259	3,604
1977-----	2,002	3,218
1976-----	1,658	2,791
1975-----	1,659	2,724
1974-----	1,473	2,517
1973-----	1,194	2,155
1972-----	1,107	1,988
1971-----	976	1,764
1970-----	1,028	1,828

1/ World totals for 1979 had not been compiled at the time of the writing of this report.

The largest growth in oil and gas exploration in recent years has occurred in offshore locations. Near the end of 1974, the world offshore drilling fleet consisted of about 265 rigs. In addition, 167 mobile offshore rigs were under construction. Most of the world offshore drilling fleet was of U.S. origin. The construction cost of these rigs had increased tremendously due to inflation and the increasing sophistication of the equipment. In mid-1975, the total investment in the offshore drilling fleet plus rigs under construction was approximately \$6 billion. In 1977, the total world fleet of offshore rigs had reached more than 430 units, with investments in that year alone climbing to about \$7 billion. With this number of rigs, the industry was able to drill between 1,100 and 1,400 holes in 1977.

Until early 1975, most of the offshore rigs were employed in drilling on the U.S. Outer Continental Shelf. After 1975, this situation changed dramatically, with more than 75 percent of all new offshore drilling activity being conducted outside U.S. waters.

Drilling activities of foreign countries provide a major market for U.S. oilfield machinery manufacturers. Almost half of U.S. oilfield machinery production was exported in 1978. According to the Department of Commerce, exports are expected to increase in 1979 to \$1.9 billion, or by 16 percent compared with exports in 1978. The largest export markets for U.S. oil and gas field machinery are Canada, the United Kingdom, Iran, Mexico, Saudi Arabia, Singapore, Venezuela, Brazil, Libya, and Algeria. The combined exports to these countries accounted for about half of U.S. exports of this machinery in 1978.

U.S. manufacturers have been successful exporters because they supply some of the most advanced equipment available, backed by a worldwide service network that is unsurpassed by any group of foreign manufacturers. Much of the recent technological advance in oil and gas well machinery has been in products that can measure more effectively the production potential of a well. In addition, technology has been advanced, involving highly specialized machinery and services needed to drill wells and keep them producing over their useful life. As a consequence of significantly increased demand, the U.S. oil and gas industry has been hampered by periodic shortages of certain types of machinery and equipment. The most notable shortages in the past few years have been in the area of tubulars such as casings and drill pipe. Backlogs of orders on certain types of drill bits have also increased significantly in recent years and most machinery producers are operating at or above their rated output capacity. If the demand for this machinery and equipment remains at its present rate of growth, as is expected, then the industry will have to expand its capacity.

Other market economy countries with growing domestic oil and gas field machinery production are France and Italy. More recently, Japan, the United Kingdom, Norway, Brazil, Mexico, and Singapore have also developed oil machinery industries, mainly to serve some portion of their domestic requirements. Many of the manufacturers in these countries are former licensees of U.S. technology. Among the nonmarket economy countries, the U.S.S.R. and Romania have important oil and gas field equipment industries. China is also developing such an industry.

### U.S. shipments and apparent consumption

According to Department of Commerce statistics, industry shipments of oil and gas well machinery grew from \$1.5 billion in 1973 to an estimated \$4.1 billion in 1978, or at an average annual rate of increase of 24 percent, as shown in the following tabulation:

Item	1973	1974	1975	1976	1977 <u>1/</u>	1978 <u>1/</u>
U.S. shipments						
million dollars--	1,458	2,183	3,063	3,283	3,610	4,115
Annual rate of increase-----percent--	-	49.7	40.3	7.2	10.0	14.0

1/ Estimated by the Department of Commerce.

Department of Commerce statistics show that apparent domestic consumption increased steadily to about \$2.5 billion in 1978 from about \$820 million in 1973, as shown in the following tabulation:

(In millions)						
Item	1973	1974	1975	1976	1977 <u>2/</u>	1978 <u>2/</u>
U.S. shipments-----	\$1,458	\$2,183	\$3,063	\$3,283	\$3,610	\$4,115
U.S. exports-----	638	980	1,594	1,686	1,383	1,610
Apparent consumption-----	820	1,203	1,469	1,597	2,227	2,505

1/ The value of imports is less than \$5 million annually and is not included in the calculation of apparent consumption. Changes in inventories are not available and are also not included.

2/ Estimated by the U.S. Department of Commerce.

### NME Industry

The leading NME oil and gas producers are the Soviet Union and China. This section presents some background information on oil and gas production and plans for further development of energy resources in the Soviet Union and China.

## Soviet Union

The Soviet Union is the world's largest crude oil producer, but growth in oil output, which averaged 8.1 percent between 1960-77, has declined in recent years. In 1976, oil production increased by 5.9 percent; by 1978 the growth had slowed to 4.7 percent. Output during January-June 1979 was 2.7 percent higher than output in the corresponding period of 1978. Moreover, output in 1978 was targeted at 11.6 million barrels per day in December 1975, but this goal was lowered to 11.5 million barrels per day in 1977. Actual output in 1978 was 11.4 million barrels, per day, or about 70,000 barrels per day below the revised plan and 170,000 barrels per day below the original goal. Output during January-June 1979 was approximately 250,000 barrels per day below the planned target; hence, it is unlikely that production during 1979 will meet the revised planned target of 11.9 million barrels per day. The 1980 target of 12.4-12.8 million barrels per day also seems unattainable in view of the shortfall experienced over the past several years.

## Constraints on production

The outlook for continuing increases in Soviet oil production through the 1980's has been a subject of considerable debate in recent years. The Central Intelligence Agency (CIA) has predicted a 1-percent annual increase in total Soviet energy production during 1981-85. <sup>1/</sup> However, since it has been estimated that Soviet demand for energy will grow much faster, the CIA has forecast a Soviet shortfall that will require oil imports of \$10 billion by 1985. <sup>2/</sup> Although certain other studies have predicted a less dramatic shortfall in Soviet oil production, most agree that there exist significant constraints to increasing oil production.

Location.—The remote location of most of the unexploited Soviet oil reserves is a key constraint to increased oil production. As development of these reserves moves further east, the climate becomes harsher, transportation becomes increasingly inadequate, and problems arise in attracting labor. During the 1960's, most of the Soviet Union's oil came from the Urals-Volga region, located in the European part of the U.S.S.R., where most of the Soviet Union's population and industry are located. During the Ninth 5-Year Plan (1971-75), two-thirds of the incremental increase in production was extracted east of the Ural Mountains in West Siberia. Since 1975, West Siberia has been the source of all of the growth in oil output, offsetting an accelerating decline in the European regions. More than one-half of total Soviet oil production is expected to be produced east of the Urals by 1980. However, some West Siberian oil fields have already reached production peaks, and are now on the decline. The giant Samotlor field, which currently accounts for about 60 percent of West Siberian oil production, is expected to reach peak production in 1979 and maintain that output for no more than 4 years.

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<sup>1/</sup> Central Intelligence Agency, Soviet Economic Problems and Prospects, a study prepared for the use of the Subcommittee on Priorities and Economy in Government, Joint Economic Committee, Congress of the United States, Aug. 8, 1977, p. 8.

<sup>2/</sup> Ibid., p. viii.

In 1974-75, Soviet policymakers, in constructing the Tenth 5-year plan (1976-80), committed large amounts of capital investment, drilling rigs, and crews to the Urals-Volga region because they felt that enhanced recovery from older fields would outweigh the additional production that might be anticipated from more rapid exploration and development of West Siberian fields. By 1977, it became apparent that the West Siberian Samotlor oil field would soon reach peak production, that after a decade of insufficient exploration West Siberian oil reserves were too low, and that the level of resources and manpower needed to drill more and more wells in increasingly less productive deposits far from established support bases and transportation was steeply rising. Thus, in December 1977 the plenum of the Central Committee of the Communist Party revised the earlier policy and called for concentrating resources in oil and gas development in West Siberia's Tyumen' Oblast, northwest of the Samotlor field.

The Soviets have encountered a number of difficulties in their efforts to exploit West Siberian oil resources. The CIA reported in July 1977 that West Siberian oil fields appear to respond poorly to production techniques that worked well in the European region. <sup>1/</sup> For example, the share of water in total fluid increased much more rapidly in West Siberia than in the European region. Also, submersible pumps generally last up to 1 year without service in the European region, while at Samotlor they must be replaced after only 60 days of operation because of silt and salt in the oil and water, salt formations on the pumps, lack of heat-resistant cable, and frequent power outages that burn out the motors.

The Soviet press itself has provided rare acknowledgments of difficulties in extracting oil and gas in West Siberia. These include shortages of drilling equipment, tools, housing, and lack of coordination between the Ministry of Petroleum Industry and other industries. <sup>2/</sup> Poor quality drill pipe and casing have also been cited on other occasions. On March 6, 1979, Pravda carried the following account of "Why Drilling Units Are Standing Idle":

"Tyumen's geologists are working extremely spasmodically. The main reason is the unsatisfactory material and technical supply situation. Unfortunately, right from the first of the year all the main administration's geological enterprises have again been in disarray. The January and February plan has not been fulfilled. The breakdown rate has risen and team idle time has increased. This is happening because the material and technical supply situation has again deteriorated sharply. Supply enterprises are failing to fulfill their commitments. Thus Chelyabinsk's Kolyushchenko road machine building plants have still not dispatched even 1 of the 130 bulldozers planned to be shipped to Tyumen workers this year. The Chelyabinsk tractor plant has supplied Glavtyumengeologiya with 19 of the 280 planned tractors. The situation is very bad regarding delivery of other materials and equipment. Geologists do not have enough warm protective clothing or enough mobile homes which are set up near drilling units. The Volga plant in Volgogradskaya Oblast has still not dispatched even 1 of the 184 trailers.

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<sup>1/</sup> Central Intelligence Agency, Prospects for Soviet Oil Production: A Supplemental Analysis, July 1977, p. 11.

<sup>2/</sup> Pravda, Nov. 30, 1978.



A disturbing situation prevails regarding the supply of drilling and casing pipes for geologists. The oblast's geological survey enterprises have received only 180 tons of the planned 3,300 tons of drilling pipes. Only 3,700 of the 22,500 tons of casing pipes have been delivered. The Kamensk-Uralskiy pipe plant and the Zhdanovskiy metallurgical plant are systematically failing to supply them."

The situation apparently has not improved since this Pravda article, because the report of a November 15, 1979, meeting of the standing commissions of the U.S.S.R. Supreme Soviet, stated that:

"The coal and oil industries attracted specially keen attention from the deputies, because in these industries, as was noted in the speeches, serious miscalculations in planning and management of production are still being permitted, and also in utilization of capital investment. Plan tasks are not being fulfilled by miners of Kuzbass and Karaganda and Tyumen oilmen. Of course, much depends not only on the fuel extraction workers themselves. This was also mentioned at the commissions. Oilfields, for example, are receiving little machinery for northern use. Well casing supplied by the Ministry of Ferrous Metallurgy has proved to be of low quality." 1/

There are a number of other areas in the Soviet Union with geological conditions which may result in large future discoveries of oil. These include East Siberia, the Arctic Seas, the Pacific coast, and the Caspian Sea. East Siberia offers more favorable operating conditions than do the offshore Arctic areas, but exploitation of oil resources will still be difficult and costly because of extensive permafrost. In the permafrost zone, the ground may be frozen up to a mile deep, and temperatures often drop to -90 degrees Fahrenheit with 100 mph winds. In addition, East Siberia, the Arctic Seas, and Pacific coast regions all are distant from the European part of the U.S.S.R., where 75 percent of the Soviet population and 80 percent of Soviet industry are located. This means that oil must often travel distances of more than 2,000 miles. Moreover, infrastructure in these regions is virtually nonexistent, and most new areas require technology and equipment which the Soviets are as yet unable to produce in sufficient quality and quantity. Soviet technology for deep offshore drilling is particularly inadequate.

Equipment.--Inadequate and inferior geophysical and drilling equipment is another major constraint on Soviet efforts to develop their oil resources. It has been estimated that in terms of material and manpower, the Soviet Union probably expends as much or more effort on producing drilling rigs, bits, and associated equipment than do all market economy countries combined. However, the inferior quality and design of Soviet-produced equipment causes productivity to be much lower than in market economy countries. This problem has become more severe in recent years as oil production shifts to remote and physically inhospitable regions where specialized equipment and technology are required.

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1/ Daily Report of the Foreign Broadcast Information Service, Nov. 16, 1979, p. S8.

Most of the Soviet-produced drilling equipment consists of turbo-drills. This type of drilling rig works reasonably well in relatively shallow (2,000 meters or less) hard-rock formations, of the type found in the Urals-Volga region. However, well depths are greater in West Siberia and are increasing as capacity depletion of older West Siberian fields causes the industry to drill in smaller, less productive, and more complex stratigraphic oil fields. The average depth of exploratory drilling increased from 2,540 meters in 1970 to 2,774 meters in 1976, and an average depth of 3,180 meters is expected in 1980.

Rotary-type drills would be more efficient for drilling at greater depths. However, rotary drills require high-strength steel pipe because the greater depths put more pressure on the drills and reduce their speed. Hence, the Soviets have mainly produced turbo-drills in which their heavy-wall, inferior quality drill pipe is satisfactory.

Another related problem is the inferior quality of drill bits. Although the Soviet Union produces over twice as many drill bits as do all market economy countries combined, the poor quality of these bits has forced the Soviet Union to import high-quality drill bits from the West. The Soviets have been working on improving their turbo-drills and assert that current models are efficient at depths up to 3,500 meters. 1/

Production techniques.--Soviet production techniques for extracting oil differ considerably from those used in Western countries. Specifically, the Soviets employ a water injection technique to maintain a rapid flow of oil through the reservoir to the producing wells. This technique has several advantages, especially in the early stages of a field's life. First, it permits a much higher initial level of output per well than would be possible using Western methods. This means that fewer producing wells are needed to achieve a given level of output, thus minimizing the initial oil field investment. In addition, water injection temporarily eliminates the need for costly pumping equipment. Using the water injection technique, the Soviets claim a recovery rate of 40-45 percent compared with approximately 33 percent in the United States.

The water injection process causes numerous problems as the oil fields grow older, however. Injected water will break through the oil-bearing formation into the producing wells. When this occurs, additional wells must be drilled to locate the oil, and expensive pumps are required to lift the large volumes of fluid (oil and water) needed to maintain oil production. Other consequences of water injection include the successive redrilling of oil fields when the share of water relative to total fluid becomes excessive. Each time a field is redrilled a smaller well-spacing pattern is used to recover the bypassed oil. Another problem arises when ground and surface water used in the injection process is not treated properly. This causes excessive salt formation in well bores and downhole pumping equipment, and also causes prolific bacteria growth that reduces rock porosity.

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1/ CIA, Prospects for Soviet Oil Production: A Supplemental Analysis, op. cit. p. 21.

China

China currently ranks about tenth in the world as an oil producer, and prospects are that its relative position will improve considerably in the years ahead. The U.S. Department of the Interior estimates that China's crude oil output will top 150 million tons by the early 1980's and more than 200 million tons by the mid-1980's. Additional reserves are continually being found in existing oilfields, intensive drilling is being done to prove up new fields, and many more unexplored sedimentaries hold promise of fossil fuels. The potential for oil offshore is not fully known, but is probably considerable in view of the available evidence.

The Chinese are interested in developing their oil resources rapidly. Internally, their plans to modernize the economy quickly are constrained by shortages of fuel and power, among other things, which results in high-cost, low-quality production. Secondly, China needs the foreign exchange that can be earned by the export of oil products to help pay for imports of heavy capital equipment, technology, and agricultural products which are necessary for the modernization program.

China has already involved a number of Western firms including those of the United States, Japan, the United Kingdom, France, the Netherlands, Italy, and Norway, in its oil development program. At least 14 U.S. companies have already been invited by the Chinese to discuss development of China's offshore and nearshore oil, particularly in the South China Seas not too far from the coast. These include Exxon, Mobil, Phillips, Atlantic Richfield, Santa Fe International, Amoco, Citgo, Pennzoil, Union Oil, Occidental, Standard, Texaco, Caltex, and Natomas Co. On March 19, 1979, Atlantic Richfield and partner Santa Fe signed a contract with China to explore an area south of Hainan. Also in March, the Chinese subsidiaries of the Standard Oil Company of California and Texaco Inc., acting jointly, signed a letter of intent with the China National Oil & Gas Exploration Co. covering geophysical work in the South China Sea. In January 1979, the Kyodo News Service of Japan reported that negotiations are under way among China, Japan, and the United States on a \$1 billion project to develop jointly an oil field in western China, probably bigger than the major fields in Taching and Shengli. The news agency said that the three countries, which were to agree on the development of an underwater oilfield near Hong Kong, are now negotiating on an inland oilfield in the southern part of the Sinkiang Uighur autonomous region in northwest China. Occidental Petroleum announced in May 1979 that it had received a letter from the Chinese Government-owned oil company welcoming Occidental as a participant in the geophysical surveys in seven out of the eight areas of the South China Sea and South Yellow Sea allocated for exploration. This invitation may possibly put Occidental in a position to bid on oil leases later.

In the area of oil-drilling equipment, the National Supply Co., a division of Armco Inc., has signed two contracts worth a total of \$45 million for drilling equipment. In December 1978, the company signed the first contract to ship two drilling rigs with a total value of \$15 million to China. The second contract, for \$30 million, is for the shipment of drilling equipment for 5 offshore oil rigs currently under construction. This contract was signed in January 1979. At approximately the same time, China agreed to buy seven drilling rigs from the LTV Corp. of Texas--five offshore 2,000 horsepower rigs and two 1,500 horsepower land rigs.

Many of the contracts for developments of oil fields and delivery of equipment are expected to go to the Japanese. In February 1979, Japan and China reached a basic agreement on a joint project to develop oilfields in the shallow Bay of Pohai at an estimated cost of \$2 billion. The Japanese will initially finance the project, and the Chinese will repay their share with oil produced in the future. The Japanese are also scheduled to work in the Pearl River Delta onshore and offshore near Canton. Japan will also be the primary market for Chinese oil exports. The initial Sino-Japanese long-term agreement signed early in 1978 stipulated that Japan would import 47 million tons of Chinese crude oil during 1978-82, including 15 million tons in 1982. Originally, annual exports to Japan were expected to reach 30 million tons by the mid-1980's, and Japanese leaders are now hoping that these exports might reach 50 million tons by the 1990's.

#### NME demand for oil and gas well machinery

The demand for oil and gas well machinery in NME's is projected to increase sharply over the next 5 years. The most dramatic increase in demand is expected to come from the U.S.S.R., currently the world's largest producer of petroleum. However, demand for U.S. equipment is also expected to be substantial in the Chinese market, especially in view of the improved relations between the United States and China.

The Soviet Union is currently facing the prospect of internal demand for energy outstripping available supply as early as the mid-1980's. In order to alleviate this strain on available supplies, the Soviet Union will have to import technology from the West. Currently, most Soviet drilling equipment is archaic by Western standards, resembling machinery used by the West 25-35 years ago, and given the most advanced equipment and technology, the U.S.S.R. could increase production substantially.

In the short term, problems arising from the Soviet water injection production process will increase demand for various types of equipment. Oilfields that currently account for the bulk of Soviet oil output are experiencing rapid water encroachment as a result of these water injection techniques. In 1975, water constituted about 50 percent of total fluid lifted, and at the present rate of encroachment the percentage will rise to 65 percent by 1980. This means that more than two tons of water must be lifted for every ton of oil. For this reason, large numbers of high-capacity submersible pumps and/or other fluid-lifting equipment will be required if production declines are to be averted even temporarily. It is considered unlikely that sufficient numbers of submersible pumps will be available from either their own oil equipment industry or from foreign sources. In the West, these pumps are manufactured only in the United States, and delivery to the U.S.S.R. has been restricted to about 30 pumps per month because of limited production capacity. Increased use of gas-lift equipment is also expected to involve large-scale imports of Western technology and long lead times.

During 1979-80, it is estimated that the Soviet and Eastern European markets for rigs, drilling equipment, and drill pipe will be about \$15 billion. <sup>1/</sup> Approximately one-half of this total is expected to come from

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<sup>1/</sup> Wall Street Journal, "COMECON Seen Buying from West \$9 billion of Oil, Gas Gear by '85", Sept. 11, 1978, p. 6, column 3.

Western sources. The potential also exists for an additional \$1 billion in submersible oil and gas-engineering equipment, with about \$350 million being supplied by the West. The market for pipe during this same period should reach \$50 million, \$35 million of which will probably come from the West.

Statements made by the Soviet and the Eastern European Governments indicate that these countries will expand offshore oil and gas exploration and production during the next 10 years. It has been estimated that to accomplish their ambitious goals, the Eastern Europeans and the Soviets will purchase as much as \$9 billion of offshore equipment between now and 1985. The total oil and gas machinery market in Eastern Europe and the U.S.S.R. for offshore equipment is expected to reach \$24 billion during 1979-85, with \$15 billion of this machinery to be sourced within the Council of Mutual Economic Assistance (CMEA). 1/

China's demand for oil and gas well machinery should be significant in the upcoming years, especially for U.S. and, to a lesser degree, Japanese firms. China's plans are to push ahead in further developing what is now China's largest oilfield, at Taching, south of Shanghai. In addition, China is expected to commit large capital expenditures to develop potential reserves in the South China Sea. A number of U.S. companies have been discussing cooperative oil exploration and production ventures with the Chinese, and several letters of intent have already been signed by U.S. firms and the China National Oil & Gas Exploration Co. Additionally, several trade missions from China have already visited major U.S. manufacturers of oil and gas well equipment.

#### U.S. Exports

Total U.S. exports of oil and gas well machinery measured in current dollars fluctuated somewhat between 1975 and 1978, and at \$1.6 billion such exports were only 1.0 percent higher in 1978 than in 1975 (table 8). Exports during January-July 1979 were \$1.1 billion or 15.5 percent higher than exports in the corresponding period of 1978. Measuring the growth in real exports is not possible because quantity comparisons are unsuitable given the heterogeneous composition of the oil and gas well machinery export classification. In order to provide a measure of real growth, the figures were converted to 1975 dollars using the wholesale price deflator for industrial goods (table 9). Thus, adjusted for inflation, total exports decreased from \$1.6 billion in 1975 to \$1.2 billion in 1977, and then rose to \$1.3 billion in 1978. In real terms exports in January-July 1979 increased by only 4 percent over exports in the corresponding period a year earlier, from \$783 million in January-July 1978 to \$815 million in January-July 1979. If exports remain at the same level throughout the remainder of 1979, the real value of total 1979 exports is projected to be about \$1.4 billion, or still below the 1975 level.

Exports to the NME's valued in current dollars increased substantially from \$25.3 million in 1975 to \$94.8 million in 1978. On the basis of January-July data, exports to NME's during 1979 will probable total close to \$125 million. The main reason for this increase is the increasing importance of China as a market for these products. Exports of oil and gas well

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1/ Ibid.

Table 8.--Oil and gas well machinery: U.S. exports, 1975-78, January-July 1978,  
and January-July 1979

(In thousands)								
Market	1975	1976	1977	1978	January-July		1978	1979
U.S.S.R-----	\$14,869	\$32,393	\$12,957	\$34,440	\$17,642	\$27,031		
China-----	2,228	780	2,242	45,095	6,429	39,920		
Other NME's-----	8,170	13,812	12,322	15,261	3,749	5,169		
Total, NME's--	25,267	46,985	27,521	94,796	27,820	72,120		
Other countries---	1,568,733	1,639,015	1,355,479	1,515,204	1/ 911,347	1/1,012,880		
Total, all								
countries---	1,594,000	1,686,000	1,383,000	1,610,000	1/ 939,167	1/1,085,000		

1/ Estimated.

Source: Derived from official statistics of the U.S. Department of Commerce.

Table 9.—Oil and gas well machinery: Real U.S. exports measured in 1975 dollars,  
1975-78, January-July 1978, and January-July 1979

(In thousands)								
Market	1975	1976	1977	1978	January-July		1978	1979
U.S.S.R-----	\$14,869	\$30,445	\$11,386	\$28,206	\$14,702	\$20,294		
China-----	2,228	733	1,970	36,933	5,357	29,970		
Other NME's-----	8,170	12,981	10,828	12,499	3,124	3,881		
Total, NME's--	25,267	44,159	24,184	77,638	23,183	54,144		
Other countries---	1,568,733	1,540,428	1,191,106	1,240,953	<u>1/</u> 759,456	<u>1/</u> 760,420		
Total, all								
countries---	1,594,000	1,584,586	1,215,290	1,318,591	<u>1/</u> 782,639	<u>1/</u> 814,565		

1/ Estimated.

Source: Derived from official statistics of the U.S. Department of Commerce.

machinery to China were negligible until 1978, when they suddenly became the leading NME market, with almost one-half of U.S. exports to NME's and nearly 3 percent of total U.S. export sales of these items (table 8). Exports to the U.S.S.R. also increased between 1975 and 1978, and during January-July 1979 were substantially above their level from exports in the corresponding period of 1978. Exports to other NME's, mainly Romania and Yugoslavia, rose erratically between 1975-78.

Even after adjustment for inflation, table 9 shows that the real level of exports to the NME's more than tripled between 1975 and 1978. On the basis of January-July 1979 data, the real value of exports during 1979 should be about 20 percent higher than during 1978. As in the previous table, significantly increased exports to China are the major cause of this increase. The real value of exports to China was nearly six times greater in January-July 1979 than was the value in the corresponding period of 1978. Exports to the Soviet Union also posted a sizable 38-percent increase in real terms between the two periods.

Table 10 shows the ratio of the current value of U.S. exports of oil and gas well machinery to NME's to the current value of total U.S. exports of this equipment. The NME share of total U.S. exports of oil and gas well machinery rose from 1.6 percent in 1975 to 5.9 percent in 1978, and increased to 6.7 percent in January-July 1979. During the latter period, exports to the U.S.S.R. accounted for 2.5 percent of total U.S. exports, and exports to China accounted for 3.7 percent.

#### U.S. and other developed country exports

Tables 11, 12, 13, and 14 present an attempt to compare sources of supply of oil and gas well equipment on the basis of available international classifications of trade statistics. The data show Soviet and Chinese imports of pumps and mining machinery from major developed country sources. This SITC grouping is the most relevant grouping available for multicountry comparisons, but as a group it includes a sizable portion of equipment not directly related to the oil and gas industries.

Table 11 shows that Soviet imports of mining machines from developed countries have been relatively stable since 1975, while imports of pumps have increased substantially every year since 1970. The United States, Japan, Germany, France, the United Kingdom, Italy, Sweden, and Finland are the primary Western sources for this equipment. The U.S. share of both commodities has fluctuated markedly throughout the 1970-78 period, but in the case of mining machines, the U.S. share in 1978 stood at 35.8 percent, giving it a number one ranking, while in the case of pumps, the U.S. share in 1978 was 4.2 percent, its lowest share since 1971 (table 12). This U.S. share does not reflect the complete picture since the United States is the sole manufacturer of submersible pumps, an item especially demanded by the Soviet Union.

Table 13 shows that Chinese imports of mining machines from developed countries soared in 1978 after remaining relatively stable during 1970-77.



Table 10.--Oil and gas well machinery: Percentage distribution of U.S exports to NME's and to all other countries 1975-78, January-July 1978, and January-July 1979 1/

Market	1975	1976	1977	1978	January-July	
					1978	1979
U.S.S.R-----	0.9	1.9	0.9	2.1	1.9	2.5
China-----	.1	<u>2/</u>	.2	2.8	.7	3.7
Other NME's-----	.5	.8	.9	1.0	.4	.5
Total, NME's--	1.6	2.8	2.0	5.9	3.0	6.7
Other countries---	98.4	97.2	98.0	94.1	97.0	93.4
Total, all countries---	100.0	100.0	100.0	100.0	100.0	100.0

1/ Because of rounding, figures may not add up to totals shown.

2/ Less than 0.05 percent.

Source: Derived from official statistics of the U.S. Department of Commerce.

Table 11.--Mining machines (SITC 7184) and pumps (SITC 7192): Exports to the U.S.S.R., by leading suppliers, 1970-78

(In millions)

Item and source	1970	1971	1972	1973	1974	1975	1976	1977	1978
Mining machines:									
United States----	\$8	\$2	\$4	\$2	\$2	\$39	\$41	\$19	\$46
Japan-----	9	5	1	1	1	47	44	24	26
West Germany----	1/	2	1	1	3	4	3	23	16
France-----	4	3	3	4	8	18	25	9	13
Finland-----	0	1/	0	1/	1	4	2	10	9
United Kingdom	3	3	2	1	1	1	5	2	6
Other OECD-----	3	3	1/	1	4	14	17	13	12
Total,									
OECD 20 <u>2/</u> ----	27	18	11	10	20	127	137	100	128
Pumps:									
Japan-----	6	4	16	11	9	11	34	96	169
West Germany----	4	4	8	10	17	50	51	48	91
France-----	2	4	9	8	17	32	44	61	73
Italy-----	3	8	7	6	4	13	14	45	53
United Kingdom--	2	2	3	4	2	9	4	6	39
United States----	1/	1/	5	27	37	36	78	65	21
Other OECD-----	3	5	9	13	29	24	29	35	56
Total,									
OECD 20-----	22	27	57	79	115	175	254	356	502

1/ Less than \$0.5 million.

2/ OECD 20 includes the United States, Japan, West Germany, France, the United Kingdom, Canada, Italy, Spain, the Netherlands, Belgium/Luxembourg, Sweden, Australia, Switzerland, Austria, Denmark, Norway, Finland, Greece, Portugal, and Ireland.

Source: Compiled from United Nations trade data supplied by CIA.

Table 12.—Mining machines (SITC 7184) and pumps (SITC 7192): Ratio of exports to the U.S.S.R., by leading suppliers, to total OECD exports, 1970-78

(In percent)									
Item and source	1970	1971	1972	1973	1974	1975	1976	1977	1978
Mining machines:									
United States---	30.7	13.2	33.9	16.2	7.6	30.2	29.8	19.0	35.8
Japan-----	33.7	28.7	10.9	6.7	5.1	37.0	32.8	23.5	20.3
West Germany----	1.8	12.6	7.9	10.6	14.1	3.2	2.2	22.8	12.9
France-----	13.9	15.4	27.7	42.0	41.5	14.0	17.9	8.9	10.2
Finland-----	0.0	0.4	0.0	4.4	4.9	3.2	1.8	9.7	6.7
United Kingdom--	10.2	17.4	13.6	7.5	0.7	0.6	3.5	1.6	4.5
Other OECD-----	9.7	12.3	6.0	12.6	26.1	11.8	12.0	14.5	9.6
Total,									
OECD 20 <sup>1/</sup> --	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Pumps:									
Japan-----	25.2	13.7	27.5	14.1	7.7	6.4	13.5	26.9	33.7
West Germany----	15.8	14.2	14.2	13.3	14.8	28.5	19.9	13.3	18.2
France-----	10.5	15.3	15.8	10.6	14.9	18.1	17.2	17.2	14.5
Italy-----	15.6	27.5	12.7	7.3	3.8	7.5	5.4	12.7	10.6
United Kingdom--	7.8	6.1	4.5	4.8	2.1	5.0	1.7	1.8	7.7
United States---	2.2	1.7	9.1	33.6	32.5	20.8	30.6	18.1	4.2
Other OECD-----	22.9	21.5	16.2	16.3	24.2	13.7	11.7	10.0	11.1
Total,									
OECD 20----	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

<sup>1/</sup> OECD 20 includes the United States, Japan, West Germany, France, the United Kingdom, Canada, Italy, Spain, the Netherlands, Belgium/Luxembourg, Sweden, Australia, Switzerland, Austria, Denmark, Norway, Finland, Greece, Portugal, and Ireland.

Source: Compiled from United Nations trade data supplied by CIA.

Table 13.--Mining machines (SITC 7184) and pumps (SITC 7192): Exports to China, by leading suppliers, 1970-78  
(In millions)

Item and Source	1970	1971	1972	1973	1974	1975	1976	1977	1978
Mining machines:									
Japan-----	\$8	\$8	\$5	\$2	\$16	\$7	\$2	\$5	\$42
United States---	-	-	-	-	4	13	2	1	34
West Germany---	1/	4	4	5	15	7	6	6	17
France-----	4	3	1	2	3	1	3	5	6
Italy-----	1	2	4	5	3	1/	1	1	4
Other OECD-----	-	-	2	1	13	3	2	1	4
Total,									
OECD 20 <u>2/</u> ---	13	17	16	15	54	31	16	19	107
Pumps:									
Japan-----	14	8	6	15	30	46	14	10	29
West Germany---	1	1/	1/	1/	11	18	10	3	7
United States---	-	-	-	-	8	27	12	1	7
France-----	1	1/	1/	1	1	16	36	10	4
Italy-----	1/	1/	1/	1/	1/	4	4	4	3
Other OECD-----	1/	1	2	6	12	11	5	1	4
Total,									
OECD 20-----	16	9	8	22	62	122	81	29	54

1/ Less than \$0.5 million.

2/ OECD 20 includes the United States, Japan, West Germany, France, the United Kingdom, Canada, Italy, Spain, the Netherlands, Belgium/Luxembourg, Sweden, Australia, Switzerland, Austria, Denmark, Norway, Finland, Greece, Portugal, and Ireland.

Source: Compiled from United Nations trade data supplied by CIA.

Table 14.--Mining machines (SITC 7184) and pumps (SITC 7192): Ratio of exports to China, by leading suppliers, to total OECD exports, 1970-78

(In percent)										
Item and source	1970	1971	1972	1973	1974	1975	1976	1977	1978	
Mining machines:										
Japan-----	60.2	47.6	29.4	11.1	29.6	22.3	9.4	24.8	39.1	
United States---	-	-	-	-	7.1	41.3	14.3	7.5	31.6	
West Germany---	1.1	24.7	26.4	33.2	27.1	22.4	36.7	32.3	15.6	
France-----	32.2	15.8	9.6	15.3	5.0	2.8	16.3	27.3	5.8	
Italy-----	5.2	9.5	24.7	31.5	5.7	0.3	4.5	6.2	3.6	
Other OECD-----	1.3	2.4	9.9	8.9	25.5	10.9	18.8	1.9	4.3	
Total,										
OECD 20 <sup>1/</sup> ---	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	
Pumps:										
Japan-----	86.4	88.2	79.7	69.7	47.9	37.9	16.7	34.4	54.2	
West Germany---	7.1	2.1	2.0	2.3	17.3	14.8	12.6	10.6	13.4	
United States---	-	-	-	-	12.6	21.8	14.2	4.9	12.9	
France-----	4.0	3.9	3.4	3.9	1.6	12.7	44.6	33.8	6.7	
Italy-----	.7	1.6	2.6	1.1	.5	3.1	4.5	12.0	6.4	
Other OECD-----	1.8	4.2	12.3	23.0	20.1	9.7	7.4	4.3	6.4	
Total,										
OECD 20-----	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	

<sup>1/</sup> OECD 20 includes the United States, Japan, West Germany, France, the United Kingdom, Canada, Italy, Spain, the Netherlands, Belgium/Luxembourg, Sweden, Australia, Switzerland, Austria, Denmark, Norway, Finland, Greece, Portugal, and Ireland.

Source: Compiled from United Nations trade data supplied by CIA.

Imports of pumps have been fairly erratic and in 1978 were less than one-half of their peak level of \$122 million recorded in 1975. The major suppliers to the Chinese market have been Japan, the United States, West Germany, France, and Italy. Switzerland also supplied pumps to China during 1973-76. The U.S. share of Chinese imports of mining machines has been irregular, but in 1978 stood at a sizable 31.6 percent, or somewhat less than Japan's 39.1 percent share (table 14). In the case of pumps, the U.S. share has been smaller and more constant. In 1978, the U.S. share of the Chinese pump market was 12.9 percent.

### Barriers to U.S. exports

Lack of financing.—The Jackson-Vanik amendment to the Trade Act of 1974 prohibits the U.S. Government from extending export credits, credit guarantees, or investment guarantees directly or indirectly to any nonmarket economy country which denies its citizens freedom of emigration. At the present time, both China and the Soviet Union are denied such credits. The Export-Import Bank Act of 1945, as amended, imposes a further constraint on the extension of credits to Communist countries. Whether or not a Communist country complies with the provisions of the Jackson-Vanik amendment, the act states that any transaction of \$50 million or more with a Communist country requires a separate determination by the President, who must report to the Congress that the loan is in the national interest.

The U.S. Congress has singled out the Soviet Union for more stringent limitations on the extension of credits even if that country should comply with the Jackson-Vanik amendment and be accorded most-favored-nation(MFN) tariff treatment. Section 613 of the Trade Act and Section 7(b) of the Export-Import Bank Act of 1945, as amended in 1974, impose a \$300 million ceiling on new Eximbank authorizations to finance U.S. exports to the Soviet Union, to be extended only upon congressional approval of a report by the President that such an additional credit is in the national interest. Of this amount, not more than \$40 million may be used for the purchase, lease, or procurement of any product or service involving research and exploration of fossil-fuel energy resources in the U.S.S.R. Credit for production, processing, and distribution of fossil-fuel energy resources in the Soviet Union is prohibited.

In February 1979, two bills were introduced in Congress calling for the amendment of certain provisions of the Trade Act of 1974. If adopted, the proposed legislation would, among other things, facilitate eligibility for MFN treatment and U.S. Export-Import Bank credits and guarantees. In addition, the provision in the Trade Act which singles out the Soviet Union for discriminatory treatment among NME's with respect to credits would be removed, and the limitation on Eximbank loans or financial guarantees to the Soviet Union would be raised from the present \$300 million to \$2 billion.

In the case of China, Vice President Mondale promised the Chinese in August 1979 that the United States would make \$2 billion available in Eximbank credits over the next 5 years. In order for China to become eligible to receive these credits, four events must occur. First the bilateral trade agreement must be ratified. Second, most-favored-nation tariff status must be granted under the terms of section 402 of the Trade Act. Third, the President must determine that loans to a Communist country are in the national interest.

Fourth, some solution must be reached concerning China's outstanding Eximbank debt. This debt, outstanding since 1945, is approximately \$50 million, of which about one-half is principal and one-half is accrued interest.

Export controls.—A commodity control list requires approval of a validated license on a case-by-case basis by the Office of Export Administration for export of "strategic" goods and technical data to all Communist countries with which the United States has trade relations except Yugoslavia. This includes Albania, Bulgaria, China, Czechoslovakia, East Germany, Estonia, Hungary, Laos, Latvia, Lithuania, Poland, Romania, and the Soviet Union. Exports are controlled to these countries for three reasons: (1) in the interest of national security, (2) consequent to short domestic supply, and (3) to further U.S. foreign policy. Before making a decision to grant a validated license, the Office of Export Control may forward applications covering certain commodities and technical data that are controlled by the United States and certain other nations that cooperate in an international export control system and are proposed for export or reexport to the aforementioned countries to the Coordinating Committee (COCOM) of this international export control system for consideration in accordance with established COCOM procedures.

On August 1, 1978, the President imposed additional specific restrictions on exports of oil and gas well machinery to the Soviet Union. This ruling specified certain types of oil and gas exploration and production machinery that would be subject to validated export licenses. The President's decision prevented the transfer of sophisticated U.S. technology which could be diverted to Soviet military purposes. The equipment affected included geophysical and mineral prospecting instruments, all equipment related to offshore floating or bottom-supported drilling and producing structures, rotary-type well-drilling rigs and equipment, drill bits, blowout preventers, petroleum and gas-lift equipment, oil well and oilfield pumps, and pipeline valves. These actions specifically affected parts of two major contracts which Dresser Industries had been awarded in June 1978 for approximately 180 million dollars' worth of equipment and technology. Under one contract, the U.S. firm was to supply equipment and technology for the manufacture of drill bits used in the drilling of oil and gas wells, along with a substantial quantity of machine tools. The second contract involved Dresser's Canadian subsidiary, which was to supply centrifugal compressors and related equipment for use by the U.S.S.R. oil ministry. The Office of Export Administration (OEA) resumed issuing export licenses for oil and gas equipment sales by the end of August 1978, and to OEA's knowledge, exporters experienced no discernible delays strictly as a result of these restrictions. No export licenses have been disapproved because of these restrictions. However, in December 1978, the United States, in the interest of promoting good trading relations with the Soviet Union, announced that 22 requests from 14 U.S. companies seeking to sell oil equipment to buyers in the Soviet Union had been approved. These 22 licenses covered equipment, including wellhead equipment for natural gas production, a submersible pump system, seismic data-gathering equipment for oil and gas exploration, an offshore drilling rig, and other miscellaneous equipment and spare parts.

Delays in granting export licenses.--U.S. firms have cited the Commerce Department's slowness in processing applications for export licenses rapidly as a barrier to exports. Reportedly, Otis Engineering, a subsidiary of Halliburton, lost a \$40 million sale to the Soviet Union of gas-producing equipment to a French firm because of a delay in processing the export license. In addition, the firms have faulted what they consider to be inconsistencies in the Commerce Department's criteria for granting the licenses. Sometimes, the firms argue, Commerce denies a license for an item with a lower level of technology than has previously been approved.

#### Compensation agreements, joint ventures, and licensing agreements

Soviet Union.--The Soviet Union's plans to develop Siberian energy resources will doubtlessly increase their demand for Western capital, technology, and equipment. However, the Soviet Union faces a shortage of hard currency with which to purchase these goods. Consequently, compensation agreements whereby the Western partner supplies equipment and technology and is later repaid in products, are an attractive alternative for the Soviet Union.

In general, it has been the United States which has been reluctant to engage in compensation agreements with the U.S.S.R. because of the difficulty of finding salable, high-quality items to receive in payment for the technology and equipment exported. Raw materials and semimanufactures are attractive during periods of commodity shortages, but can be difficult to market when demand is slack. However, deals involving repayment in energy intensive goods are of interest to U.S. firms since oil and gas products will almost certainly continue to be highly marketable over the term of a typical compensation agreement.

The fact that very few agreements involving Soviet exports of oil and gas products to the United States have been considered stems from internal debates within the Soviet Union concerning the advisability of committing large amounts of Soviet raw materials as the price for obtaining U.S. help in developing these resources. Another constraint on compensation agreements is the Soviet Union's reluctance to allow a Western presence of any form in sensitive areas, thus making it difficult to take advantage of Western know-how associated with oil and gas exploration, or to satisfy Western insistence on confirming Soviet estimates of oil and gas reserves. Moreover, in the case of the United States, the lack of Eximbank financing and other sources of capital to finance multibillion dollar projects has acted as a constraint on compensation agreements.

Several projects involving U.S. participation have been or are being considered. One involves the development of oil deposits offshore from Sakhalin Island in the Okhotsk Sea north of Japan. Japan is the major Western partner in this agreement, but Gulf Oil has a small share in the company established to carry out the project. Negotiations continue on the following projects. In the early 1970's, the Soviet Union proposed that the United States join Japan in the Yakutsk liquefied natural gas project. In return for equipment and technology, the United States and Japan would each receive 10 billion cubic meters of gas annually. Also, the North Star agreement calls for development of the Urengoy gas field in Western Siberia. This project



was first conceived as a United States-Soviet compact; however, when U.S. Government approval and Eximbank financing were not forthcoming, the U.S. consortium in 1976 turned to Western Europe as a source of financing and as a customer for 25 percent of the gas, which would be shipped by pipeline. Although both sides are still interested in completing the project, they have failed to agree on several basic aspects of the contract.

The Soviet Union has also indicated an interest in developing offshore oil deposits in the Caspian, Barents, and Kara Seas. In these locations, the Soviet Union seems more interested in straight equipment purchases than in compensation agreements that would provide for oil exports to the West. Armco International and Phillips Petroleum recently proposed a project involving exploration and development of Arctic and offshore oil reserves, with exports of oil to the West as repayment. The Soviets have also held discussions with British and French firms concerning the joint development of these oil resources. Completion of agreements involving the development of Arctic energy resources is likely to be sometime away, since the technology to develop these resources is not yet available even in the West.

China.--On July 1, 1979, China officially passed a law dealing with joint ventures which allows foreign investment in China in participation with Chinese organizations. At the time of this writing, no United States-China joint venture agreement involving oil and gas well machinery production has been signed. However, at least one arrangement for a drill bit factory has been agreed to in principal, a first step in organizing a joint venture in China. Once the details on equity ownership, valuation of assets, and degree of participation are decided, a contract will be signed by the principals at which time that agreement will become an official joint venture.

Several U.S. companies have signed other similar preliminary joint venture agreements with China. A few of these agreements have been in the area of oil and gas exploration and development and are expected to lead eventually to joint ventures.

## SOYBEANS AND SOYBEAN PRODUCTS

Soybeans and soybean products are an important U.S. export to the world and to the NME's. Although competition from other suppliers, especially Brazil, has increased in recent years, current forecasts are for increasing U.S. exports to the NME's as demand for these protein-rich products continues to rise. U.S. sales to the NME's have accounted for some 2 percent of total domestic and foreign sales of U.S. soybeans, and for 4 percent of total sales of U.S. soybean meal. Given current U.S. supply conditions, it appears unlikely that there will be significant changes in U.S. prices as a result of sales to the NME's.

### Background

Soybeans are the principal vegetable-oil-bearing crop in the world and the most important source of protein meals used to supplement feed rations for poultry, hogs, dairy cattle, and other livestock. In the United States, soybeans are the leading crop, in terms of value of production, and also the leading agricultural export item.

When crushed, soybeans yield on the average, by weight, 18 percent oil, 79 percent cake or meal <sup>1/</sup>, and 3 percent miscellaneous byproducts, including waste. Soybean oil is used principally in edible products. It competes with, and can be substituted by, other vegetable oils, although it is sometimes sought for its distinct taste. Soybean meal, which is rich in protein, is used principally in mixed feeds for poultry, hogs, and cattle. Oilcake meals produced from different oilseeds are somewhat interchangeable; however, the quality of the protein varies among the different types of oilcake meal, making them variously suitable as sources of protein for different classes of animals. In general, soybean meal has the best quality plant protein and is suitable for all classes of farm animals.

NME's account for an important and, by all indications, growing segment of the export market for U.S. soybeans and soybean products. In 1978, U.S. exports of soybeans and soybean products to NME's were valued at \$610 million, or 9 percent of total U.S. exports of such products that year (table 1), compared with an NME share of less than 4 percent for all U.S. exports. The United States is the principal source of NME imports of oilseeds and oilseed products in general, and soybeans and soybean products in particular. In 1978 the United States supplied slightly more than half of NME imports of all oilseeds and oilseed products and three-quarters of NME imports of soybeans and soybean products. <sup>2/</sup>

The value of U.S. soybean exports to NME's amounted to \$344.4 million in 1978 (table 15). Soybeans were the leading U.S. export item to Yugoslavia and ranked third among U.S. exports to the Soviet Union. In the same year, the United States exported 238 million dollars' worth of soybean meal to NME's, or one-fifth of its total exports of soybean oil. Soybean meal was one of the

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<sup>1/</sup> Soybean cake is the product remaining when the oil has been extracted from the bean. Soybean cake is then ground into soybean meal. Hereafter, "soybean cake and meal" will be referred to as "soybean meal."

<sup>2/</sup> Includes estimated transshipments and soybean meal derived from U.S. soybeans shipped to West Germany.

Table 15.--Soybeans and associated products: U.S. exports, total and to nonmarket economy countries (NME's) 1976-78, January-March 1978, and January-March 1979

Item and Market	:	1976	:	1977	:	1978	:	Jan.-Sept.--	
								1978	1979
Total:	:	:	:	:	:	:	:	:	:
Meal-----Million dollars--	:	884.04	:	956.87	:	1,242.18	:	901.32	1,024.06
Oil-----do-----	:	240.06	:	443.21	:	578.85	:	426.28	565.72
Beans-----do-----	:	3,315.45	:	4,393.20	:	5,210.44	:	3,426.82	3,668.54
Total-----do-----	:	4,439.55	:	5,793.28	:	7,031.47	:	4,754.42	5,258.32
NME countries:	:	:	:	:	:	:	:	:	:
Meal-----Million dollars--	:	162.46	:	108.40	:	238.26	:	172.29	211.18
Oil-----do-----	:	2.70	:	28.30	:	27.05	:	27.03	50.80
Beans-----do-----	:	180.77	:	231.10	:	344.42	:	306.66	445.02
Total-----do-----	:	345.93	:	367.80	:	609.73	:	505.98	707.00
Ratio of exports to NME's to:	:	:	:	:	:	:	:	:	:
total exports:	:	:	:	:	:	:	:	:	:
Meal-----percent--	:	18.4	:	11.3	:	19.2	:	19.1	20.6
Oil-----do-----	:	1.1	:	6.4	:	4.7	:	6.3	9.0
Beans-----do-----	:	5.5	:	5.3	:	6.6	:	8.9	12.1
Average-----do-----	:	7.8	:	6.3	:	8.7	:	10.6	13.4

Source: Compiled from official statistics of the U.S. Department of Commerce.

three leading U.S. export items going to six Eastern European countries. U.S. exports of soybean oil to NME's are relatively small, amounting in 1978 to about \$27 million, or 5 percent of all U.S. exports of soybean oil. Virtually all such exports went to China. 1/ The United States also supplies oilseeds other than soybeans to NME's, such as sunflower seed (Eastern Europe), and peanuts (Soviet Union), which also compete with U.S. exports of soybeans.

The United States has been generally in favor of promoting the sale of soybeans and soybean meal to NME's. In times of shortages, however, there have been instances of temporary U.S. export restrictions to all countries, or specifically to certain NME's. For their part, NME's are dependent on imports of soybeans and soybean meal, and therefore do not normally restrict such imports. Quality requirements of certain NME's may have interfered, on occasion, with U.S. exports of soybeans, but these were not normally applied to act as trade barriers. Scarcity of hard currency, however, often forces NME's to ration imports, and to substitute domestic products for them.

Several NME's prefer to fill their needs from other sources than the United States. An obvious reason is the absence of normal trade relations between the United States and most NME's, with the exception of a few Eastern European countries; another reason is their desire to lessen dependence on a single source of supply. Another factor which has affected U.S. exports of soybeans and associated products to NME's and other markets has been Brazil's large-scale subsidization of its soybean meal exports.

#### U.S. exports and foreign competition

Soybeans are now the nation's leading export crop, as soybean production in the United States has increased from 15 million tons in 1960 to 50 million tons in 1979. In 1978, U.S. exports of soybeans and soybean products amounted to \$7.1 billion, accounting for more than 80 percent of all oilseed-related U.S. exports in that year. The Netherlands, Japan, and Spain are the principal foreign markets for U.S. soybeans (table 16); West Germany, Italy, and the Netherlands for U.S. soybean meal (table 17). Developing countries, such as India, Iran, and Pakistan, are the chief markets for U.S. soybean oil (table 18). 2/

Until the early 1970's most of the world trade in soybeans and soybean products, and much of that in all oilseeds and associated products, was accounted for by U.S. exports. Beginning in the early 1970's the U.S. share

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1/ As U.S. soybean oil exports to NME's are comparatively small and presently limited to China, only the section entitled "The Chinese market" will include some reference to such trade in the remainder of this report. In the early seventies, the NME market for U.S. soybean oil was more significant, with Yugoslavia being the principal NME of destination.

2/ The quantity, value, and unit value of U.S. exports to each NME of soybeans and soybean products for 1976-78 annually, and for January-September 1978 and January-September 1979 is shown in tables 16, 17, and 18. Each table includes data showing the principal countries of destination for U.S. exports outside the NME bloc.

Table 16.—Soybeans: U.S. exports, by principal markets, 1974-78,  
January-September 1978, and January-September 1979

Market	1974	1975	1976	1977
Quantity (1,000 metric tons)				
Yugoslavia-----	0	0.54	0	96.40
Romania-----	0	15.46	220.52	137.40
Poland-----	126.33	120.43	55.65	0
East Germany-----	0	0	0	0
Bulgaria-----	0	0	.01	.65
Hungary-----	.38	.13	0	0
Subtotal-----	126.71	136.57	276.18	234.44
U.S.S.R-----	0	13.97	571.33	564.66
China-----	569.73	.02	0	47.33
Total NME's-----	696.45	150.55	847.50	846.43
Japan-----	2,759.59	2,766.87	3,069.37	3,410.71
Netherlands-----	2,515.20	2,705.90	3,434.11	3,390.74
West Germany-----	1,943.31	1,170.38	1,382.99	1,506.63
Spain-----	1,294.81	1,163.03	1,221.15	1,205.87
Italy-----	821.30	791.00	895.53	796.37
All other-----	3,910.56	3,749.74	4,483.03	5,040.41
Total ME's-----	13,244.76	12,346.93	14,486.17	15,350.73
Grand total-----	13,941.21	12,497.48	15,333.67	16,197.16
Quantity (1,000 metric tons)				
1978 January-September--				
	1978	1978	1979	
Quantity (1,000 metric tons)				
Yugoslavia-----	185.65	123.35		173.89
Romania-----	190.51	190.51		199.75
Poland-----	151.27	129.93		51.37
East Germany-----	1.00	0		3.13
Bulgaria-----	.02	20.29		0
Hungary-----	0	0		0
Subtotal-----	528.45	464.08		428.14
U.S.S.R-----	744.32	744.17		1,177.52
China-----	57.00	0		0
Total NME's-----	1,329.78	1,208.25		1,605.66
Netherlands-----	4,484.80	2,706.01		2,359.62
Japan-----	3,854.93	2,642.25		2,671.47
Spain-----	1,640.11	1,036.30		885.10
West Germany-----	1,555.97	964.01		887.10
Taiwan-----	1,070.22	755.10		857.40
All other-----	6,774.40	4,324.79		3,873.14
Total ME's-----	19,380.43	12,428.46		11,533.83
Grand total-----	20,710.21	13,636.71		13,139.49

Table 16.--Soybeans: U.S. exports, by principal markets, 1974-78, January-September 1978, and January-September 1979--Continued

Market	1974	1975	1976	1977
Value (million dollars)				
Yugoslavia-----	-	0.31	-	23.48
Romania-----	-	3.51	45.28	38.65
Poland-----	36.15	31.67	10.80	-
East Germany-----	-	-	-	-
Bulgaria-----	-	-	-	.28
Hungary-----	.08	.03	-	-
Subtotal-----	36.23	35.51	56.08	62.41
U.S.S.R-----	-	2.67	124.69	154.31
China-----	126.52	.01	-	14.39
Total NME's-----	162.75	38.19	180.77	231.10
Japan-----	724.33	648.00	674.72	937.68
Netherlands-----	637.61	614.14	732.17	901.84
West Germany-----	498.76	289.99	302.82	415.44
Spain-----	338.12	253.26	253.56	312.32
Italy-----	211.00	182.53	197.73	225.07
All other-----	964.87	839.14	973.67	1,369.75
Total ME's-----	3,374.69	2,827.05	3,134.68	4,162.10
Grand total-----	3,537.44	2,865.24	3,315.45	4,393.20
Value (million dollars)				
1978		January-September--		
		1978	1979	
Value (million dollars)				
Yugoslavia-----	48.48	32.00	51.83	
Romania-----	40.79	40.79	56.96	
Poland-----	39.83	34.13	14.00	
East Germany-----	.25	-	.87	
Bulgaria-----	.01	-	-	
Hungary-----	-	-	-	
Subtotal-----	129.35	106.92	123.66	
U.S.S.R-----	199.77	199.74	321.36	
China-----	15.30	-	-	
Total NME's-----	344.42	306.66	445.02	
Netherlands-----	1,133.59	686.07	661.53	
Japan-----	980.75	670.41	762.93	
Spain-----	415.08	259.67	238.19	
West Germany-----	380.36	233.38	247.48	
Taiwan-----	254.61	179.32	239.09	
All other-----	1,701.63	1,091.31	1,074.30	
Total ME's-----	4,866.02	3,120.16	3,223.52	
Grand total-----	5,210.44	3,426.82	3,668.54	

Table 16.—Soybeans: U.S. exports, by principal markets, 1974-78,  
January-September 1978, and January-September 1979--Continued

Market	1974	1975	1976	1977
Unit value (per metric ton)				
Yugoslavia-----	\$202.84	\$582.92	1/	\$243.53
Romania-----	1/	226.69	\$205.34	281.28
Poland-----	286.15	262.94	194.01	1/
East Germany-----	1/	1/	1/	1/
Bulgaria-----	1/	1/	202.07	440.88
Hungary-----	202.07	202.06	1/	1/
Subtotal-----	285.90	260.04	203.06	266.19
U.S.S.R-----	1/	191.05	218.25	273.28
China-----	222.07	557.66	1/	303.94
Total NME's-----	233.68	253.67	213.30	273.03
Japan-----	262.48	234.20	219.82	274.92
Netherlands-----	253.50	226.96	213.20	265.97
West Germany-----	256.65	247.77	218.96	275.74
Spain-----	261.14	217.76	207.64	259.00
Italy-----	256.91	230.75	220.80	282.62
All other-----	246.73	223.78	217.19	271.75
Total ME's-----	254.79	228.97	216.39	271.13
Grand total-----	253.74	229.27	216.22	271.23
Unit value (per metric ton)				
January-September--				
1978 1978 1979				
Unit value (per metric ton)				
Yugoslavia-----	\$261.13	259.43	298.06	
Romania-----	214.10	214.11	285.16	
Poland-----	263.28	262.68	272.53	
East Germany-----	249.99	-	277.96	
Bulgaria-----	433.84	433.85	649.69	
Hungary-----	-	-	-	
Subtotal-----	244.78	230.39	288.83	
U.S.S.R-----	268.39	268.41	272.91	
China-----	268.42	-	-	
Total NME's-----	259.01	253.81	277.16	
Netherlands-----	252.76	253.54	280.35	
Japan-----	254.41	253.73	285.58	
Spain-----	253.08	250.57	269.11	
West Germany-----	244.45	242.10	278.98	
Taiwan-----	237.90	237.48	278.85	
All other-----	251.19	252.34	277.37	
Total ME's-----	251.08	251.05	279.48	
Grand total-----	251.59	251.29	279.20	

1/ Not available.

Source: Compiled from official statistics of the U.S. Department of Commerce.

Table 17.—Soybean cake and meal: U.S. exports, by principal markets, 1974-78, January-September 1978, and January-September 1979

Market	1974	1975	1976	1977
	Quantity (1,000 metric tons)			
Poland-----	250.15	201.03	391.59	177.52
East Germany-----	0	0	0	24.44
Hungary-----	117.79	195.81	70.36	46.62
Yugoslavia-----	221.72	12.60	171.37	108.49
Bulgaria-----	16.55	24.23	10.69	0
Czechoslovakia-----	79.89	117.34	178.81	102.28
Romania-----	103.65	12.67	98.02	47.27
Subtotal-----	789.75	563.67	920.84	506.61
U.S.S.R-----	2.08	0	0	.15
Total NME's-----	791.83	563.67	920.84	506.76
West Germany-----	1,044.28	862.91	1,073.79	976.89
Netherlands-----	362.70	244.73	326.23	442.61
Canada-----	260.37	232.08	273.25	272.29
Italy-----	587.10	327.72	476.76	472.36
Mexico-----	24.40	21.92	5.30	190.97
All other-----	1,838.97	1,529.73	1,785.96	1,271.78
Total ME's-----	4,117.82	3,219.09	3,941.29	3,626.90
Grand total-----	4,909.65	3,782.76	4,862.13	4,133.66
	1978	January-September--		
		1978	1979	
	Quantity (1,000 metric tons)			
Poland-----	518.50	493.32	217.87	
East Germany-----	204.62	80.19	261.66	
Hungary-----	146.80	99.13	29.17	
Yugoslavia-----	112.32	99.32	27.33	
Bulgaria-----	56.74	16.48	75.75	
Czechoslovakia-----	55.38	33.50	104.30	
Romania-----	38.28	10.00	155.97	
Subtotal-----	1,132.64	831.94	872.05	
U.S.S.R-----	.50	.50	26.98	
Total NME's-----	1,133.14	832.44	899.03	
West Germany-----	1,098.40	749.50	751.64	
Italy-----	742.16	569.10	518.01	
Netherlands-----	626.41	536.35	405.91	
Canada-----	784.34	678.43	308.14	
Spain-----	279.52	184.15	158.17	
All other-----	1,671.34	1,221.82	1,391.85	
Total ME's-----	5,202.17	3,939.35	3,533.72	
Grand total-----	6,335.31	4,771.79	4,432.75	

Source: Compiled from official statistics of the U.S. Department of Commerce.



Table 17.—Soybean cake and meal: U.S. exports, by principal markets, 1974-78, January-September 1978, and January-September 1979--Continued

Market	1974	1975	1976	1977
Value (million dollars)				
Poland-----	58.67	33.17	74.10	41.26
East Germany-----	-	-	-	5.12
Hungary-----	25.63	34.91	14.52	12.25
Yugoslavia-----	47.52	3.19	27.21	22.91
Bulgaria-----	3.18	3.54	1.59	-
Czechoslovakia-----	15.13	18.15	27.33	17.13
Romania-----	25.45	1.89	17.70	9.40
Subtotal-----	175.59	94.85	162.46	108.08
U.S.S.R-----	.49	-	-	.32
Total NME's-----	176.08	94.85	162.46	108.40
West Germany-----	208.97	153.48	196.70	228.56
Netherlands-----	61.37	36.27	61.87	100.93
Canada-----	53.84	55.10	72.52	99.11
Italy-----	109.43	54.57	80.69	94.24
Mexico-----	11.43	5.02	1.52	57.84
All other-----	352.95	260.20	308.26	267.79
Total ME's-----	798.00	564.64	721.58	848.47
Grand total-----	974.08	659.49	884.04	956.87
Value (million dollars)				
1978				
January-September--				
1978				
1979				
Value (million dollars)				
Poland-----	108.55	103.47	47.74	
East Germany-----	43.57	16.59	62.88	
Hungary-----	32.36	21.00	7.60	
Yugoslavia-----	22.69	19.53	5.58	
Bulgaria-----	11.64	3.29	17.10	
Czechoslovakia-----	10.75	5.97	24.73	
Romania-----	8.47	2.20	38.81	
Subtotal-----	238.02	172.05	204.44	
U.S.S.R-----	.24	.24	6.74	
Total NME's-----	238.26	172.29	211.18	
West Germany-----	220.80	149.28	154.75	
Italy-----	148.85	114.88	117.98	
Netherlands-----	125.94	106.64	88.28	
Canada-----	84.35	59.38	75.69	
Spain-----	59.60	38.30	37.67	
All other-----	364.39	260.55	338.51	
Total ME's-----	1,003.92	729.03	812.88	
Grand total-----	1,242.18	901.32	1,024.06	

Source: Compiled from official statistics of the U.S. Department of Commerce.

Table 17.—Soybean cake and meal: U.S. exports, by principal markets, 1974-78, January-September 1978, and January-September 1979--Continued

Market	1974	1975	1976	1977
Unit value (per metric ton)				
Poland-----	\$234.54	\$165.00	\$189.23	\$232.43
East Germany-----	-	-	-	209.49
Hungary-----	217.59	178.29	206.37	262.76
Yugoslavia-----	214.32	253.18	158.78	211.17
Bulgaria-----	192.15	146.10	148.74	-
Czechoslovakia-----	189.39	154.68	152.84	167.48
Romania-----	245.54	149.17	180.58	198.86
Subtotal-----	222.34	168.27	176.43	213.34
U.S.S.R-----	235.58	-	-	2,133.33
Total NME's-----	222.37	168.27	176.45	213.91
West Germany-----	200.11	177.86	183.18	233.91
Netherlands-----	169.20	148.20	189.65	228.03
Canada-----	206.78	237.42	265.40	363.99
Italy-----	186.39	166.51	169.25	199.51
Mexico-----	468.44	229.02	286.79	302.88
All other-----	191.93	170.10	172.60	210.56
Total ME's-----	193.79	175.40	183.08	233.94
Grand total-----	198.40	174.34	181.82	231.48
Unit value (per metric ton)				
1978		January-September--		
		1978	1979	
Unit value (per metric ton)				
Poland-----	209.35	209.74	219.12	
East Germany-----	212.93	206.88	240.31	
Hungary-----	220.44	211.84	260.54	
Yugoslavia-----	202.01	196.64	204.17	
Bulgaria-----	205.15	199.64	225.74	
Czechoslovakia-----	194.11	178.21	237.10	
Romania-----	221.26	220.00	248.83	
Subtotal-----	210.16	206.81	234.44	
U.S.S.R-----	480.00	480.00	249.81	
Total NME's-----	210.27	206.97	234.90	
West Germany-----	201.02	199.17	205.88	
Italy-----	200.56	201.86	227.76	
Netherlands-----	201.05	198.83	217.49	
Canada-----	107.54	87.53	245.64	
Spain-----	213.22	207.98	238.16	
All other-----	218.01	213.25	243.21	
Total ME's-----	192.98	185.06	230.04	
Grand total-----	196.07	188.89	231.02	

Source: Compiled from official statistics of the U.S. Department of Commerce.

Table 18.—Soybean oil: U.S. exports, by principal markets, 1974-78,  
January-September 1978, and January-September 1979

Market	1974	1975	1976	1977
Quantity (1,000 metric tons)				
Poland-----	0	0	6.12	0
Yugoslavia-----	48.21	59.59	0	0
Subtotal-----	48.21	59.59	6.12	0
China-----	0	0	0	75.06
Total NME's-----	48.21	59.59	6.12	75.06
India-----	27.10	3.48	64.45	279.24
Pakistan-----	108.27	12.32	204.46	118.97
Iran-----	188.00	82.64	56.86	60.47
Peru-----	68.39	21.31	35.67	70.55
Colombia-----	9.32	9.36	23.75	46.27
All other-----	476.44	244.16	228.21	289.38
Total ME's-----	877.52	373.27	613.40	864.88
Grand total-----	925.74	432.85	619.52	939.94
Quantity (1,000 metric tons)				
1978		January-September--		
		1978	1979	
Quantity (1,000 metric tons)				
Poland-----	1.51	1.50	23.79	
Yugoslavia-----	0	0	0	
Subtotal-----	1.51	1.50	23.79	
China-----	44.20	44.20	58.82	
Total NME's-----	45.72	45.70	82.61	
India-----	274.44	231.45	145.73	
Iran-----	117.84	44.30	107.66	
Pakistan-----	95.81	95.81	163.32	
Peru-----	63.35	52.49	18.47	
Colombia-----	51.16	27.89	60.78	
All other-----	294.17	210.16	263.93	
Total ME's-----	896.77	662.10	759.89	
Grand total-----	942.48	707.80	842.50	

Source: Compiled from official statistics of the U.S. Department of Commerce.

Table 18.—Soybean oil: U.S. exports, by principal markets, 1974-78, January-September 1978, and January-September 1979--Continued

Market	1974	1975	1976	1977
Value (In millions of dollars)				
Poland-----	-	-	2.70	-
Yugoslavia-----	24.96	34.57	-	-
Subtotal-----	24.96	34.57	2.70	-
China-----	-	-	-	28.30
Total NME's-----	24.96	34.57	2.70	28.30
India-----	17.35	2.60	28.70	134.74
Pakistan-----	58.71	7.12	71.96	58.30
Iran-----	107.36	56.40	24.99	32.04
Peru-----	31.44	13.46	13.79	32.41
Colombia-----	5.20	5.17	8.67	21.04
All other-----	276.80	149.54	89.26	136.37
Total ME's-----	496.87	234.29	237.36	414.91
Grand total-----	521.83	268.86	240.06	443.21
Quantity (1,000 metric tons)				
Poland-----	.93	.91		14.91
Yugoslavia-----	-	-		-
Subtotal-----	.93	.91		14.91
China-----	26.12	26.12		35.89
Total NME's-----	27.05	27.03		50.80
India-----	167.90	138.70		103.96
Iran-----	72.86	26.84		65.59
Pakistan-----	56.05	56.05		108.03
Peru-----	37.01	30.05		13.23
Colombia-----	30.27	15.43		39.84
All other-----	187.71	132.18		184.27
Total ME's-----	551.80	399.25		514.92
Grand total-----	578.85	426.28		565.72

Source: Compiled from official statistics of the U.S. Department of Commerce.

Table 18.--Soybean oil: U.S. exports, by principal markets, 1974-78,  
January-September 1978, and January-September 1979--Continued

Market	1974	1975	1976	1977
Unit value (per metric ton)				
Poland-----	-	-	440.87	-
Yugoslavia-----	517.78	580.14	-	-
Subtotal-----	517.78	580.14	440.87	-
China-----	-	-	-	376.99
Total NME's-----	517.78	580.14	440.87	376.99
India-----	640.30	748.42	445.29	482.53
Pakistan-----	542.25	578.00	351.92	490.07
Iran-----	571.08	682.47	439.48	529.85
Peru-----	459.78	631.59	386.74	459.41
Colombia-----	557.57	552.32	364.85	454.77
All other-----	580.97	612.45	391.13	471.26
Total ME's-----	566.82	627.67	386.96	479.73
Grand total-----	563.69	621.13	387.49	471.53
Unit value (per metric ton)				
1978		January-September--		
		1978	1979	
Unit value (per metric ton)				
Poland-----	613.99	606.67	626.73	
Yugoslavia-----	-	-	-	
Subtotal-----	613.99	606.67	626.73	
China-----	590.86	590.95	610.17	
Total NME's-----	591.62	591.47	614.94	
India-----	611.80	599.27	713.37	
Iran-----	618.31	605.87	609.23	
Pakistan-----	584.99	585.01	661.46	
Peru-----	584.25	572.49	716.30	
Colombia-----	591.67	553.24	655.48	
All other-----	638.11	628.95	698.18	
Total ME's-----	615.32	603.01	677.62	
Grand total-----	614.17	602.26	671.48	

Source: Compiled from official statistics of the U.S. Department of Commerce.

of soybean-related trade has been reduced by competing exports mostly from Brazil, and to a much smaller extent from Argentina. Other developing countries also emerged as exporters of oilseeds or oilseed products to compete with U.S. soybean products on the world market.

Brazil has shown remarkable growth in its plantings of soybeans in the past 10 years or so. With soybean crushing capabilities in excess of that required by its own soybean use, <sup>1/</sup> Brazil challenged U.S. exports principally in the area of soybean meals, surpassing the United States to become the world's leading exporter of this item in 1977. The Brazilian Government supports the soybean industry with various incentives for investment and large subsidies to meal exporters. Complaints have been lodged in the United States and the European Community, alleging unfair Brazilian subsidization of soybean meal and soybean oil exports. The complaint filed in 1976 by the National Soybean Processors Association under section 301 of the Trade Act of 1974, concerning unfair subsidization in Brazil of soybean oil and meal, resulted in Brazil's withdrawal of certain soybean oil subsidies under an agreement reached later that year. However, Brazil continues to grant certain tax advantages for soybean and soybean meal exports.

None of the NME's have been significant exporters of soybeans or associated products since World War II. By the early 1970's, NME's collectively had become an important market for U.S. soybeans and soybean products. In 1972 and 1973, the NME market share of U.S. exports increased considerably following serious harvest shortfalls in the bloc. The Soviet Union and China bought considerable amounts of U.S. soybeans in these years for the first time ever, and the Eastern European countries significantly increased their purchases of soybeans and soybean meal from the United States in 1973. The value, quantity, and unit value of exports to each NME is shown in table 16 for soybeans, table 17 for soybean meal, and table 18 for soybean oil. U.S. imports of soybeans and related products from NME's have been insignificant (less than \$5,000 per year).

U.S. and Brazilian exports of soybeans and soybean meal to the Soviet Union, China, and Eastern Europe for the period 1971-78 are compared in tables 19 and 20. The Soviet Union has dominated the NME market for soybeans, but it has imported only a negligible quantity of soybean meal. Eastern Europe is the destination of virtually all U.S. and Brazilian soybean meal exports to NME's, and also accounts for most of the remaining NME soybean market.

U.S. exports of soybeans to all NME's amounted to 1.3 million metric tons in 1978, of which 56 percent went to the Soviet Union, 40 percent to Eastern Europe, and 4 percent to China (table 19, figure 3). Since 1972, U.S. exports of soybeans to NME's have almost tripled, and the NME share of total U.S. soybean exports increased from 3.9 percent in 1972 to more than 5 percent in all but 1 year thereafter. Such sales were determined by a variety of factors, reflecting both the availability of world oilseed supplies and the import requirements of the NME's.

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<sup>1/</sup> During crop year 1978/79, Brazil had a soybean crushing capacity of about 14 million tons, but crushed only about 9 million tons.

Table 19.--Soybeans: Exports from the United States and Brazil, total  
and to nonmarket economy countries (NME's), 1971-78

(In thousands of metric tons)										
Market and exporter	1971	1972	1973	1974	1975	1976	1977	1978	1/	
Soviet Union:										
United States-----	0	391.7	482.5	0	14.0	571.3	564.6	744.3		
Brazil-----	0	0	0	0	438.2	1,161.5	551.7	2/ 30.0		
China:										
United States-----	0	0	0	569.7	3/	0	47.3	57.0		
Brazil-----	0	1.5	0	0	31.5	24.9	308.8	2/ 19.6		
Eastern Europe:										
United States-----	128.3	81.5	174.7	126.7	136.6	276.1	234.4	528.4		
Brazil-----	26.8	53.8	0	.1	1.0	25.0	0	2/ 0		
Subtotal, nonmarket economies:										
United States-----	128.3	473.2	855.4	696.4	150.6	847.4	846.3	1,329.7		
Brazil-----	26.8	55.3	0	.1	470.7	1,211.4	860.5	2/ 49.6		
Total all countries:										
United States-----	11,538.5	11,995.7	13,220.6	13,941.2	12,496.2	15,332.1	16,197.2	20,710.2		
Brazil-----	213.4	1,037.3	1,786.1	2,730.4	3,333.3	3,639.5	2,586.9	2/ 659.1		
Ratio of exports to NME's to total exports:										
United States-----	1.1	3.9	6.5	5.0	1.2	5.5	5.2	6.4		
Percent--										
Brazil-----do----	12.6	5.3	0	0	14.1	33.3	33.3	2/ 7.5		

1/ Preliminary.

2/ January-October only.

3/ Less than 50 metric tons.

Source: Compiled from official statistics of the U.S. Department of Agriculture.

Table 20.--Soybean cake and meals: Exports of the United States and Brazil,  
total and to nonmarket economy countries (NME's), 1971-78

(In thousands of metric tons)											
Market and exporter	1971	1972	1973	1974	1975	1976	1977	1978	<u>1/</u>		
Soviet Union:											
United States-----	0	0	0	2.1	0	0	0.2		0.5		
Brazil-----	0	0	0	0	0	0	0		<u>2/</u> 0		
China:											
United States-----	0	0	0	0	0	0	0		0		
Brazil-----	0	0	0	0	0	.5	.6		<u>2/</u> 0		
Eastern Europe:											
United States-----	443.2	467.9	914.0	789.8	563.7	920.8	506.6		883.5		
Brazil-----	181.8	362.7	366.7	626.6	1,015.5	1,085.6	1,230.4		<u>2/</u> 698.3		
Subtotal, nonmarket economies:											
United States-----	443.2	467.9	914.0	791.9	563.7	920.8	506.8		884.0		
Brazil-----	181.8	362.7	366.7	626.6	1,015.5	1,086.1	1,230.9		<u>2/</u> 698.3		
Total all countries:											
United States-----	4,086.4	3,615.2	4,414.7	4,909.7	3,782.8	4,802.1	4,133.7		4,784.3		
Brazil-----	911.4	1,405.3	1,581.5	2,020.5	3,119.3	4,349.4	5,329.0		<u>2/</u> 4,578.2		
Ratio of exports to NME's											
total exports:											
United States-----	10.8	12.9	20.7	16.1	14.9	18.9	12.3		18.5		
Percent--											
Brazil-----do-----	19.9	25.8	23.2	31.0	32.6	25.1	23.1		<u>2/</u> 15.2		

1/ Preliminary.

2/ January-October only.

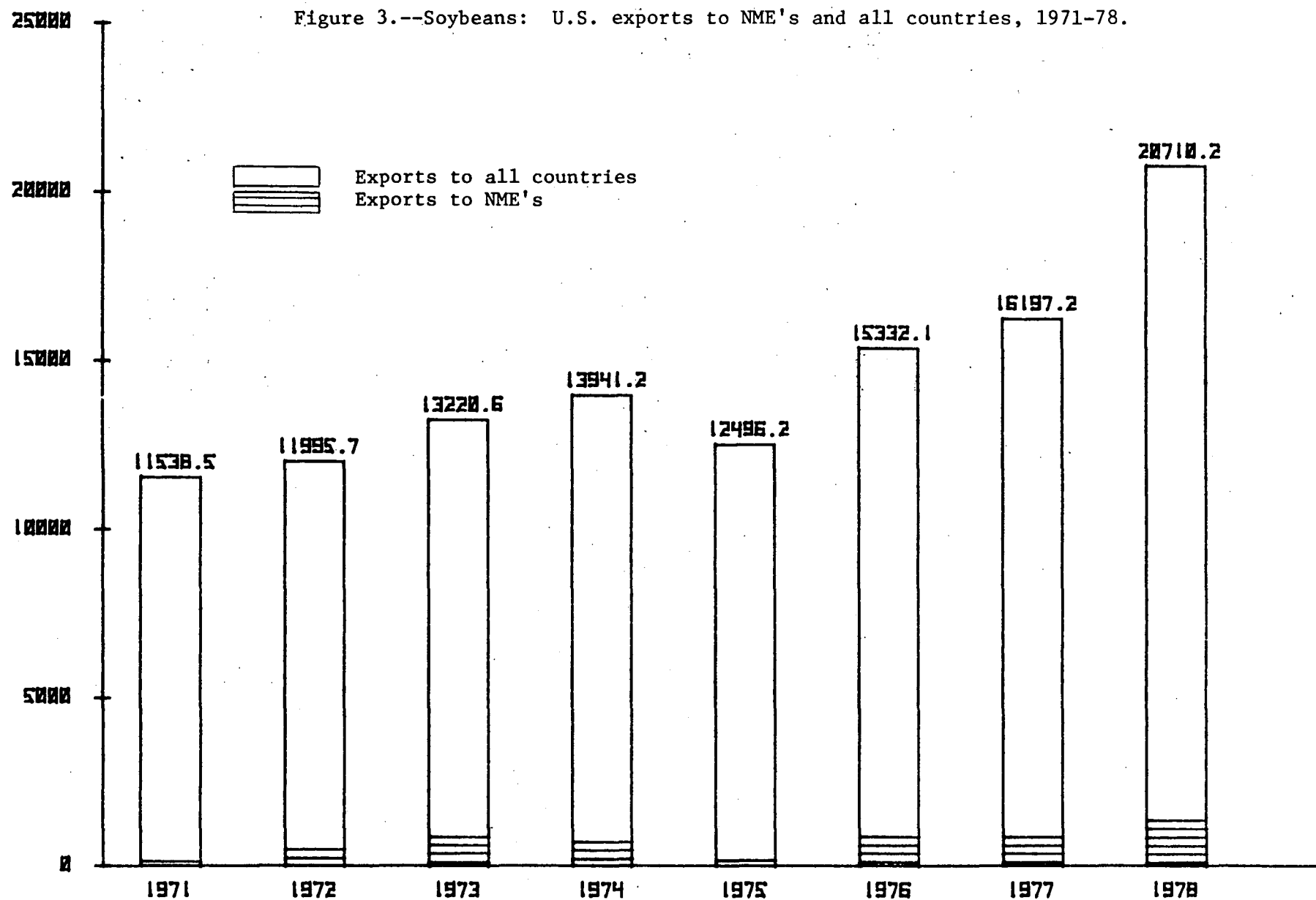
3/ Less than 50 metric tons.

Source: Compiled from official statistics of the U.S. Department of Agriculture.



1,000 metric tons

Figure 3.--Soybeans: U.S. exports to NME's and all countries, 1971-78.



Based on data from table 19.

The U.S. Government restricted U.S. exports of certain agricultural commodities, including soybeans, in part of 1973 to all countries, and in part of 1975 in specific to the Soviet Union and Poland. <sup>1/</sup> The NME demand in this period for U.S. supplies was heightened because of shortfalls in their feedgrain and oilseed harvests, although alternative supplies of soybeans--mostly Brazilian--were available. In these years, Brazil had growing soybean supplies, and the Soviet Union and China filled their needs first from that source before turning to U.S. suppliers. In 1975, the year of U.S. export restrictions, Brazil sold NME's more than did the United States. The NME share of Brazil's total soybean exports shows a considerable year-to-year variation, fluctuating in a much wider range than the NME share in U.S. exports (table 19, fig. 4). The NME share of Brazil's soybean exports increased from virtually none in 1973 and 1974 to one-third in 1976 and 1977. In 1978, drought in Brazil reduced soybean crops, and exports declined precipitously to both the world market and NME's.

The Brazilian challenge to U.S. exports has been even greater in the area of soybean meal than in soybeans. This is true both in the world and NME markets. U.S. exports of soybean meal to NME's amounted to 1.1 million metric tons in 1978 and went virtually all to Eastern European countries (table 20, fig. 5). Such exports in 1978 reached record levels, amounting to 2.5 times their level in 1971. As with soybeans, U.S. exports of soybean meal to NME's did not increase steadily, and the NME share of total U.S. exports fluctuated from year to year, ranging from 11 percent in 1971 to 21 percent in 1973.

Brazilian soybean meal exports to NME's--also virtually all to Eastern Europe--showed a steady increase from 181,800 tons in 1971 to 1.2 million tons, or almost 7 times more in 1977 (table 20 and fig. 6). In 1978, exports declined considerably, reflecting the damage drought inflicted on the Brazilian soybean crop. The NME share in Brazil's total exports, already one fifth in 1971, increased to about one-third of all exports by 1975. Thereafter, Brazilian exports to countries outside the NME bloc expanded even faster than to NME's. In 1977, Brazil exported 5.3 million tons of soybean meal to the world, almost 6 times more than in 1971, and exceeded for the first time the volume of all U.S. exports of soybean meal to the world. Therefore, despite the spectacular growth of Brazilian soybean meal sales to NME's, the share of the NME market in all Brazilian exports actually declined after 1975 to 23 percent in 1977, and apparently to less than 20 percent in 1978 (table 20, fig. 6).

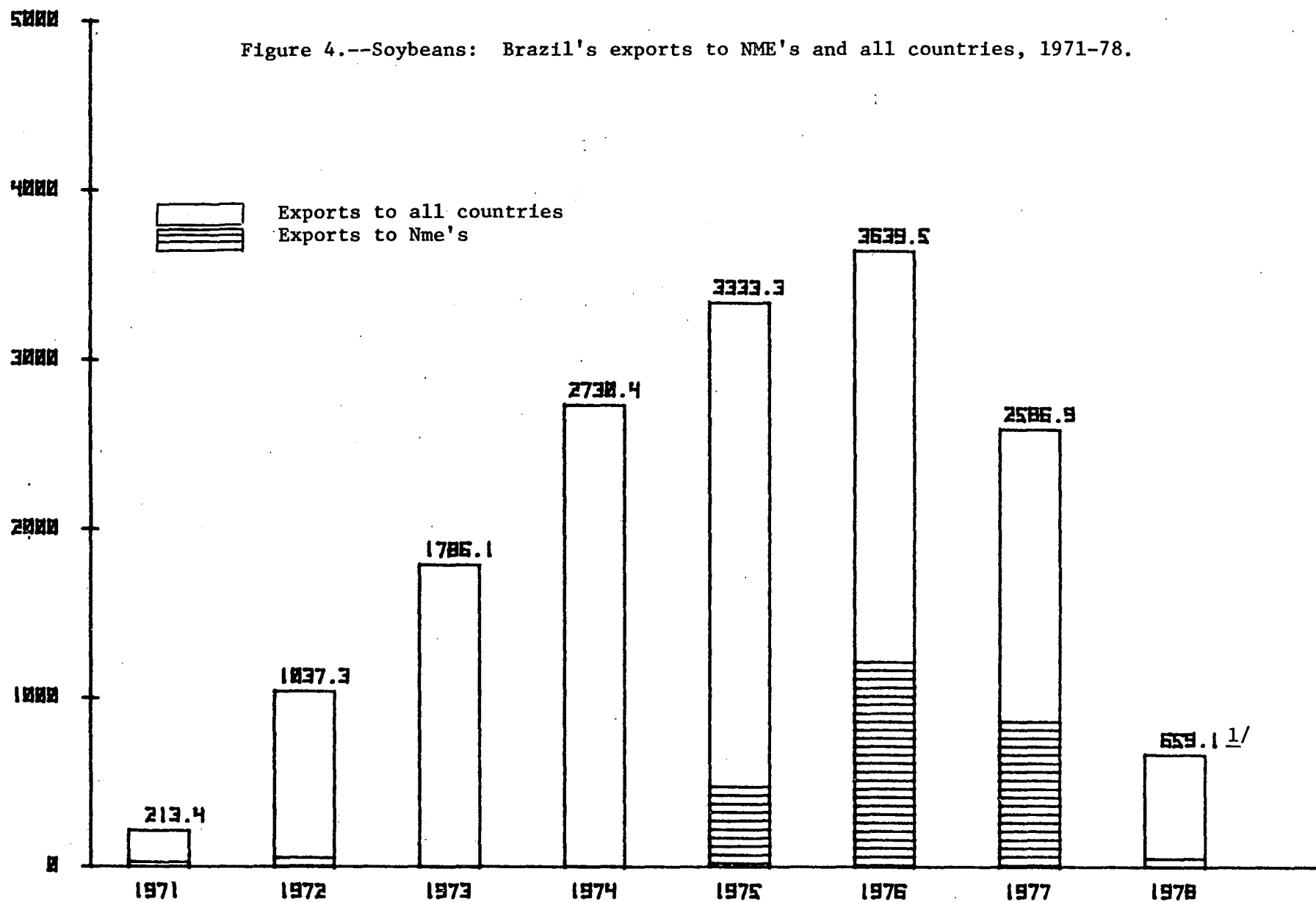
It should be noted that data shown in tables 15-20 understate the U.S. and Brazilian exports to NME's. Some of the soybean and soybean meal exports by both countries reach the NME's indirectly, being transshipped through Canada, the Netherlands, West Germany, or Belgium. These exports then appear in trade statistics as originating in the above countries. Even more

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<sup>1/</sup> An embargo on U.S. grains and oilseeds exports was in effect from June 27 to July 2, 1973 under the Export Administration Act of 1969. From July 2, 1973, until Oct. 1, 1973, exports were tied to an export license system. From Aug. 11 to Oct. 10, 1975, a moratorium was in effect on new sales of grains and soybeans to the Soviet Union and Poland.

1,000 metric tons

Figure 4.--Soybeans: Brazil's exports to NME's and all countries, 1971-78.

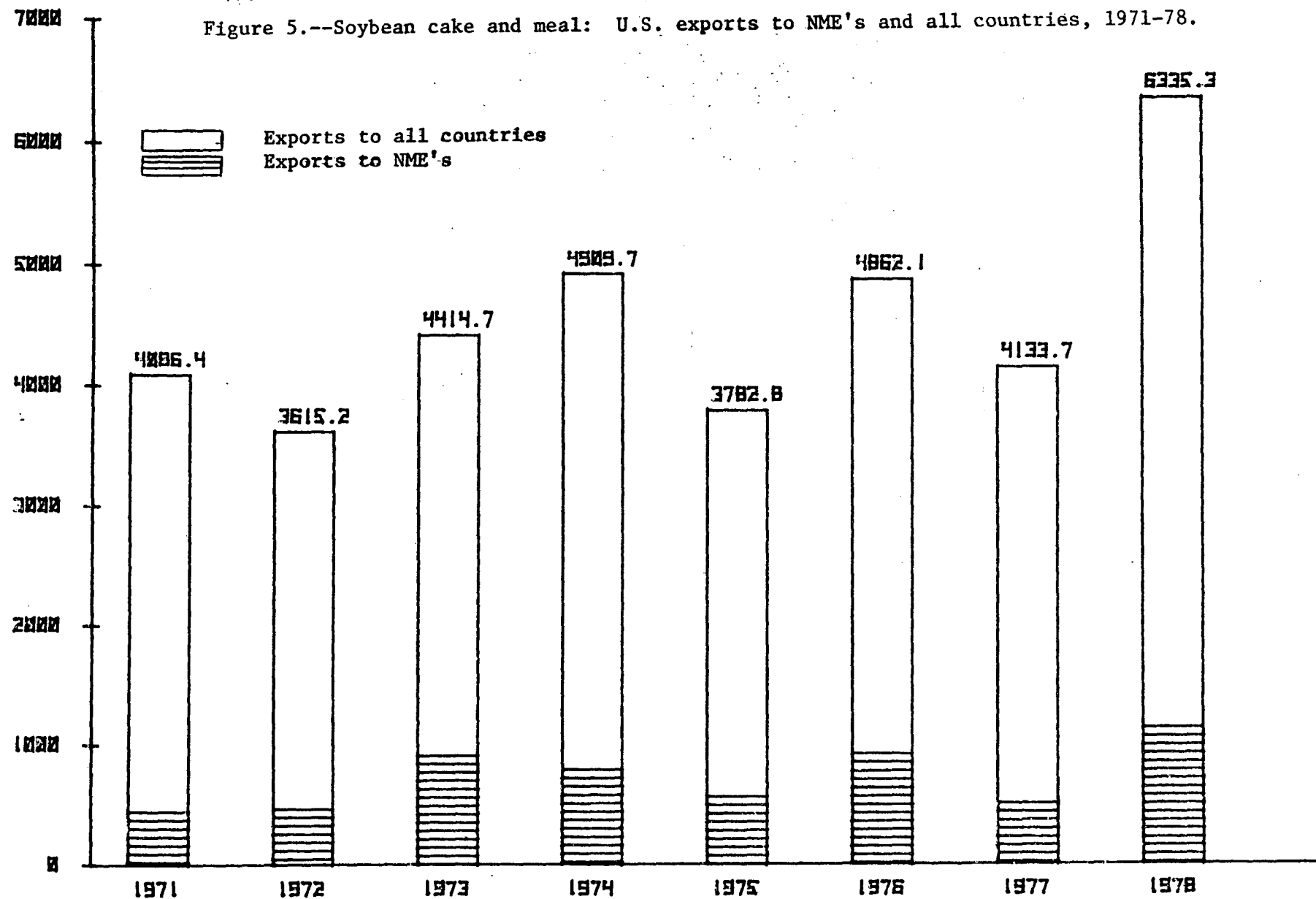


<sup>1/</sup> January-October 1978.

Based on data from table 19.

1,000 metric tons

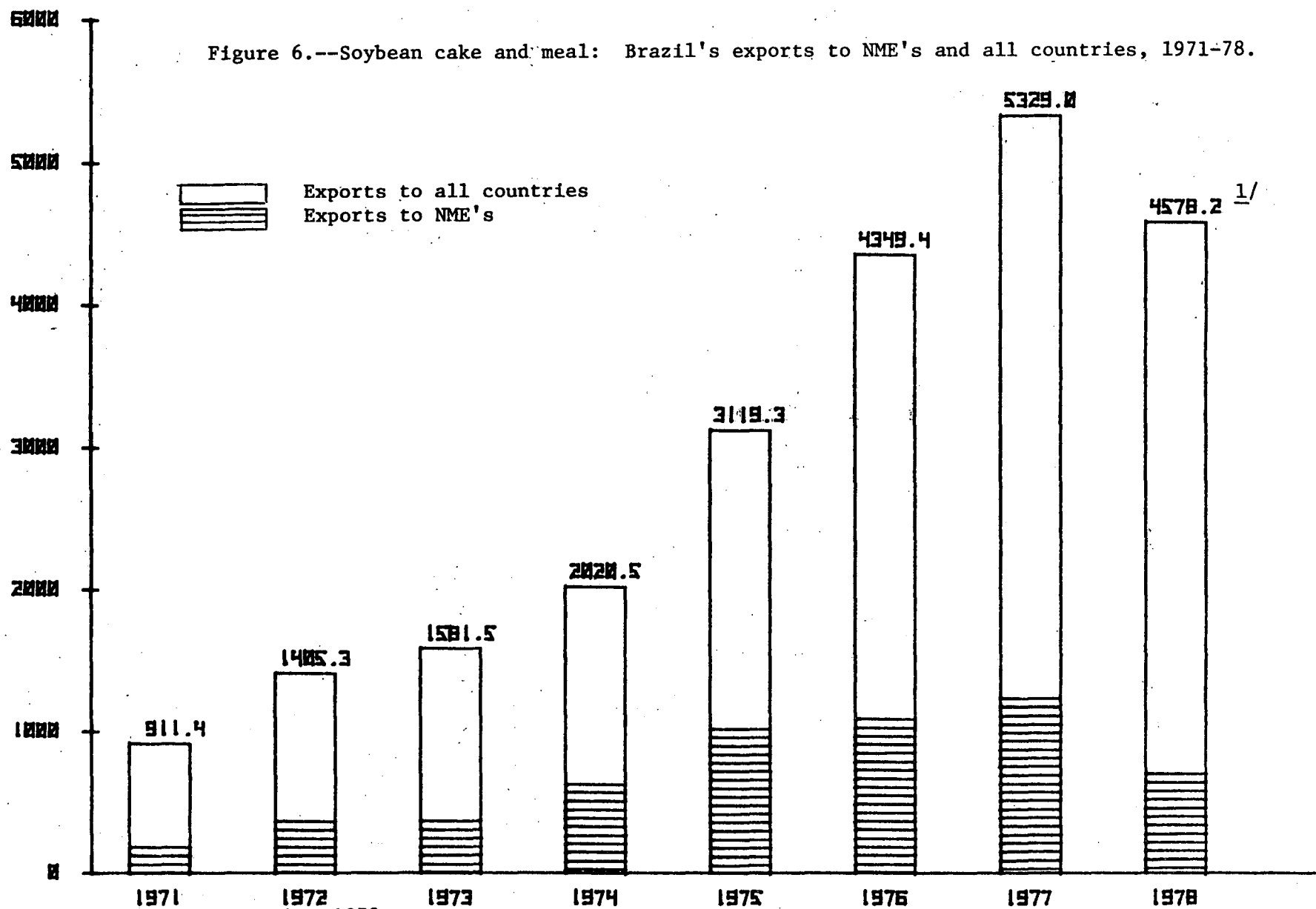
Figure 5.--Soybean cake and meal: U.S. exports to NME's and all countries, 1971-78.



Based on data from table 20.

1,000 metric tons

Figure 6.--Soybean cake and meal: Brazil's exports to NME's and all countries, 1971-78.



Based on data from table 20.

important, the soybean meal sold by these countries to NME's is processed either from U.S. or Brazilian soybeans. Soybean-related exports of the two world suppliers, but especially of the United States, would therefore register significantly larger if the soybean content of this meal trade could be added to U.S. and Brazilian direct exports to NME's. Owing to insufficient information on the origin of the transshipments, and of the soybeans used for processing into soybean meal, this upward adjustment was not made in this report.

Brazil is the major competitor for U.S. exports of soybean meal, both on world markets and NME markets. Other than Brazil, the United States has also begun to contend with Argentine competition in its exports of soybeans. In 1978, Argentina began to export soybeans to NME's; in that year an estimated 5 percent of total Argentine soybean exports of 2 million metric tons went to NME's--mainly Romania and the Soviet Union.

#### Competitiveness of U.S. exports

As previously stated, NME's have welcomed the opportunity to lessen their dependence on U.S. supplies of soybeans and associated products by importing from Brazilian or other sources. In some years Brazilian soybeans and soybean meal have had a competitive edge over U.S. products in terms of price. Political considerations and the desire to diversify sources are also reasons for seeking alternative supplies.

Brazilian exports of soybeans were significantly lower priced than U.S. soybeans in 1974 and 1975 (table 21). In 1977 and 1978, however, Brazilian average unit values exceeded U.S. unit values as Brazilian supplies became scarce, and the value of the dollar declined. <sup>1/</sup> Soviet import statistics indicate lower unit values for Brazilian soybeans than U.S. soybeans in 1976 (178 rubles and 184 rubles per metric ton, respectively), and in 1977 (184 and 188 rubles per metric ton). <sup>2/</sup>

The margin of Brazilian soybeans underselling U.S. soybeans on the world market averaged \$11 per metric ton in 1974-78, and Brazilian soybean meal underselling U.S. soybean meal averaged \$16 per metric ton in the same time span. Reports from Poland--the largest Eastern European market for soybean meal--indicate that U.S. meal sold there some \$7 per metric ton above Brazilian meal in 1977-78. This higher U.S. price existed in spite of an estimated \$3 average ocean freight cost differential per metric ton in favor of the U.S. supplies over Brazilian supplies going to Europe.

In certain instances, Brazilian soybeans have been rated of better quality than U.S. soybeans, which made them more attractive for foreign oilseed crushers. Problems with excessive crop residues and dust found in U.S. soybeans made some NME's and other foreign purchasers doubtful about the

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<sup>1/</sup> Table 7 also shows the average Rotterdam price of soybeans and soybean meal in 1974-78. Prices peaked in 1977 because of considerable Brazilian shortfalls.

<sup>2/</sup> Soybeans are not shown separately in Soviet import statistics. These unit values are indicated by a comparison of Soviet data on imports of oilseeds and Brazilian data on exports of soybeans.

Table 21.--Soybeans and soybean meal: U.S., Brazilian, and Rotterdam (Netherlands) prices

(Per metric ton)				
Year	Export unit value			
	Soybeans		Soybean meal	
	United States	Brazil	United States	Brazil
	:	:	:	:
1974-----	\$254	\$215	\$192	\$149
1975-----	229	205	169	149
1976-----	216	216	178	182
1977-----	271	274	223	215
1978-----	251	1/ 258	210	1/ 193
Average-----	244	234	194	178
Rotterdam price 2/				
Year				
	:	:	:	:
1974-----	\$277		\$184	
1975-----	220		155	
1976-----	231		191	
1977-----	280		231	
1978-----	267		214	
Average-----	255		195	

1/ Preliminary.

2/ Average of monthly Rotterdam prices reported as follows: soybeans, U.S., c.i.f., and soybean meal, U.S., c.i.f., 44 percent protein.

Source: Foreign Agriculture Service, U.S. Department of Agriculture, Foreign Agriculture Circular Oilseeds and Products, various issues, and foreign agriculture attache reports, and Oil World, various issues.

Note.--The export unit value is the average unit value of reported exports, but does not include c.i.f. charges.

quality standards of U.S. soybeans. China has been concerned that crop diseases, such as TCK grain smut and other fungi, can be found on U.S. soybeans. As soybeans are also used as food in China, such concerns there are more significant than elsewhere. However, more recently, the institution of the U.S. Grain Inspection Service has resulted in a diminished number of complaints relating to the quality of U.S. soybeans and has improved U.S. export competitiveness.

Brazilian supplies also had some quality problems of their own in the NME markets. Brazilian soybean meal was embargoed by East Germany for several months in 1978 on grounds that it could introduce African Swine Fever, which was then ravaging hog production in Brazil. This embargo was discontinued in late 1978, and imports of Brazilian meal have apparently returned to earlier levels.

The availability of favorable financing is an important competitive feature for exports, as NME's are often restrained by lack of hard currency. The Soviet Union and several other Communist countries are currently ineligible for U.S. official export credits. China was granted eligibility in October 1978, and some Eastern European countries, especially Poland, have been eligible for such credits for some time. 1/

The amount of credit supplied by private multinational grain companies to finance U.S. soybean exports to NME's is not known; however, it is generally conceded that short-term commercial credit has been readily available to the Soviet Union and China on favorable terms. The Soviet Union apparently has little difficulty obtaining 90- to 180-day credit for oilseeds or grains, but often prefers to pay cash. By contrast, Poland may be experiencing difficulties in obtaining credit because of a large hard currency debt.

Market promotion is an important tool of U.S. export competition with an aggressive challenger like Brazil. The U.S. Department of Agriculture (USDA), in conjunction with several private industry groups has promoted the sale of U.S. soybeans and soybean meals in selected NME's for several years. The American Soybean Association (ASA), one of these groups, jointly with the Foreign Agricultural Service of the USDA held seminars in the Soviet Union and Eastern Europe showing soybean-processing technology and the use of soybean meal in feed rations. Technicians and officials from these NME's came to the United States to become familiar with soybean processing and utilization in this country. In China, the National Renderers Association, another U.S. private industry group, and the ASA are promoting soybean use in feedstuffs, among other uses. These efforts in China are fairly recent and have yet to result in demonstration projects or seminars as have been held in the Soviet Union and Poland.

#### The Soviet market

The Soviet Union's need for oilseed products has been historically met from sunflower seed, of which it is the world's largest producer. Prior to the seventies, the Soviet Union was also an important exporter of sunflower

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1/ See more on official U.S. export credits in the section on the Eastern European market.



seed, sunflower oil, and oilseed meal. Therefore, the recent expansion of the Soviet market for soybeans must be considered in the context of Soviet sunflower seed production and trade.

Data on Soviet production, exports, and imports of oilseeds, vegetable oil and oilseed cake and meal are shown in table 22 for a period encompassing the last decade. Even though available data do not supply a comprehensive picture, they do allow a glimpse at certain pertinent supply trends which explain the development of a Soviet soybean market. In the 1970's, Soviet output of sunflower seed declined and became unstable as unfavorable weather, disease, and other problems reduced yields. Annual sunflower seed production consistently remained less than 6 million tons, i.e., below the level attained in the 1960's. Consequently, exports of sunflower seed and oilseed meal have been phased out, and exports of sunflower oil declined. Meanwhile, Soviet oilseed imports—mostly soybeans—which were negligible in 1966-70, increased, as did imports of edible vegetable oils.

The Soviet Union is traditionally a minor producer of soybeans. Prior to 1978, Soviet soybean production was equivalent to less than 10 percent of sunflower seed production. Significant Soviet soybean production began in 1960 in response to reduced availability of soybeans from China, a consequence of emerging tensions between the two countries. At that time, Soviet authorities were interested mostly in the oil that could be derived from soybeans, and not in soybean meal. The amount of Soviet farmland sown in soybeans peaked in 1972, but declined thereafter. However, Soviet output of soybean oil, part of which was probably processed from imported soybeans, grew rapidly in the second half of the seventies (table 22).

Shortages caused by erratic Soviet oilseed production were compounded by developments on the demand side. Demand for vegetable oils has been rising, reflecting the Soviet Government's policy to raise nutrition levels. A strong interest in oilseed meals was generated by the Soviet Government's commitment to develop the livestock industry, coupled with a belated recognition of the importance of using high-protein feed. The estimated Soviet production of oilcake meal in 1977-78 amounted annually to about 4.9 million metric tons. This apparently fell considerably short of prevailing demand, as both Soviet consumption and inventory levels were restricted during late 1978.

In the early 1970's, this rising demand for both vegetable oil and meal, coupled with growing supply problems, opened the Soviet market to imported soybeans. Unlike Eastern European NME's, which import mostly soybean meal, the Soviet Union purchases principally soybeans, being capable of processing imported soybeans in its own plants. Soviet oilseed-crushing facilities have an annual capacity of about 8 million to 9 million tons. Although less than 5 percent of this capacity is designed specifically for soybean processing, most plants which can crush sunflower seed can also handle soybeans. The Soviet facilities specializing in soybean processing are located in the eastern part of the country, where the traditional soybean growing areas are concentrated.

In the longrun, the Soviet Government plans to increase the production of oilseeds and oilseed products. Efforts are under way to increase the variety and yields of sunflower seed, their principal oilseed, and expand areas planted in soybeans. Considerable new plantings of soybeans have been reported in the Ukraine and other European parts of the Soviet Union, and

Table 22.--Selected oilseeds, vegetable oils, and oilseed cake and meal: USSR production, exports and imports, 1966-70 average, 1971-75 average, and 1976-78

(1,000 metric tons)						
	: 1966-70 :	: 1971-75 :	: 1976 :	: 1977 :	: 1978 :	1/
	: average :	: average :				
<u>Oilseeds:</u>	:	:	:	:	:	:
Sunflower seed:	:	:	:	:	:	:
production-----:	6,389 :	5,974 :	5,277 :	5,904 :	5,310 :	
Soybean production----	<u>2/</u> :	471 :	480 :	540 :	639 :	
Sunflower seed exports--:	259 :	71 :	0 :	0 :	<u>2/</u> :	
Oilseed imports-----:	50 :	358 :	1,827 :	145 :	<u>2/</u> :	
Soybean imports-----:	0 :	294 :	1,769 :	1,384 :	<u>3/804</u> :	
<u>Vegetable oils:</u>	:	:	:	:	:	:
Vegetable oil	:	:	:	:	:	:
production-----:	2,932 :	3,039 :	2,775 :	2,943 :	<u>2/</u> :	
Sunflower oil	:	:	:	:	:	:
production-----:	2,212 :	2,176 :	1,637 :	1,777 :	<u>2/</u> :	
Soybean oil	:	:	:	:	:	:
production-----:	49 :	64 :	323 :	367 :	<u>2/</u> :	
Sunflower oil exports--:	564 :	397 :	293 :	231 :	<u>2/</u> :	
Vegetable oil (edible) :	:	:	:	:	:	:
imports-----:	41 :	54 :	129 :	126 :	<u>2/</u> :	
<u>Oilseed meals:</u>	:	:	:	:	:	:
Oil meal exports-----:	295 :	19 :	<u>2/</u> :	<u>2/</u> :	<u>2/</u> :	
Oil meal imports-----:	78 :	<u>4/ 95</u> :	0 :	<u>4/ 19</u> :	<u>2/</u> :	

1/ Preliminary.

2/ Not available.

3/ Estimate.

4/ From India.

Source: Compiled from official statistics of the U.S. Department of Agriculture.

further additions of farmland in soybeans are being planned. The Soviet Government's goal is to produce 0.9 million metric tons of soybeans by 1980 and 1.9 million by 1985. According to recent estimates, the average yield of soybeans in the Soviet Union is only 780 kilograms per hectare, compared with yields of 2,000 kilograms in the leading producing countries. Soviet authorities also plan to expand oilseed-crushing facilities to a capacity of 10 million tons by the end of the current 5-year plan (1976-80). An important U.S. soybean processor, Ralston-Purina of St. Louis, had preliminary discussions in 1978 with the Soviet Government concerning the sale of a soybean-processing plant to be located in the Ukraine.

Despite considerable efforts of the Soviet Government to expand domestic oilseed production, it is doubtful that the current Soviet deficit in products derived from oilseeds can be significantly reduced any time soon. In view of adverse climatic and other conditions, it is considered unlikely that the Soviet production goal for sunflower seed of 7.6 million tons per year will be reached in the current 5-year plan. Soviet efforts to increase soybean production are hampered by the lack of suitable varieties for the short growing season, and a shortage of agricultural chemicals, irrigation facilities, and efficient machinery.

Therefore, a Soviet market for imported soybeans appears likely in years to come. The market for soybean meal and certain edible processed soybean products is showing signs of development, as the Soviet Government began to make significant purchases in 1979. In 1978 the Soviet Union purchased about \$2.4 million of soybean products used mainly in meat extenders, artificial meats, and artificial milk for infants. The Soviet Government has contracted with the Ralston-Purina Co. to deliver edible soy protein products in 1979. Table 23 shows Soviet soybean imports of 1.8 million tons projected for 1979, more than double the estimated import volume in 1978. This figure is based on USDA projections published in March, adjusted upward, following reports in June that Soviet grain and oilseed production this year might be seriously affected by floods and drought. According to these projections of total Soviet imports, and taking into account the continued limitations of Brazilian supplies, U.S. exports to the Soviet Union in 1979 may well exceed 1 million tons.

In the longrun, the U.S. share of the Soviet market can be predicted with much less certainty. In the past, the Soviet Union has been an erratic purchaser of soybeans in general, and of U.S. soybeans in particular. The U.S. share of the Soviet market depends in large measure on the availability of Brazilian soybeans. This may change, however, if U.S.-Soviet economic and trade relations become more cordial in the future, especially if the United States confers MFN status on imports from the Soviet Union. Normalization of U.S.-Soviet economic relations would probably result in a sustained Soviet market for U.S. soybeans and soybean products.

U.S. exports to the Soviet Union are presently not subject to any trade restrictions on either side. The U.S.-Soviet grain agreement currently in effect (1976-81), which specifies minimum and maximum Soviet purchases of grains under specified conditions, does not cover soybeans.

Table 23.--Soybeans, soybean meal, and other oilseed products: Imports into nonmarket economy countries, (NME's) 1974-78, with projections for 1979

Source	Soybeans	Total oilseeds	Soybean meal	All oilseed meals
Quantity (1,000 metric tons)				
People's Republic of China				
1974-----	619.0	623.9	1/	1/
1975-----	36.0	40.9	1/	1/
1976-----	25.0	31.0	1/	1/
1977-----	2/ 364.0	371.9	1/	1/
1978-----	2/ 109.0	3/ 120.0	1/	1/
1979 projection-----	400.0	4/	1/	1/
Eastern Europe:				
1974-----	311	540	2,790	3,595
1975-----	194	409	2,778	3,616
1976-----	408	535	3/ 3,160	4,003
1977-----	3/ 250	433	3/ 3,296	3/ 4,047
1978-----	3/ 400	4/	3/ 3,300	3/ 3,500
1979 projection-----	4/	4/	3,400	4/
Soviet Union:				
1974-----	-	70	1/	1/
1975-----	424	424	1/	1/
1976-----	1,769	1,827	1/	1/
1977-----	1,384	1,455	1/	1/
1978-----	2/ 804	4/	1/	1/
1979 projection-----	1,800	4/	1/	1/
Total NME countries:				
1974-----	930	1,572	3,790	3,595
1975-----	654	874	2,778	3,616
1976-----	2,202	2,393	3,160	4,003
1977-----	1,998	2,260	3,296	3/ 4,047
1978-----	1,313	4/	3,300	3/ 3,500
1979 projection-----	1,875	4/	3,400	4/
value 5/ (1,000 dollars)				
Total NME countries:				
1974-----	257,610	4/	697,360	4/
1975-----	143,880	4/	430,590	4/
1976-----	508,662	4/	603,560	4/
1977-----	559,440	4/	761,376	4/
1978-----	350,571	4/	706,200	4/
1979 projection-----	6/ 500,000	4/	728,000	4/

1/ Negligible. 2/ Preliminary. 3/ Estimated. 4/ Not available.

5/ value as follows: Soybean price; U.S. c.i.f., Rotterdam; and soybean meal, U.S. c.i.f., 44 percent protein, Rotterdam. 6/ Using 1978 prices.

Source: Compiled from official statistics of the U.S. Department of Agriculture.

Note.--1979 projection is based upon Foreign Agriculture Service, U.S. Department of Agriculture reports, and U.S. Agriculture Attache estimates as of June

### The Chinese market

China, which gave soybeans to the modern world, is presently the world's third largest producer of this crop, after the United States and Brazil. Most of China's output is consumed domestically; therefore, China is not an important world exporter. Exports--mostly of edible grade soybeans to Japan--have been equivalent to only 1-3 percent of the country's production, and recently exports have been outweighed by imports. In China, soybeans are used extensively for direct human consumption in foods, and they have been considered to be grains rather than oilseeds. China produces considerable quantities of rapeseed and peanuts, but its soybean production has generally been more than double that of all other oilseeds output combined.

China's soybean output in 1978 is estimated at 10.5 million tons, which is less than the peak of 11.5 million tons in 1959, but 1 million tons more than in 1977 (table 24). The crop had received less allocations in the 1960's than grains. However, recent Chinese farm policy gave greater priority to soybeans. In 1978 the area planted in soybeans amounted to 9.2 million acres, somewhat more than the average planted acreage during 1960-77. The Chinese soybean yield in 1978 of 1,141 kilograms per hectare established a record for China, even though this was on the low side among the five principal soybean-producing countries in the world. By comparison, yields in the United States and Argentina approximated or exceeded 2,000 kilograms per hectare in recent years. Brazil's and Paraguay's yield levels also have been higher than China's, which has seldom exceeded 1,000 kilograms per hectare. Following a poor harvest in 1976, China became a net importer of soybeans for the second time in history in 1977, when Brazil supplied 85 percent of imports, and the United States the rest. In 1978, higher yields and a larger planted area permitted approximately balanced trade in the crop.

The U.S. Department of Agriculture has estimated that about 45 percent of Chinese production of soybeans are reduced into meal and oil, while the remaining 55 percent is used either in food products or for seed. The Chinese capacity of modern oilseed-crushing facilities is limited, resulting in an apparently lower extraction rate than in countries with advanced soybean-processing technology.

As indicated by estimates based on data of the Food and Agricultural Organization (FAO) of the United Nations, China's production of soybean oil remained fairly constant in the seventies, amounting to about 1 million tons, annually. As soybean oil, used principally as a cooking oil, is the dominant form of edible fat and oil consumption in China, most of this production was consumed domestically, and Chinese exports of soybean oil have been negligible (table 24). Meanwhile, purchases from foreign countries in 1977 and 1978 made China a net importer of soybean oil. Such imports were apparently required to achieve moderate increases in per capita consumption of edible fats and oils, which is still very low in China by international standards. The value of U.S. soybean oil sales to China amounted to \$28 million in 1977, and \$27 million in 1978 (table 18).

Chinese production of soybean meal has followed a similar pattern as that of soybean oil, since the two products are jointly produced. In 1978, estimated soybean meal production in China amounted to about 4 million metric tons. The use of soybean meal or meals derived from other oilseeds in animal

Table 24.--Soybeans and soybean oil: Chinese production, exports, imports, and apparent consumption, average 1971-75, and 1976-78

(In thousands of metric tons)					
Item	Average 1971-75	1976	1977 <u>1/</u>	1978 <u>1/</u>	
<u>Soybeans:</u>					
Production-----	8,880	9,000	9,500	10,500	
Exports-----	<u>2/</u> 338	178	120	100	
Imports-----	<u>2/</u> 228	25	364	109	
Apparent consumption---	9,446	9,153	9,256	10,491	
<u>Soybean oil:</u>					
Production <u>3/</u> -----	701	717	757	836	
Exports-----	<u>4/</u>	<u>4/</u>	<u>4/</u>	<u>4/</u>	
Imports-----	16	13	166	108	
Apparent consumption---	715	706	921	942	

1/ Estimated or preliminary.

2/ 1972-75 only.

3/ Potential production calculated on the basis of an extraction rate of 17.7 percent and a rate of crush of 45 percent. See Foreign Agriculture Service, U.S. Department of Agriculture, Foreign Agriculture Circular FOP 2-79, January

4/ 2,000 tons or less.

Source: Compiled from official statistics of the U.S. Department of Agriculture.

rations is probably minimal, as in China the meal is traditionally used as fertilizer. However, the use of meal for animal feed is increasing, and there is some evidence of Chinese imports of soybean meal and fishmeal for this purpose.

### The Eastern European Market

The principal demand for oilseed products in Eastern Europe is for livestock feed. Vegetable oils are of secondary importance to the preferred animal fat in Eastern European diets. Soybean oil is not well known in the region; therefore, it is blended with other vegetable oils. The southern countries of the region--Yugoslavia, Romania, Hungary, and Bulgaria--have a surplus of vegetable oils, but all of the Eastern European countries are deficient in protein feed.

The two major oilseed crops in Eastern Europe are sunflower seed and rapeseed, the former dominating in the south, and the latter in the north. The southern countries have sizable domestic sunflower seed crops, and some soybeans. Their oilseed production and oilseed-crushing capabilities are not sufficient, however, to free these countries from import dependence on oilmeals for protein feed. The oilseed meal deficiency of the northern countries--Czechoslovakia, East Germany, and Poland--is much greater than that of their southern neighbors because of the considerable size of their livestock herds. Poland requires an especially large amount of imported meal to maintain its hogs and livestock. Poland ranks as the largest single importer of oilseed meal in Eastern Europe, followed by East Germany and Czechoslovakia (table 23).

In recent years, the Eastern European Governments have made efforts to increase the production of oilseeds, especially soybeans, by diverting land to oilseeds from other crops, using price incentives to encourage the planting of oilseed crops, and increasing storage and crushing capacity. Eastern European oilseed production increased from 2.9 million metric tons in 1971 to 3.8 million metric tons, or by 31 percent, in 1978 (table 25). Production of soybeans almost tripled in the same time span and amounted to 517,000 metric tons in 1978. In 1971 soybeans constituted 6.2 percent of Eastern European oilseed production; this percentage increased to 13.4 by 1978. However, oilseed output did not keep pace with the even faster rising demand for protein feed, generated by the expansion and modernization of the Eastern European livestock industry.

All Eastern European countries have become net importers of oilseed meals; some also import oilseeds. However, Hungary does export some sunflower seed, as its production of this crop exceeds domestic crushing capabilities. Some other oilseed exports also occur in the region for the same reason. Eastern European oilseed-crushing facilities collectively can handle little more than a quarter of regional oilmeal needs; the rest must be imported (table 26).

Prior to the seventies, the United States and the Soviet Union were the major sources of oilseed-related imports into Eastern Europe. With the declining Soviet surplus available for export, the U.S. dominance of this

Table 25.--Oilseeds, oilseed meals, soybeans, and soybean meal: Eastern European production and imports, 1971-78

(In thousands of metric tons)

Year	Production				Imports		
	Total oilseeds	Sunflower seed	Rapeseed	Soybean	Oilseed meals	Soybean meal	Soybeans
1971-----	2,917	1,754	982	181	2,049	1,377	<u>1/</u>
1972-----	2,800	1,759	837	204	2,700	1,936	<u>1/</u>
1973-----	3,035	1,797	951	287	3,053	2,557	<u>1/</u>
1974-----	2,822	1,470	988	364	3,595	2,790	311
1975-----	3,270	1,584	1,316	370	3,016	2,778	194
1976-----	3,627	1,671	1,535	421	4,003	<u>2/</u> 3,160	408
1977-----	3,654	1,932	1,313	409	4,047	<u>2/</u> 3,296	<u>2/</u> 250
1978-----	3,844	1,973	1,354	517	3,240	<u>2/</u> 2,600	<u>2/</u> 400

1/ Not available.

2/ Preliminary.

Source: Compiled from official statistics of the U.S. Department of Agriculture.



Table 26.--Oilseed meals: Eastern European production, imports, and availability, 1974-78

Year	:	:	Imports		:	:	Share of domestic production in total availability
	:	:	:	:	:	Total	
	Domestic	:	Seed	:			
	pro- duction	:	in meal	:	equiv- alent		
	:	:	:	:	:	:	:
-----1,000 metric tons-----							( <u>percent</u> )
1974-----	:	:	:	:	:	:	:
1975-----	:	:	3,616	:	181	4,964	23.5
1975-----	:	:	:	:	:	:	:
1976-----	:	:	4,003	:	311	5,633	23.4
1976-----	:	:	:	:	:	:	:
1977-----	:	:	4,047	:	279	5,754	24.8
1977-----	:	:	:	:	:	:	:
1978-----	:	:	<u>1/</u> 3,290	:	<u>1/</u> 550	5,243	26.8
1978-----	:	:	:	:	:	:	:
	:	:	:	:	:	:	:
	:	:	:	:	:	:	:

1/ Preliminary.

Source: Compiled from official statistics of the U.S. Department of Agriculture.

market increased in the early seventies. More recently, U.S. oilseed exports have been challenged by the ascendancy of Brazilian soybean meal exports. West Germany is another important source of soybean meal for Eastern Europe, mostly for East Germany and Czechoslovakia. As a substantial portion of West German soybean meal is processed from U.S. soybeans, it indirectly constitutes a part of, rather than competition for, U.S. soy-related exports to East Europe. Sizable quantities of Indian peanut meal and some Argentine soybean meal are also imported into the region.

The United States supplied about 40 percent of the soybean meal and virtually all of the soybeans imported by the Eastern European countries in 1977 and 1978. In 1978 some 30 percent of soybean products purchased from the United States were financed with official U.S. credits (table 27). Such credits were administered by the Commodity Credit Corporation (CCC) of the U.S. Department of Agriculture. Until China became eligible for CCC credits in October 1978, only certain NME's in Eastern Europe were eligible for such credits. The amounts of credit received for soybeans and associated products by the currently eligible Eastern European countries—Hungary, Poland, Romania and Czechoslovakia--totaled about \$360 million from 1956 through April 30, 1979. Most of this credit went to Poland for the purchase of soybean meal. In 1978, one-third of the CCC credits extended to Eastern Europe for all types of U.S. agricultural commodities was granted for soybeans or associated products.

According to the U.S. Department of Agriculture (USDA), the Eastern European market for soybeans and soybean products will continue to be good, as possibilities for substituting regional production for imports are limited. USDA believes that the United States has a good chance to maintain or increase its prevailing share of the region's oilseed meal imports and continue to be an almost sole supplier of the expanding Eastern European soybean market. <sup>1/</sup> The availability of CCC credits or other financing on favorable terms will play an important role in determining the U.S. share, as Eastern Europe's chronic shortage of hard currency is likely to continue.

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<sup>1/</sup> U.S. Department of Agriculture, Agricultural Situation, Review of 1978 and Outlook for 1979, 1979, p. 9.

Table 27.--Soybeans and associated products: U.S. Government-assisted exports to nonmarket economy countries, fiscal years 1976-78, and fiscal year 1979 through September 30, 1979.

Country/Item	1976 <u>1/</u>	1977 <u>2/</u>	1978 <u>2/</u>	1979 to 9/30/79 <u>3/</u>
	(In millions of dollar)			
<u>Hungary:</u>				
Soybean meal-----	0	0	0	15.8
<u>Poland:</u>				
Soybean oil-----	-	-	0.9	15.4
Soy protein-----	-	3.7	3.9	5.9
Soybean meal-----	7.6	5.7	103.0	54.7
Soybeans-----	4.0	4.2	33.7	19.6
<u>Romania:</u>				
Soybean meal-----	-	1.0	-	-
Soybeans-----	9.0	-	23.0	-
<u>Yugoslavia:</u>				
Soybeans-----	-	-	17.5	8.0
Total-----	20.6	14.6	182.0	119.4
All soybean related sales: to NME's-----	<u>4/</u> 345.9	<u>4/</u> 367.8	<u>4/</u> 609.7	<u>4/</u> 707.0
All U.S.-financed agri- cultural sales to NME--	111.4	183.0	545.2	516.5
	(Percent)			
U.S.-financed, soybean related sales to NME's as a share of all soybean-related sales NME's-----	6.0	4.0	29.9	16.9
U.S.-financed, soybean related sales to NME's as a share of all U.S.- financed agricultural sales to NME's-----	18.4	8.0	33.4	23.1

1/ Fiscal year, July 1-June 30.

2/ Fiscal year was changed to October 1-September 30.

3/ Oct. 1, 1978 to Sept. 30, 1979.

4/ Based on official statistics of the U.S. Department of Commerce.

Source: Official statistics of the U.S. Department of Agriculture and Commerce.

Note.--Financial assistance by the Commodity Credit Corporation (CCC) only.



APPENDIX

LEADING U.S. IMPORTS AND EXPORTS  
IN TRADE WITH THE NONMARKET ECONOMY COUNTRIES

Table A-1.--Leading items imported from the U.S.S.R., by TSUSA items, January-September 1979,  
July-September 1979, and July-September 1978

TSUSA item No.	Description	January- September--	July-September--	
		1979	1979	1978
605.2020	Gold bullion, refined-----	\$267,410,019	\$158,920,676	\$40,670,564
605.0260	Palladium-----	42,755,620	14,635,626	5,885,048
480.6540	Anhydrous ammonia-----	38,559,424	18,987,767	8,904,792
653.2200	Metal coins, n.e.s-----	21,201,804	9,000,737	1,762,199
620.0300	Unwrought nickel-----	14,839,960	9,611,277	1,250,632
601.1520	Chrome ore, not over 40 percent chromic oxide-----	10,781,002	3,377,422	3,577,205
605.0290	Platinum group metals and combinations, n.e.s-----	9,492,095	3,406,315	989,491
124.1045	Sable furskins, whole, raw-----	8,647,497	3,575,657	3,689,091
605.0270	Rhodium-----	7,449,014	1,231,214	235,883
618.1000	Aluminum waste and scrap-----	6,578,279	6,578,279	6,637,051
629.1580	Titanium waste and scrap-----	6,286,098	4,134,582	213,020
605.0220	Platinum sponge-----	5,060,650	1,513,200	-
520.3200	Diamonds, not over 1/2 carat, cut, not set-----	4,722,716	1,053,987	1,442,111
168.5200	Spirits, n.s.p.f., for beverages-----	3,842,690	1,683,976	1,046,904
401.7420	Para-xylene-----	3,175,879	-	-
245.1000	Hardboard, valued \$48.33-1/3 to \$96.66-2/3 per short ton---	2,233,863	1,005,002	943,481
493.1500	Casein-----	2,107,560	428,849	862,373
629.1520	Titanium sponge, unwrought-----	1,983,704	993,339	227,283
765.2500	Free fine art, original works, n.s.p.f-----	1,930,786	203,625	500
605.0710	Platinum bars, plates, etc-----	1,586,341	410,817	-
	Total-----	460,645,001	240,752,347	78,337,628
	Total U.S. imports from the U.S.S.R-----	488,128,357	249,964,824	99,448,659

Source: U.S. Department of Commerce, Bureau of East-West Trade.

Table A-2.--Leading items exported to the U.S.S.R., by Schedule B Nos., January-September 1979, July-September 1979, and July-September 1978

Schedule B No.	Description	January- September--	July-September--	
		1979	1979	1978
130.3465	: Yellow corn, not donated for relief-----	\$1,026,323,533	\$544,689,917	\$199,131,296
130.6540	: Wheat, unmilled, not donated for relief-----	505,355,140	244,298,977	78,365,062
175.4100	: Soybeans, n.s.p.f-----	321,360,077	40,059,570	10,736,380
480.7025	: Phosphoric acid-----	71,056,218	25,616,256	1/
177.5640	: Tallow, inedible-----	47,943,710	8,781,671	-
790.5510	: Pressure-sensitive tape, with plastic backing-----	34,403,337	11,864,786	6,909,304
692.3820	: Parts, n.s.p.f., of tracklaying tractors-----	25,194,764	6,772,334	2/
601.3300	: Molybdenum ore-----	23,967,804	14,117,312	7,849,000
664.1074	: Pipehandlers-----	23,877,134	5,061,715	-
692.3160	: Tracklaying tractors, new, with net engine horsepower of			
	: 345 and over-----	15,466,035	245,724	-
664.0584	: Parts, n.s.p.f., of oil and gas field drilling machines-----	14,090,720	5,630,376	11,512,401
660.1040	: Parts, n.s.p.f., of vapor generating boilers-----	13,598,253	7,237,103	-
676.2820	: Digital and electronic processing units-----	11,634,685	89,900	365,095
664.0513	: Drilling and boring machines, n.s.p.f-----	11,236,957	-	-
660.9415	: Oil well and oil field pumps-----	9,979,692	4,730,685	-
130.1000	: Barley-----	9,315,202	7,724,492	-
492.1840	: Cellulose compounds, n.s.p.f-----	9,262,761	3,609,301	1,147,934
664.0508	: Oil and gas field drilling machines, rotary-----	8,979,845	-	-
664.0558	: Excavating machines, new, n.s.p.f-----	8,334,262	-	3/
661.7030	: Food products processing machines, n.s.p.f-----	8,321,173	500,000	-
	: Total 4/-----	2,199,701,302	931,030,119	316,016,472
	: Total U.S. exports to the U.S.S.R-----	2,473,804,707	1,017,143,051	430,080,767

1/ Prior to Jan. 1, 1979, this item was classified under the now-deleted and more comprehensive item No. 480.7010.

2/ Prior to Jan. 1, 1979, this item was classified under the now-deleted and more comprehensive item No. 692.3820.

3/ Prior to Jan. 1, 1979, this item was classified under the now-deleted and more comprehensive item No. 664.0554.

4/ Because of changes in the Schedule B trade classifications from 1978 to 1979, comparisons are not possible.

Source: U.S. Department of Commerce, Bureau of East-West Trade.

Table A-3.--Leading items imported from China, by TSUSA items, January-September 1979,  
July-September 1979, and July-September 1978

TSUSA item No.	Description	January- September--	July-September--	
		1979	1979	1978
475.1010	: Crude petroleum, 25 degrees A.P.I. or more-----	\$55,746,852	\$13,014,690	-
755.1500	: Fireworks-----	12,508,598	2,354,021	\$1,587,686
320.2032	: PC white cotton shirting, n.e.s. (average yarn number 20)---	10,347,153	4,828,590	4,586,211
360.1500	: Floor coverings of pile, etc., valued over 66-2/3 cents per : square foot-----	10,104,780	3,036,387	2,367,454
766.2560	: Antiques, n.s.p.f.-----	9,126,643	3,215,534	2,014,929
114.4557	: Shrimp, raw, peeled-----	8,435,848	3,370,426	-
380.2787	: Men's cotton sport shirts, n.s.p.f., not knit-----	7,429,052	4,956,788	1/
186.3000	: Bristles, crude or processed-----	7,262,429	2,432,324	1,808,777
601.5400	: Tungsten ore-----	7,060,380	2,434,059	721,287
382.3353	: Women's cotton slacks, etc., corduroys, not knit-----	7,020,135	4,982,262	740,412
704.4010	: Cotton gloves, without fourchettes-----	6,217,286	2,345,141	1,774,495
222.4000	: Baskets and bags of bamboo-----	6,021,281	1,869,444	1,916,703
700.6015	: Footwear, U.S. type, oxford height, for women and misses----	5,722,827	3,226,180	10,992
380.3921	: Men's trousers and slacks, cotton, denim, not knit-----	5,501,373	3,065,043	1,019,590
160.5000	: Tea, crude or prepared-----	5,298,288	1,884,862	1,183,839
186.1560	: Feathers, not meeting Federal standards-----	4,948,000	1,484,926	3,395,252
308.0440	: Raw silk, in skeins, etc., n.e.s.-----	4,623,803	2,273,525	1,686,013
646.2622	: Brads, nails, etc., of iron and steel, smooth shank, 1 inch : or more in length, uncoated-----	4,602,822	1,301,374	845,075
192.4000	: Licorice root-----	4,511,603	10,294	1,012,364
114.4545	: Shrimp, shell-on-----	4,164,716	2,161,434	4,250
	: Total 2/-----	186,653,869	64,247,304	26,675,329
	: Total U.S. imports from China-----	385,131,102	153,480,987	80,258,927

1/ Prior to Jan. 1, 1979, this item was classified under the now-deleted and more comprehensive item No. 380.2788.

2/ Because of changes in the TSUSA trade classifications from 1978 to 1979, comparisons are not possible.

Source: U.S. Department of Commerce, Bureau of East-West Trade.



Table A-4.—Leading items exported to China, by Schedule B Nos., January-September 1979,  
July-September 1979, and July-September 1978

Schedule B No.	Description	January- September--	July-September--	
		1979	1979	1978
130.6540	: Wheat, unmilled, not donated for relief-----	\$191,664,612	\$129,314,821	\$87,012,563
130.3465	: Yellow corn, not donated for relief-----	179,862,526	4,400,073	-
300.1060	: Cotton, not carded, staple length 1 to 1-1/8 inches-----	162,269,714	34,995,070	51,972,053
610.3930	: Oil well casing, seamless, of iron or steel, not alloyed----	43,840,525	26,350,241	-
176.5220	: Soybean oil, crude, degummed-----	35,894,335	-	8,595,558
309.4242	: Polyester fibers, noncontinuous-----	32,834,008	11,094,572	17,411,805
664.0584	: Parts, n.s.p.f., of oil and gas field drilling machines-----	30,602,996	5,783,863	1,702,446
610.3910	: Standard pipe, seamless, of iron or steel, not alloyed-----	24,400,888	22,954,115	-
175.4100	: Soybeans, n.s.p.f-----	22,459,506	-	-
480.3000	: Urea-----	18,662,253	1,916,692	3,824,073
649.5040	: Rock drill bits, core bits and beamers, n.s.p.f-----	14,977,401	2,649,862	3,653,229
444.6000	: Polyester resins, unsaturated, etc-----	14,538,019	7,886,642	-
310.0010	: Textured yarns, of polyester-----	12,905,884	12,613,875	976,552
610.3935	: Oil well tubing, seamless, of iron or steel, not alloyed-----	10,917,989	8,213,701	-
692.0560	: Off-highway trucks, nonmilitary, diesel, new-----	10,312,225	-	-
710.2820	: Geophysical instruments and parts, electrical-----	9,481,855	5,193,170	1,176,780
678.5090	: Machines, n.s.p.f-----	8,448,132	2,132,066	512,983
630.3540	: Magnesium, unwrought-----	8,281,953	2,933,982	-
610.3940	: Oil well drill pipe, seamless, of iron or steel, not : alloyed-----	8,074,060	7,594,310	-
610.3030	: Oil well casing, welded, of iron or steel, not alloyed-----	8,057,975	8,057,975	-
	: Total-----	848,486,856	294,085,030	176,838,042
	: Total U.S. exports to China-----	1,080,438,391	376,569,065	230,221,196

Source: U.S. Department of Commerce, Bureau of East-West Trade.

Table A-5.--Leading items imported from Poland, by TSUSA items, January-September 1979,  
July-September 1979, and July-September 1978

TSUSA item No.	Description	January- September--	July-September--	
		1979	1979	1978
107.3525	: Canned hams, shoulders, over 3 pounds-----	\$103,320,463	\$31,818,673	\$25,546,901
521.3180	: Coal, n.e.s., including lignite, but not including peat----	14,418,303	5,307,687	4,251,376
608.8415	: Steel plates, not alloy, not in coils, not pickled or cold :			
	: rolled-----	10,163,660	3,112,560	11,444,913
700.3550	: Men's leather footwear, n.e.s., cement soles-----	6,245,568	2,516,731	2,129,213
335.9500	: Other woven fabrics of vegetable fibers, n.e.s., over 4 :			
	: ounces per square yard-----	5,203,022	1,997,014	987,512
380.3941	: Men's and boys' cotton suit-type coats, not knit, not :			
	: ornamented-----	4,717,177	1,725,554	1,911,606
727.1500	: Furniture and parts of bentwood-----	4,501,522	1,485,090	1,325,844
674.3531	: Metal-cutting turret lathes-----	4,341,574	1,986,285	178,336
380.6653	: Men's wool suits, valued over \$4 per pound-----	4,322,343	1,464,295	1,402,235
674.3547	: Metal-cutting lathes, n.s.p.f-----	4,113,592	891,260	862,025
692.1090	: Motor vehicles, n.e.s-----	4,082,600	1,220,300	1,827,210
107.3560	: Pork, n.e.s., canned, boned, cooked-----	4,078,158	1,036,073	992,581
407.8521	: Sulfathiazole-----	3,709,559	1,937,328	1,018,617
110.4710	: Cod blocks, frozen, over 10 pounds-----	3,196,844	511,009	1,077,766
612.3980	: Brass strips, wrought, not cut, etc-----	2,993,849	1,200,855	47,352
646.2622	: Brads, nails, etc., of iron and steel, smooth shank, 1 inch :			
	: or more in length, uncoated-----	2,794,085	1,078,810	1,923,331
646.6320	: Cap screws, of iron and steel, having shanks or threads :			
	: over 0.24 inch in diameter-----	2,722,958	970,108	429,697
612.6200	: Brass rods, wrought-----	2,611,040	902,061	397,385
608.8410	: Steel plates, in coils, not shaped, etc-----	2,561,910	-	-
382.1206	: Women's raincoats, n.e.s., 3/4 length or longer, valued :			
	: over \$4 each-----	2,476,683	736,185	963,041
	: Total-----	192,574,910	61,897,878	58,716,941
	: Total U.S. imports from Poland-----	321,379,278	110,953,912	103,878,546

Source: U.S. Department of Commerce, Bureau of East-West Trade.

Table A-6.—Leading items exported to Poland, by Schedule B Nos., January-September 1979,  
July-September 1979, and July-September 1978

Schedule B No.	Description	January- September--	July-September--	
		1979	1979	1978
130.3465	: Yellow corn, not donated for relief-----	\$131,292,357	\$44,949,797	\$48,299,290
130.6540	: Wheat, unmilled, not donated for relief-----	87,905,704	83,907,510	56,506,404
184.5260	: Soybean oil cake and meal-----	47,739,972	2,757,330	33,437,304
300.1060	: Cotton, not carded, staple length 1 to 1-1/8 inches-----	19,985,767	10,824,857	5,748,982
176.5220	: Soybean oil, crude, degummed-----	14,907,308	8,762,900	914,250
480.4500	: Phosphates, crude and apatite-----	14,813,195	5,956,698	5,728,439
130.4040	: Grain sorghum, except seed-----	14,562,079	11,610,637	9,488,169
120.1400	: Cattle hides, whole-----	14,529,987	2,531,996	1,948,846
175.4100	: Soybeans, n.s.p.f-----	13,996,152	4,049,727	-
170.3320	: Flue-cured cigarette filler tobacco, stemmed-----	10,489,158	3,823,855	1,755,973
131.3040	: Head rice, medium grain, not parboiled, not donated for : relief-----	9,172,948	1,488,105	-
674.5430	: Parts, n.s.p.f., of metal-cutting machine tools-----	5,533,192	1,150	135,027
147.1900	: Lemons, fresh-----	5,474,193	1,110,102	2,913,353
130.1000	: Barley-----	4,997,678	4,105,784	12,453,866
310.0010	: Textured yarns, of polyester-----	4,970,285	949,018	1,834,463
177.5640	: Tallow, inedible-----	4,560,340	2,395,249	1,534,131
184.5000	: Linseed oil cake and meal-----	4,157,359	2,139,034	8,054,565
176.5400	: Sunflower seed oil-----	3,401,001	-	-
692.3820	: Parts, n.s.p.f., of tracklaying tractors-----	3,053,370	1,213,234	1/
182.9742	: Flour and grits, defatted, derived from oil seeds-----	2,791,823	-	577,153
	: Total 2/-----	418,333,868	192,576,983	191,330,215
	: Total U.S. exports to Poland-----	496,117,860	221,230,402	243,993,828

1/ Prior to Jan. 1, 1979, this item was classified under the now-deleted and more comprehensive item No. 692.3800.

2/ Because of changes in the Schedule B trade classifications from 1978 to 1979, comparisons are not possible.

Source: U.S. Department of Commerce, Bureau of East-West Trade.

Table A-7.--Leading items imported from Yugoslavia, by TSUSA items, January-September 1979,  
July-September 1979, and July-September 1978

TSUSA item No.	Description	January- September--	July-September--	
		1979	1979	1978
107.3525	: Canned hams, shoulders, over 3 pounds-----	\$40,335,728	\$8,981,469	\$13,791,291
727.3300	: Wood chairs, n.s.p.f-----	26,783,432	8,999,854	8,163,244
170.2800	: Cigarette leaf, not stemmed, not over 8.5 inches-----	16,808,786	5,182,472	7,454,305
700.3515	: Men's and boys' leather athletic footwear, n.e.s-----	15,678,556	2,190,289	8,166,218
607.3100	: Ferrochrome, over 3-percent carbon-----	13,174,797	5,081,556	6,692,566
727.3540	: Wood furniture, n.s.p.f-----	10,931,484	4,279,878	3,317,979
605.2020	: Gold bullion, refined-----	8,710,112	3,010,765	2,465,759
618.2565	: Wrought aluminum sheets and strip-----	8,583,239	2,314,045	3,782,855
605.2040	: Silver bullion, refined-----	7,946,443	3,563,099	1,233,473
688.0465	: Insulated electrical conductors, power cable designed for			
	: 601 volts or less-----	7,927,764	2,183,369	1,920,826
727.4040	: Wood furniture parts, n.s.p.f-----	5,360,238	1,492,746	1,399,574
607.5700	: Ferrosilicon manganese-----	4,682,513	2,679,925	2,099,054
700.4540	: Women's leather footwear, cement soles, valued over \$2.50			
	: per pair-----	4,565,220	3,176,194	1,254,995
607.3700	: Ferromanganese, over 4 percent carbon-----	4,281,357	1,590,935	1,726,880
680.2245	: Hand-operated gate valves, of iron and steel-----	3,877,443	1,547,894	9,637
407.7220	: Sulfamethazine-----	3,702,200	883,200	995,336
618.1540	: Wrought aluminum rods, 0.375 inch or more in diameter-----	3,676,807	948,860	1,195,541
612.0640	: Unwrought copper, not alloyed, n.e.s-----	3,656,773	1,343,954	6,404,420
186.1565	: Down, not meeting Federal standards-----	3,145,489	58,688	882,424
646.2622	: Brads, nails, etc., of iron and steel, smooth shank, 1 inch			
	: or more in length, uncoated-----	3,050,401	1,258,297	907,089
	: Total-----	196,878,782	60,767,489	73,863,466
	: Total U.S. imports from Yugoslavia-----	298,972,891	97,469,706	112,670,418

Source: U.S. Department of Commerce, Bureau of East-West Trade.

Table A-8.--Leading items exported to Yugoslavia, by Schedule B Nos., January-September 1979,  
July-September 1979, and July-September 1978

Schedule B No.	Description	January- September--	July-September--	
		1979	1979	1978
130.3465	: Yellow corn, not donated for relief-----	\$93,177,893	\$42,737,425	\$6,915,035
175.4100	: Soybeans, n.s.p.f-----	51,824,898	18,042,113	16,903,353
694.4062	: Airplanes, passenger transport, over 33,000 pounds-----	39,983,098	-	-
521.3110	: Low volatile bituminous coal-----	37,600,934	10,974,268	2,133,072
431.0480	: Vinyl chloride, monomer-----	18,756,689	6,130,217	2,746,381
130.4040	: Grain sorghum, except seed-----	11,513,231	-	-
170.6500	: Cigarettes-----	11,469,190	6,868,500	-
120.1400	: Cattle hides, whole-----	11,331,825	2,509,852	673,515
184.5260	: Soybean oil cake and meal-----	10,611,316	-	-
694.6506	: Parts, n.s.p.f., for aircraft and spacecraft-----	7,894,908	2,190,642	2,522,619
480.8005	: Diammonium phosphate fertilizer-----	5,923,012	1,614,006	7,976,015
692.3150	: Tracklaying tractors, new, with net engine horsepower of			
	: 260 and over, but less than 345-----	5,878,436	1,929,806	904,332
694.4048	: Airplanes, multiple engine, 4,400 to 9,999 pounds-----	4,300,775	-	-
435.2300	: Antibiotics, n.s.p.f. (bulk)-----	3,890,850	1,396,630	533,650
692.0560	: Off-highway trucks, nonmilitary, diesel, new-----	3,869,149	1,665,213	5,099,666
664.0534	: Excavators, crawler-mounted, cable operated, new-----	3,690,298	-	1,335,000
404.0560	: Styrene (monomer)-----	3,483,795	-	-
250.0284	: Wood pulp, special alpha and dissolving grades-----	3,413,767	1,112,132	789,689
664.0586	: Parts, n.s.p.f., of boring and drilling machines-----	3,284,147	901,248	510,686
657.2180	: Articles of iron or steel, n.s.p.f-----	3,004,057	2,096,255	168,960
	: Total-----	334,902,268	100,168,307	49,211,973
	: Total U.S. exports to Yugoslavia-----	517,271,402	158,138,893	118,896,755

Source: U.S. Department of Commerce, Bureau of East-West Trade.

Table A-9.--Leading items imported from Romania, by TSUSA items, January-September 1979,  
July-September 1979, and July-September 1978

TSUSA item No.	Description	January- September--	July-September--	
		1979	1979	1978
475.3500	: Naphthas, derived from petroleum, etc., n.e.s-----	\$36,241,545	\$1,170,993	\$12,918,523
107.3525	: Canned hams, shoulders, over 3 pounds-----	14,227,471	5,850,016	4,191,014
700.4540	: Women's leather footwear, cement soles, valued over \$2.50			
	: per pair-----	10,649,048	6,407,559	3,602,022
475.0535	: Crude petroleum, testing under 25 degrees A.P.I. (Heavy			
	: fuel oils)-----	10,376,953	10,376,953	17,446,554
700.2940	: Leather welt work footwear, valued over \$6.80 per pair-----	9,710,723	3,682,641	1,382,768
690.1500	: Passenger, baggage, etc., railroad cars, not self-propelled-	8,613,169	2,007,141	-
618.2565	: Aluminum sheets and strips, not clad, wrought-----	7,127,742	1,874,869	2,921,351
446.1531	: Polyisoprene rubber-----	6,659,683	2,940,368	1,992,344
946.5400	: Floor coverings of pile, etc., valued over 66-2/3 cents per			
	: square foot-----	6,470,887	2,291,354	-
700.3550	: Men's leather footwear, n.e.s., cement soles-----	4,953,670	2,177,777	1,430,413
107.3560	: Pork, n.e.s., canned, boned, cooked-----	4,500,040	1,649,795	859,393
727.3540	: Wood furniture, n.s.p.f-----	4,180,739	1,811,404	963,426
692.3006	: Agricultural tractors, 40-80 horsepower, power-takeoff			
	: type-----	4,038,945	1,026,052	1,382,402
382.1206	: Women's raincoats, n.e.s., 3/4 length or longer, valued			
	: over \$4 each-----	3,737,624	971,574	77,625
680.3512	: Ball bearings, radial ball bearings, outside diameter over			
	: 30 mm, but not over 52 mm-----	3,612,552	1,419,845	-
608.8415	: Steel plates, not alloy, not in coils, not pickled or cold			
	: rolled-----	3,491,058	2,302,728	1,434,859
380.0645	: Men's and boys' cotton knit sweatshirts-----	3,411,978	798,006	1,690,746
690.3500	: Parts, except brake regulators, for passage, baggage, etc.,			
	: railroad cars, not self-propelled-----	3,304,665	1,341,379	-
727.3300	: Wood chairs, n.s.p.f-----	2,957,615	871,161	-
380.3941	: Men's and boys' cotton suit-type coats, not knit, not			
	: ornamented-----	2,875,008	1,067,113	802,794
	: Total-----	151,141,115	52,038,728	53,096,234
	: Total U.S. imports from Romania-----	256,565,052	90,172,488	104,107,256

Source: U.S. Department of Commerce, Bureau of East-West Trade.

Table A-10.--Leading items exported to Romania, by Schedule B Nos., January-September 1979,  
July-September 1979, and July-September 1978

Schedule B No.	Description	January- September--	July-September--	
		1979	1979	1978
130.3465	: Yellow corn, not donated for relief-----	\$91,595,840	\$38,305,631	-
175.4100	: Soybeans, n.s.p.f.-----	56,964,427	-	\$22,800,652
120.1400	: Cattle hides, whole-----	43,767,689	19,488,097	13,708,883
184.5260	: Soybean oil cake and meal-----	38,814,939	20,333,497	-
521.3110	: Low volatile bituminous coal-----	26,613,753	-	5,533,737
300.1060	: Cotton, not carded, staple length 1 to 1-1/8 inches-----	14,404,250	2,742,477	-
480.4500	: Phosphates, crude and apatite-----	11,304,707	2,276,457	5,385,823
676.5560	: Parts of automatic data-processing machines and units-----	6,524,441	2,079,068	2,230,670
250.0284	: Wood pulp, special alpha and dissolving grades-----	5,131,693	1,271,496	2,449,109
664.0546	: Ditchers and trenchers, self-propelled, except ladder type--	4,550,250	1,500,000	-
692.1640	: Hydraulic cranes, truck mounted-----	4,044,826	930,258	648,837
670.7810	: Parts of yarn producing machines-----	2,793,941	-	-
415.4500	: Sulfur, native elemental, or recovered-----	2,722,345	-	-
609.8120	: Angles, shapes, etc., of iron or steel, not alloyed, over : 3 inches-----	2,537,652	-	-
694.6506	: Parts, n.s.p.f., for aircraft and spacecraft-----	1,910,798	607,387	635,343
182.9754	: Vegetable protein concentrates, etc-----	1,751,080	549,229	-
678.3512	: Tire building machines, including vulcanizing presses-----	1,650,298	1,650,298	6,000
660.4930	: Aircraft jet and gas turbines, nonmilitary, new-----	1,526,080	1,526,080	-
683.9540	: Parts, n.s.p.f., of industrial and laboratory furnaces : and ovens-----	1,478,977	27,118	1,437,307
692.2985	: Parts, n.s.p.f., of motor vehicles-----	1,267,270	172,094	1,737
	: Total-----	321,355,256	93,459,187	54,838,097
	: Total U.S. exports to Romania-----	366,682,125	107,018,491	85,410,984

Source: U.S. Department of Commerce, Bureau of East-West Trade.

Table A-11.--Leading items imported from Czechoslovakia, by TSUSA items, January-September 1979, July-September 1979, and July-September 1978

TSUSA item No.	Description	January- September--	July-September--	
		1979	1979	1978
107.3525	: Canned hams, shoulders, over 3 pounds-----	\$3,322,717	\$1,268,327	\$821,627
700.2940	: Leather welt work footwear, valued over \$6.80 per pair-----	2,953,914	673,540	1,434,374
670.1436	: Weaving machines, jet type-----	2,732,352	1,006,668	-
608.7100	: Steel wire rods, not tempered or treated, valued over \$4 : per pound-----	1,899,649	431,504	675,655
546.5420	: Glass tumblers, etc., valued 30¢-\$1 each-----	1,153,604	231,210	560,033
674.3525	: Metal-cutting engine lathes, valued over \$2,500 each-----	1,078,589	396,876	380,076
670.0620	: Spinning machines-----	950,732	387,700	-
700.2960	: Men's leather welt footwear, n.e.s., valued over \$6.80 : per pair-----	821,391	206,180	153,461
741.3500	: Imitation gemstones, except beads-----	813,595	241,867	274,708
727.1500	: Furniture and parts of bentwood-----	787,455	257,934	206,424
668.2035	: Offset printing presses, weighing 3,500 pounds or more, : sheet-fed type-----	696,210	297,041	390,651
270.2580	: Books, n.s.p.f., by author who is a national or domiciliary : of the United States-----	664,356	132,230	297,658
610.3920	: Oil well casing, not alloyed, not advanced-----	659,651	25,893	1/ 589,262
674.3551	: Grinding machines, cylindrical, external, metal-cutting-----	641,523	277,157	118,789
545.5700	: Glass prisms for chandeliers, etc-----	595,946	233,998	167,003
437.3000	: Antibiotics, natural and not artificially mixed-----	501,965	177,618	142,993
700.3550	: Men's leather footwear, n.e.s., cement soles-----	432,218	46,204	532,450
700.3515	: Men's and boys' leather athletic footwear, n.e.s-----	427,886	19,107	25,039
335.9500	: Other woven fabrics of vegetable fibers, n.e.s., weighing : over 4 ounces per square yard-----	426,959	111,181	122,285
546.5860	: Glassware, n.s.p.f., cut or engraved, valued over \$3 each---	402,897	147,982	95,581
	: Total-----	21,963,609	6,570,217	6,988,069
	: Total U.S. imports from Czechoslovakia-----	35,624,297	11,569,318	13,291,843

1/ Prior to Jan. 1, 1979, this item was classified as 2 now-deleted item Nos. 610.3925 and 610.3935. Totals for 1978 are the aggregation of the two numbers.

Source: U.S. Department of Commerce, Bureau of East-West Trade.



Table A-12.--Leading items exported to Czechoslovakia, by Schedule B Nos., January-September 1979, July-September 1979, and July-September 1978

Schedule B No.	Description	January- September--	July-September--	
		1979	1979	1978
130.3465	: Yellow corn, not donated for relief-----	\$48,424,138	\$24,056,481	-
184.5260	: Soybean oil cake and meal-----	24,729,360	2,231,000	-
130.6540	: Wheat, unmilled, not donated for relief-----	22,940,457	22,245,332	-
120.1400	: Cattle hides, whole-----	19,452,479	7,403,428	\$3,250,635
480.7050	: Concentrated superphosphate-----	9,595,500	-	-
170.3310	: Flue-cured cigarette filler tobacco, unstemmed-----	1,062,500	-	380,000
433.1035	: Compound catalysts, n.s.p.f-----	979,910	40,163	-
124.1527	: Muskrat furskins, whole, undressed-----	972,250	72,000	-
480.7015	: Phosphoric acid-----	948,949	948,949	1/
676.5560	: Parts for automatic data processing machines and units-----	709,503	208,249	165,186
124.1558	: Furskins, whole, raw, n.s.p.f-----	650,750	9,000	-
309.0170	: Noncellulosic monofilaments, n.s.p.f-----	649,117	224,219	-
818.9000	: General merchandise, valued not over \$250-----	627,983	267,247	85,744
692.3160	: Tracklaying tractors, new, with net engine horsepower of			
	: 345 and over-----	625,961	429,964	178,696
170.4300	: Leaf tobacco, n.s.p.f-----	572,102	-	-
711.8750	: Physical analysis equipment and parts, electrical-----	550,737	376,730	36,773
680.2742	: Electric control valves, etc-----	528,604	-	-
676.2820	: Digital central processing units consisting of			
	: arithmetical, etc., elements-----	497,567	28,515	26,752
207.0035	: Wooden pencil slats-----	469,223	166,700	115,504
711.8710	: Chemical analysis equipment and parts, electrical-----	441,490	124,571	55,106
	: Total 2/-----	135,428,580	58,832,548	4,294,396
	: Total U.S. exports of Czechoslovakia-----	146,660,024	63,427,448	9,556,057

1/ Prior to Jan. 1, 1979, this item was classified under the now-deleted and more comprehensive item No. 480.7010.

2/ Because of changes in the Schedule B trade classifications from 1978 to 1979, comparisons are not possible.

Source: U.S. Department of Commerce, Bureau of East-West Trade.

Table A-13.--Leading items imported from East Germany, by TSUSA items, January-September 1979, July-September 1979, and July-September 1978

TSUSA item No.	Description	January- September--	July-September--	
		1979	1979	1978
480.5000	Potassium chloride, crude-----	\$3,190,853	\$870,000	\$595,175
668.2035	Offset printing presses, weighing 3,500 pounds or more, sheet-fed type-----	2,123,385	367,093	789,414
676.0510	Typewriters, portable, nonautomatic, electric-----	2,032,864	534,688	298,656
124.1025	Mink furskins, except "Japanese mink", undressed-----	1,768,724	22,735	-
862.1000	Articles for exhibition, for encouragement of agriculture, arts, etc-----	1,121,207	-	-
722.1635	Still 35mm cameras, n.s.p.f., valued over \$10 each-----	1,070,761	384,684	628,803
121.5000	Pig and hog leather-----	870,300	438,000	243,030
772.5115	Pneumatic truck and bus tires, new-----	812,475	195,382	601,198
494.2000	Montan wax-----	774,472	350,995	219,457
480.6000	Potassium nitrate, crude-----	686,930	-	-
676.0530	Typewriters, portable, nonautomatic, nonelectric-----	601,998	337,866	9,038
380.0645	Men's and boys' cotton knit sweatshirts-----	426,688	357,752	26,150
207.0080	Articles of wood, n.s.p.f-----	404,513	216,805	189,737
668.5060	Printing press parts-----	387,739	126,485	102,918
670.2000	Knitting machines, other than circular knitting machines, n.e.s-----	318,103	121,582	114,805
772.5105	Automobile tires, new-----	290,552	109,816	176,194
405.1520	Herbicides, not artificially mixed-----	273,102	-	-
546.5860	Glassware, n.s.p.f., cut or engraved, valued over \$3 each---	270,002	71,167	100,064
534.1100	Ceramic statues, etc., valued over \$2.50 each-----	268,448	164,876	99,766
748.2100	Artificial flowers, etc., n.e.s-----	261,702	95,838	116,773
	Total-----	17,954,818	4,765,764	4,311,178
	Total U.S. imports from East Germany-----	27,075,856	7,888,560	9,058,927

Source: U.S. Department of Commerce, Bureau of East-West Trade.

Table A-14.--Leading items exported to East Germany, by Schedule B Nos., January-September 1979, July-September 1979, and July-September 1978

Schedule B No.	Description	January- September--	July-September--	
		1979	1979	1978
130.3465	: Yellow corn, not donated for relief-----	\$77,747,697	\$20,395,242	\$7,650,000
184.5260	: Soybean oil cake and meal-----	62,880,957	6,424,790	8,788,250
130.4040	: Grain sorghum, except seed-----	14,492,968	14,492,968	-
130.6540	: Wheat, unmilled, not donated for relief-----	6,849,451	4,716,501	4,565,343
444.2520	: Polymerization- and copolymerization-type resins-----	3,846,383	684,905	12,800
521.3310	: Low volatile bituminous coal-----	3,731,504	-	-
521.3120	: Bituminous coal, n.s.p.f-----	2,392,324	-	-
130.1000	: Barley-----	1,437,203	-	-
680.1330	: Molds, for rubber and plastics, n.s.p.f-----	1,213,066	837,513	-
444.6000	: Polyester resins, unsaturated, etc-----	1,200,915	1,200,915	-
446.1526	: Ethylene-propylene-----	1,127,811	47,520	58,763
175.4100	: Soybeans, n.s.p.f-----	867,838	397,438	-
771.6000	: Shapes, of rubber or plastic, n.s.p.f-----	819,961	-	220,367
722.9540	: Photofinishing equipment, n.s.p.f-----	819,054	423,992	-
120.1400	: Cattle hides, whole-----	688,626	285,346	435,199
309.0170	: Noncellulosic monofilaments, n.s.p.f-----	646,527	246,831	-
250.0284	: Wood pulp, special alpha and dissolving grades-----	575,334	294,231	340,987
145.4300	: Shelled almonds, not blanched-----	555,515	-	-
676.5560	: Parts of automatic data processing machines and units-----	446,841	-	51,052
300.3021	: Cotton linters, other-----	405,638	12,869	117,769
	: Total-----	182,745,613	50,461,061	22,240,530
	: Total U.S. exports to East Germany-----	191,027,896	52,708,967	27,207,774

Source: U.S. Department of Commerce, Bureau of East-West Trade.

Table A-15.--Leading items imported from Hungary, by TSUSA items, January-September 1979,  
July-September 1979, and July-September 1978

TSUSA item No.	Description	January- September--	July-September--	
		1979	1979	1978
107.3525	: Canned hams, shoulders, over 3 pounds-----	\$17,185,715	\$6,337,621	\$6,138,851
692.2785	: Parts, n.s.p.f., of motor vehicles-----	9,056,511	3,974,635	-
692.3060	: Parts of agricultural tractors-----	7,415,392	2,535,394	572,670
686.9030	: Other lamps, including household-----	5,736,492	1,682,298	1,797,035
772.5115	: Pneumatic truck and bus tires, new-----	3,054,842	1,399,192	729,328
407.7220	: Sulfamethazine-----	2,792,800	1,542,400	-
117.6025	: Swiss or emmenthaler cheese-----	2,774,236	1,903,341	210,757
700.4540	: Women's leather athletic footwear, cement soles, valued			
	: over \$2.50 per pair-----	2,412,723	1,536,824	1,144,006
107.3040	: Bacon, not cooked or boned-----	2,206,293	556,982	351,554
676.0560	: Typewriters, nonautomatic, nonelectric-----	2,173,306	647,202	422,969
161.7100	: Paprika, ground or unground-----	1,498,350	-	681,036
380.6653	: Men's wool suits, valued over \$4 per pound-----	911,207	622,059	114,078
380.6616	: Men's and boys' other separate coats, of wool, valued over			
	: \$4 per pound-----	768,777	628,009	-
167.3040	: Wine, not over 14 percent alcohol, valued over \$4 per			
	: gallon, containers not over 1 gallon-----	755,688	313,371	147,078
791.7620	: Men's and boys' coats and jackets, of leather, n.s.p.f-----	674,490	639,257	29,106
709.6340	: X-ray apparatus and parts, n.e.s-----	666,911	650	42,982
437.2080	: Alkaloids and compounds, synthetic, n.s.p.f-----	643,163	-	379,144
130.3000	: Corn or maize seed, certified-----	612,000	-	-
425.5290	: Nitrogenous compounds, n.s.p.f-----	552,569	318,025	-
380.6611	: Men's suit-type sport coats and jackets, valued over \$4			
	: per pound-----	539,084	536,533	-
	: Total-----	62,430,549	25,173,793	12,760,594
	: Total U.S. imports from Hungary-----	79,834,318	31,677,714	17,934,624

Source: U.S. Department of Commerce, Bureau of East-West Trade.

Table A-16.—Leading items exported to Hungary, by Schedule B Nos., January-September 1979,  
July-September 1979, and July-September 1978

Schedule B No.	Description	January- September--	July-September--	
		1979	1979	1978
480.7050	: Concentrated superphosphate-----	\$8,615,861	-	-
184.5260	: Soybean oil cake and meal-----	7,601,399	-	-
120.1400	: Cattle hides, whole-----	4,476,451	\$1,478,731	\$1,014,683
692.3840	: Parts, n.s.p.f., of tractors, n.s.p.f-----	2,062,390	578,627	1/
540.4200	: Glass rods, tubes and tubing-----	1,757,505	478,724	559,001
692.3130	: Tracklaying tractors, new, with net engine horsepower of 90 : : and over, but less than 160-----	1,166,716	-	-
300.1060	: Cotton, not carded, staple length of 1 to 1-1/8 inches-----	1,105,745	1,105,745	-
435.3300	: Corticosteroids, n.s.p.f., bulk-----	988,000	210,000	536,000
666.0063	: Parts for harrows, roller stalk cutters, etc-----	809,405	393,900	1,236,300
459.1800	: Vanillin and ethyl vanillin-----	714,556	-	-
666.0065	: Parts of planters, seeders, etc-----	660,581	173,336	386,303
666.0060	: Parts of plows, cultivators, weeders, etc-----	610,502	33,247	606,017
674.3592	: Metal forming machines, n.s.p.f-----	607,391	16,000	-
121.7060	: Leather, n.s.p.f-----	584,684	584,684	-
711.8070	: Pressure gauges, industrial process, electrical-----	510,331	90,171	-
486.2800	: Organophosphorus insecticides, n.s.p.f-----	503,545	-	-
676.5560	: Parts of automatic data processing machines and units-----	454,312	112,760	266,820
100.0220	: Chickens, breeder stock, live-----	452,886	197,886	-
710.2820	: Geophysical instruments and parts, electrical-----	443,251	18,161	249,056
674.4230	: Woodworking, etc., machines, n.s.p.f-----	434,451	75,858	168,524
:	: Total 2/-----	34,559,962	5,547,830	5,022,704
:	: Total U.S. exports to Hungary-----	53,345,102	11,659,427	11,836,949

1/ Prior to Jan. 1, 1979, this item was classified under the now-deleted and more comprehensive item No. 692.3800.

2/ Because of changes in the Schedule B trade classifications from 1978 to 1979, comparisons are not possible.

Source: U.S. Department of Commerce, Bureau of East-West Trade.

Table A-17.--Leading items imported from Bulgaria, by TSUSA items, January-September 1979,  
July-September 1979, and July-September 1978

TSUSA item No.	Description	January- September--	July-September--	
		1979	1979	1978
107.2800	: Cigarette leaf, not stemmed, not over 8.5 inches-----	\$16,988,904	\$3,961,909	\$4,747,477
676.0530	: Typewriters, portable, nonautomatic, nonelectric-----	925,426	360,459	223,000
601.3300	: Molybdenum ore-----	905,926	501,030	-
117.6700	: Pecorino cheese, not for grating-----	810,824	367,419	215,600
452.6000	: Rose oil or attar of roses-----	573,045	378,809	72,273
674.3525	: Metal-cutting engine lathes, valued over \$2,500 each-----	547,528	176,059	59,561
700.3550	: Men's leather footwear, n.e.s., cement soles-----	350,926	153,455	132,480
382.6014	: Women's, girls', and infants' coats, valued not over \$4	:	:	:
	: per pound-----	340,520	230,896	303,197
380.6653	: Men's wool suits, valued over \$4 per pound-----	305,531	-	-
546.5420	: Glass tumblers, etc., valued 30¢-\$1 each-----	281,036	122,507	56,093
380.6320	: Men's and boys' wool coats, valued not over \$4 per pound----	278,046	142,520	105,188
460.8520	: Aromatic substances, etc., n.s.p.f., artificially mixed----	240,219	-	-
700.4540	: Women's leather footwear, cement soles, valued over \$2.50	:	:	:
	: per pair-----	230,995	159,217	-
380.6616	: Men's and boys' other separate coats, of wool, valued over	:	:	:
	: \$4 per pound-----	187,110	21,186	-
439.1090	: Natural crude drugs, n.e.s-----	182,779	15,301	14,377
161.7100	: Paprika, ground or unground-----	108,522	-	-
674.3535	: Automatic chucking machines, single spindle, metal-cutting--	101,699	-	-
107.3525	: Canned hams, shoulders, over 3 pounds-----	101,579	59,411	-
380.6615	: Men's and boys' overcoats, etc., not knit, valued over \$4	:	:	:
	: per pound-----	96,166	-	-
382.6320	: Women's, girls' or infants' wool coats, n.e.s., valued over	:	:	:
	: \$4 per pound-----	77,767	77,767	-
	: Total-----	23,634,548	6,727,945	5,929,246
	: Total U.S. imports from Bulgaria-----	24,422,933	6,963,513	6,114,063

Source: U.S. Department of Commerce, Bureau of East-West Trade.

Table A-18.--Leading items exported to Bulgaria, by Schedule B Nos., January-September 1979,  
July-September 1979, and July-September 1978

Schedule B No.	Description	January- September--	July-September--	
		1979	1979	1978
184.5260	: Soybean oil cake and meal-----	\$17,098,131	\$6,617,090	\$3,287,929
175.5100	: Sunflower seed-----	9,140,558	-	-
130.3465	: Yellow corn, not donated for relief-----	5,389,496	3,031,496	4,242,868
381.1520	: Men's and boys' cotton denim slacks, not knit-----	2,188,981	389,545	160,959
250.0284	: Wood pulp, special alpha and dissolving grades-----	2,136,546	1,289,015	-
170.6500	: Cigarettes-----	915,800	915,800	-
120.1400	: Cattle hides, whole-----	855,175	-	-
676.5560	: Parts of automatic data processing machines and units-----	573,893	65,361	-
688.4060	: Electrical articles and electrical parts, n.s.p.f-----	482,550	-	-
170.3320	: Flue-cured cigarette filler tobacco, stemmed-----	432,538	-	316,858
664.1078	: Loading or unloading machines, n.s.p.f-----	396,965	-	<u>1/</u>
170.8140	: Smoking tobacco, in bulk-----	326,918	-	-
674.2005	: Hot rolling mills, except tube rolling, for nonferrous : metals-----	254,564	-	-
664.1098	: Parts n.s.p.f., for loading machines, etc., n.s.p.f-----	240,000	-	<u>2/</u>
676.2870	: Automatic data processing machines and units thereof, : other-----	228,209	-	-
544.1000	: Flat glass, cut, worked, etc., n.s.p.f-----	203,511	-	1,485
100.0220	: Chickens, breeder stock, live-----	199,745	-	215,110
664.0533	: Excavators, crawler-mounted, hydraulic, new-----	185,280	-	-
676.2820	: Digital central processing units, etc-----	177,262	177,262	-
709.3000	: Medical, dental surgical, and veterinary instruments, : n.s.p.f-----	152,361	11,567	656
	: Total <u>3/</u> -----	41,578,483	12,497,136	8,225,865
	: Total U.S. exports to Bulgaria-----	44,791,692	13,658,873	9,305,869

1/ Prior to Jan. 1, 1979, this item was classified under the now-deleted and more comprehensive item No. 664.1076.

2/ Prior to Jan. 1, 1979, this item was classified under the now-deleted and more comprehensive item No. 664.1099.

3/ Because of changes in the Schedule B trade classifications from 1978 to 1979, comparisons are not possible.

Source: U.S. Department of Commerce, Bureau of East-West Trade.

Table A-19.—Leading items imported from Albania, by TSUSA items, January-September 1979, July-September 1979, and July-September 1978

TSUSA item No.	Description	January- September--	July-September--	
		1979	1979	1978
601.1540	Chrome ore, chromium content 41 to 46 percent chromic oxide-----	\$4,990,966	\$1,117,588	-
161.9400	Unground sage-----	1,757,098	620,734	\$462,414
601.1520	Chrome ore, chromium content not over 40 percent chromic oxide-----	674,345	674,345	-
170.2800	Cigarette leaf, not stemmed, not over 8.5 inches-----	179,723	93,846	-
161.9000	Rosemary, crude or not manufactured-----	23,784	17,698	-
124.1020	Marten furskins, undressed, whole-----	21,402	-	-
653.2200	Metal coins, n.e.s-----	8,049	814	2,810
756.2300	Tobacco pipes, of wood, n.s.p.f., valued not over \$5 per dozen-----	3,044	-	-
193.2560	Vegetable substances, crude, n.s.p.f-----	2,736	-	-
360.1510	Floor coverings of pile, etc., valued over 66-2/3 cents per square foot-----	2,720	-	1,086
162.0100	Savory, not manufactured-----	1,369	1,369	-
610.4220	Oil well casing, unalloyed steel, threaded or otherwise advanced-----	580	-	1/ -
610.4320	Oil well casing, alloyed steel, threaded or otherwise advanced-----	411	-	2/ -
382.7870	Infants' sweaters, of man-made fibers, knit-----	400	400	-
274.5000	Photos, etchings, etc., n.e.s., printed over 20 years at time of importation-----	293	-	-
222.4400	Baskets and bags of unspun vegetable material, n.e.s-----	289	-	-
	Total-----	7,667,209	2,526,794	466,310
	Total U.S. imports from Albania-----	7,667,209	2,526,794	472,301

1/ On Jan. 1, 1979, item No. 610.4220 was redesignated to include item Nos. 610.4225 and 610.4235. Totals for 1978 are the aggregation of the 3 numbers.

2/ On Jan. 1, 1979, item No. 610.4320 was redesignated to include item Nos. 610.4325 and 610.4334. Totals for 1978 are the aggregation of the 3 numbers.

Source: U.S. Department of Commerce, Bureau of East-West Trade.



Table A-20.--Leading items exported to Albania, by Schedule B Nos. 1978  
July-September 1979, and July-September 1978

Schedule B No.	Description	January- September--	July-September--	
		1979	1979	1978
521.3110	: Low volatile bituminous coal-----	\$7,112,440	\$2,984,892	-
120.1400	: Cattle hides, whole-----	151,210	151,210	-
676.5560	: Parts of automatic data processing machines and units-----	99,272	99,272	-
676.2830	: Auxiliary storage units, serial access-----	56,850	56,850	-
676.2855	: Printers for automatic data processing-----	56,750	56,750	-
676.2820	: Digital central processing units consisting of			
	:   arithmetical, etc., elements-----	49,950	49,950	-
688.1900	: Insulated wire and cable, n.s.p.f-----	38,151	-	-
676.2825	: Auxiliary storage units, random access-----	25,760	25,760	-
712.1520	: Radiation measuring and detecting instruments-----	12,059	-	-
547.6000	: Pharmaceutical, laboratory, etc., glassware-----	3,012	-	-
774.5000	: Articles, of rubber and plastic, n.s.p.f-----	1,552	-	-
711.8070	: Pressure gauges, industrial process, electrical-----	1,383	-	-
685.2017	: Television receivers, color, fully assembled-----	1,000	-	-
	:   Total-----	7,609,389	3,424,684	-
	:   Total U.S. exports to Bulgaria-----	7,609,389	3,424,684	\$58,000

Source: U.S. Department of Commerce, Bureau of East-West Trade.

Table A-21.--Leading items imported from Cuba, by TSUSA items, January-September 1979,  
July-September 1979, and July-September 1978

TSUSA item No.	Description	January- September--	July-September--	
		1979	1979	1978
911.1280	: Metal articles, n.e.s., for remanufacture-----	\$8,750	-	-
274.2000	: Paper calendars, not printed by a lithographic process-----	3,000	-	-
851.1000	: Photographic films, etc., for public institutions, etc-----	2,000	\$1,000	\$19,600
653.2200	: Metal coins, n.e.s-----	1,975	-	-
270.7000	: Tourist and other literature, etc-----	1,797	-	-
274.5000	: Photos, etchings, etc., n.e.s, printed over 20 years at			
	: time of importation-----	1,176	-	-
274.1500	: Paper calendars, printed by a lithographic process, over			
	: 0.020 inch in thickness-----	1,000	-	-
724.2520	: Stereophonic, etc., records, 33-1/3 r.p.m-----	350	-	-
	: Total-----	20,048	1,000	19,600
	: Total U.S. imports from Cuba-----	126,493	11,500	28,270

Source: U.S. Department of Commerce, Bureau of East-West Trade.

Note.--The difference between the totals in 1979 is the value of U.S. goods returned.

Table A-22.--Leading items exported to Cuba, by Schedule B Nos., January-September 1979,  
July-September 1979, and July-September 1978

Schedule B No.	Description	January- September--	July-September--	
		1979	1979	1978
725.5300	: Musical instruments, n.s.p.f-----	\$100,000	-	-
818.3300	: Medicines, etc., donated for relief-----	31,968	-	-
684.6440	: Telephone apparatus and parts, n.s.p.f-----	24,660	\$24,660	-
684.6240	: Telegraph apparatus and parts, n.s.p.f-----	23,702	-	-
818.3900	: Products, n.s.p.f., donated for relief-----	16,934	-	-
722.4120	: Slide projectors-----	13,235	-	-
685.4010	: Tape recorders, etc., audio, n.s.p.f-----	10,828	-	-
676.3024	: Photocopying machines, n.s.p.f-----	10,092	-	-
727.2740	: Office furniture, n.s.p.f., of metal-----	8,536	4,500	-
683.1550	: Storage batteries, n.s.p.f-----	8,379	-	-
711.8062	: Display instruments, etc., which operate on electronic : signals-----	7,018	-	-
688.0220	: Telephone and telegraph cable-----	5,770	-	-
661.7075	: Machines, for treatment of materials, n.s.p.f., and parts---	5,581	-	-
666.0090	: Parts n.s.p.f., of farm machines, n.s.p.f-----	4,500	4,500	-
692.2985	: Parts, n.s.p.f., of motor vehicles-----	4,035	-	-
772.4200	: Drug sundries, of rubber and plastics-----	3,500	3,500	-
680.2741	: Pneumatic control valves, etc-----	3,334	-	-
661.7620	: Centrifuges-----	2,639	-	1/
711.8054	: Instruments for controlling, etc., liquids, etc., : industrial process, nonelectrical-----	2,204	-	-
676.2011	: Calculators, electronic, etc-----	2,093	-	-
	: Total 2/-----	289,008	37,160	-
	: Total U.S. exports to Cuba-----	295,915	37,160	\$17,148

1/ Prior to Jan. 1, 1979, this item was classified under the now-deleted and more comprehensive item No. 661.7600.

2/ Because of changes in the Schedule B trade classifications from 1978 to 1979, comparisons are not possible.

Source: U.S. Department of Commerce, Bureau of East-West Trade.

Table A-23.--Leading items imported from Mongolia, by TSUSA items, January-September 1979,  
July-September 1979, and July-September 1978

TSUSA item No.	Description	January- September--	July-September--	
		1979	1979	1978
306.4293	: Camel hair, sorted, etc-----	\$2,442,408	\$534,731	\$354,476
306.6200	: Cashmere goat hair, sorted, etc-----	724,532	-	354,199
124.1058	: Whole furskins, n.e.s., raw-----	25,750	25,750	2,654
360.1500	: Floor coverings of pile, etc., valued over 66-2/3 cents per : square foot-----	800	-	-
653.2200	: Metal coins, n.e.s-----	299	-	-
	: Total-----	3,193,789	560,481	711,329
	: Total U.S. imports from Mongolia-----	3,193,789	560,481	711,329

Source: U.S. Department of Commerce, Bureau of East-West Trade.

Table A-24.--Leading items exported to Mongolia, by Schedule B Nos., January-September 1979,  
July-September 1979, and July-September 1978

Schedule B No.	Description	January- September--	July-September--	
		1979	1979	1978
818.3900	: Products, n.s.p.f., donated for relief-----	\$24,175	\$6,445	\$5,784
712.1520	: Radiation measuring and detecting instruments-----	23,654	-	-
676.3040	: Automatic typewriters, etc-----	3,600	3,600	-
676.2017	: Calculators, electronic-----	3,600	-	-
711.8710	: Chemical analysis equipment and parts, electrical-----	3,380	3,380	-
709.3000	: Medical, dental surgical, and veterinary instruments,			
	: n.s.p.f-----	2,187	-	-
438.6000	: Diagnostic reagents, n.s.p.f-----	1,982	-	3,156
711.8750	: Physical analysis equipment and parts, electrical-----	1,576	-	-
433.1056	: Laboratory reagent preparations, organic and inorganic-----	1,390	-	-
708.7400	: Compound optical microscopes-----	1,360	-	-
722.3640	: Parts, n.s.p.f., for still cameras-----	1,340	-	-
256.7120	: Filter paper, cut to size-----	1,050	1,050	-
547.6000	: Pharmaceutical, laboratory, etc., glassware-----	912	-	-
	: Total-----	70,206	14,475	8,940
	: Total U.S. exports to Mongolia-----	70,206	14,475	11,333

Source: U.S. Department of Commerce, Bureau of East-West Trade.

Table A-25.--Leading items imported from Vietman, by TSUSA items, January-September 1979,  
July-September 1979, and July-September 1978

TSUSA item No.	Description	January- September--	July-September--	
		1979	1979	1978
687.3000	Electric luminescent lamps-----	\$133,999	-	-
687.6037	Monolithic integrated circuits, bipolar, emitter coupled logic-----	109,651	-	-
380.0652	Men's and boys' cotton knit shirts, n.s.p.f-----	67,680	\$67,680	-
687.6036	Monolithic integrated circuits, bipolar, transistor- transistor logic-----	42,306	-	-
685.7010	Indicator panels-----	34,096	-	-
366.2740	Cotton shop towels, n.e.s., not ornamented, not jacquard- figured-----	31,139	-	1/
791.7460	Men's and boys' other coats and jackets, of leather, subject to man-made fiber restraints-----	27,300	27,300	-
202.4600	Hardwood, pressed, lumber, etc., n.e.s-----	22,766	-	-
687.6043	Monolithic integrated circuits, except bipolar, metal oxide silicon-----	22,519	-	-
382.1206	Women's raincoats, n.e.s., 3/4 length or longer, valued over \$4 each-----	19,583	19,583	-
380.3921	Men's trousers and slacks, of cotton, denim, not knit-----	13,861	-	-
382.5810	Women's and girls' blouses, of wool, valued over \$5 per pound-----	12,480	12,480	-
687.6025	Transistors, with dissipation rating of less than 1 watt-----	9,065	-	\$58,135
380.6155	Boys' wool sweaters, valued over \$5 per pound-----	8,708	8,708	12,535
687.6031	Monolithic integrated circuits, linear-----	8,124	-	-
737.9545	Rubber and plastic toys, n.s.p.f-----	4,647	4,647	-
737.9515	Toys, having a friction or weight operated motor-----	3,629	3,629	-
365.7865	Cotton net or ornamented furnishings-----	3,442	-	2/
382.5872	Girls' and infants' wool knit sweaters, valued over \$5 per pound-----	2,446	2,446	-
737.9550	Toys, n.s.p.f-----	2,323	1,778	-
	Total 3/-----	579,764	148,251	70,670
	Total U.S. imports from Vietnam-----	599,570	155,542	132,085

1/ Prior to Apr. 1, 1979, this item was classified under the now-deleted and more comprehensive item No. 366.2710.

2/ Prior to Apr. 1, 1979, this item was classified under the now-deleted and more comprehensive item No. 365.7810.

3/ Because of changes in the TSUSA trade classifications in 1979, comparisons with 1978 are not possible.

Source: U.S. Department of Commerce, Bureau of East-West Trade.

Table A-26.--Leading items exported to Vietnam, by Schedule B Nos., January-September 1979,  
July-September 1979, and July-September 1978

Schedule B No.	Description	January- September--	July-September--	
		1979	1979	1978
685.9090	: Parts, of electrical switches, relays, etc., n.s.p.f-----	\$90,000	\$90,000	-
435.7300	: Anti-infective agents, n.s.p.f-----	89,035	45,570	-
685.8040	: Variable capacitors-----	38,398	-	-
818.3900	: Products, n.s.p.f., donated for relief-----	38,065	11,100	\$4,379
795.0000	: Nonenumerated products, n.s.p.f-----	26,429	25,675	-
818.9000	: General merchandise, valued not over \$250-----	24,521	24,521	-
818.3300	: Medicines, etc., donated for relief-----	24,044	1,600	-
709.4500	: Artificial respiration and other therapy equipment-----	19,226	19,226	-
709.2540	: Dental instruments, n.s.p.f., and parts, n.s.p.f-----	13,880	13,880	-
433.1079	: Prepared culture media-----	10,718	7,157	-
682.0520	: Transformers, rated at less than 40 VA-----	8,332	8,332	-
674.7426	: Power-operated, nonelectric, etc., hand tools, n.s.p.f-----	1,237	-	-
709.1620	: Electro-medical therapeutic devices, n.s.p.f-----	1,093	-	-
	: Total-----	384,978	247,061	4,379
	: Total U.S. exports to Vietnam-----	384,978	247,061	9,591

Source: U.S. Department of Commerce, Bureau of East-West Trade.

Table A-27.--Leading items imported from North Korea, by TSUSA items, January-September 1979,  
July-September 1979, and July-September 1978

TSUSA item No.	Description	January- September--	July-September--	
		1979	1979	1978
685.5033	: Radio-tape recorders, cassette type, not AC-----	\$44,888	-	-
790.7030	: Toupees, etc., except wigs-----	37,800	\$37,800	-
704.3240	: Lace or net gloves, other than man-made fibers, n.e.s-----	10,330	10,330	-
791.1540	: Fur wearing apparel, n.s.p.f-----	9,500	-	-
706.6035	: Luggage materials, n.s.p.f-----	8,615	8,615	-
380.8456	: Men's trousers and slacks, of man-made fibers, not knit-----	3,407	3,407	-
702.2000	: Caps, of materials other than paper yarn, of cotton or flax--	3,300	3,300	-
684.4020	: Electric furnaces, heaters, ovens, n.s.p.f-----	2,742	-	-
750.2200	: Hair ornaments, except combs, n.e.s-----	2,377	2,377	-
750.4500	: Toilet brushes, valued not over 40 cents each-----	1,731	-	\$950
766.2540	: Antique furniture-----	779	779	-
682.9500	: Primary cells and primary batteries, and parts-----	506	-	-
	: Total-----	125,975	66,608	950
	: Total U.S. imports from North Korea-----	125,975	66,608	9,355

Source: U.S. Department of Commerce, Bureau of East-West Trade.



Table A-28.--Leading items exported to North Korea, by Schedule B Nos., January-September 1979,  
July-September 1979, and July-September 1978

Schedule B No.	Description	January- September--	July-September--	
		1979	1979	1978
404.3000	Amines and their derivatives-----	\$12,680	\$12,680	-
	Total-----	12,680	12,680	-
	Total U.S. exports to North Korea-----	12,680	12,680	-

Source: U.S. Department of Commerce, Bureau of East-West Trade.



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Each Quarterly Report to the Congress and the East-West Foreign Trade Board on Trade between the United States and the Nonmarket Economy Countries contains:

- (1) summary of developments in U.S.-NME trade for that calendar quarter, with the summary of the fourth quarter as an annual review;
- (2) seven summary tables and two figures describing the value, direction, composition, and individual country trade shares of U.S.-NME trade in that calendar quarter;
- (3) a series of appendix tables describing the leading items traded by the United States with each of the 12 NME countries covered, disaggregated to the 7-digit level of the respective import and export schedules, through the end of that calendar quarter.

Other subjects covered periodically or on an irregular basis are listed below. All page numbers refer to the official USITC publication, with the exception of Report #4. Page numbers for that report refer to the copy published by the U.S. Government Printing Office.

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