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THE VALUE TO THE USSR OF ECONOMIC  
RELATIONS WITH THE US AND THE WEST

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The Value to the USSR of Economic  
Relations with the US

Foreword

The attached paper examines key elements of the US-Soviet economic relationship -- in technology, energy, credit, grain, and MFN -- and concludes that, in the current context, and taken individually, these elements do not provide the US or the West with policy levers that could be used to exert significant influence upon Soviet behavior.

But the assessment is focussed narrowly on the current situation and on specific economic instruments. To do justice to the potential for leverage and influence in the East-West relationship, the problem should be considered in a more dynamic and comprehensive context of a long term political-economic-military competition. An assessment in those terms would place far more emphasis on the deepening economic problems and resource stringencies facing the Soviet economy over the next five to ten years, and the strains and pressures these will increasingly place on the Soviet resource allocation process, particularly in the military sphere. In the context of such deepening problems, the potential for using East-West economic relations for political influence might be much larger, particularly if conceived as part of a broader strategy for long-term competition. These possibilities deserve far more attention and analytic effort than they have so far received.

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## CONCLUSIONS

The importance of Western technology, credit, and grain to Soviet economy has increased in recent years, and will increase further during the next decade. Moscow is determined to avoid exploitable dependence, however, and expects to be able to do so.

- In the great majority of instances, alternatives to US sources are available.
- Other Western countries have shown little willingness to sacrifice economic gains for a concerted, sustained policy of using East-West economic relations for purposes of exerting influence upon Soviet behavior.
- The Soviets believe that, in the US itself, conflicting domestic interests place severe limits on the US ability to use its policy instruments for these same purposes.

The growing dependence of Soviet economic growth on a rising productivity of labor and capital will put an increasing premium on Western capital goods and technology during the next decade. In addition, Moscow will need vast amounts of Western equipment to sustain production of oil in some fields, minimize declines in others, and develop new sources of oil and gas. Some of this equipment will have to come from the United States.

### Technology

In importing Western technology and equipment, the USSR is playing "catch-up." Specific sectors of Soviet industry -- such as the fertilizer and automotive industries -- are being helped greatly by Western technology and equipment, increasing the quality and quantity of output and reducing costs. The Soviets will be especially dependent on Western energy technology in the future, such as high capacity oil lifting equipment discussed separately below. The magnitude of Soviet imports of Western equipment, however, is too small to have much impact on overall economic growth.

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In only a few areas is the United States the sole supplier of the most advanced technology of interest to the Soviets. In many of these fields, US pre-eminence is being increasingly challenged by technological advances in Western Europe and Japan. Moreover, less advanced technology is often sufficiently good to satisfy immediate Soviet needs. In the many instances where US technology is available from US licensees or subsidiaries abroad, the Soviets can turn to these.

The United States must rely primarily on persuasion in marshaling effective support from its allies for control of technology exports. The record on this score is disappointing at best. Our allies see little or no need to limit Soviet acquisition of technology unrelated to items on the COCOM List. Even in COCOM, they have shown a tendency to push for relaxation of definitions to permit the sale of their own goods while supporting the embargo on those higher technology goods produced only in the United States. Their reluctance in the past to go along with the United States in controlling anything but the most sensitive technology and equipment affords little hope for consent to broader vigilance now.

### Energy

The supply of oil in the USSR will become a critical problem in the next few years, with production peaking perhaps as early as next year but not later than the early 1980s before declining. To stave off or slow the expected production decline, the Soviets will need substantial amounts of Western oil field technology and equipment. Because of its superior technology, the United States is the most logical source of much of this equipment and know-how. Without assistance in the form of Western technology and equipment -- especially high capacity lifting equipment involving US technology -- gas lift and electric submersible pumps -- Soviet oil production will fall sooner and more sharply than would otherwise be the case.

Although the USSR and some West European countries produce low capacity oil well pumps, the only pumps adequate to deal with the Soviet lifting problem are produced in the United States. The USSR has been buying several hundred annually in the US and recently sought a turnkey plant for their manufacture. Thus far neither of the two US producers has been interested in supplying the production technology.

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The US is the preferred source of other equipment and technology such as drill pipe, rock bits and rotary drilling rigs, none of which is under export control restrictions, as well as certain COCOM-controlled items, e.g., seismic and gravimetric measuring and recording instruments. There are close substitutes for these in other Western countries, however.

### Credit

The Soviet hard currency debt increased from only \$5 billion at the end of 1974 to \$14 billion at the end of 1976, and it will probably grow to about \$17 billion by the end of this year. What pushed up the debt was mainly the Western economic recession, which nearly halted the growth of Soviet hard currency exports and the massive Soviet grain imports in 1975 and 1976 following the disastrous 1975 harvest.

The USSR's hard currency trade deficit reached a record \$6.3 billion in 1975 and \$5 billion in 1976. The traditional means of financing deficits -- Western government-backed credits and gold -- were no longer adequate, and the Soviets had to borrow heavily on the Eurodollar market at higher interest rates including a substantial amount on short term.

As a result of heavy Soviet borrowing, many major banks reached or at least approached their legal or self-imposed ceilings on credit to the USSR. Moreover, the international banking community has grown concerned about the growth of the Soviet debt and the persistence of large trade deficits. Although bankers remain confident about the USSR ability to repay its debt, they feel that additional credits require higher interest rates.

Moscow's stubborn stance on terms is hampering progress in negotiations for government-backed export credit lines. The "gentlemen's agreement" on export credit terms is now in effect, and the Soviets are unwilling to pay the higher interest rates required. Soviet negotiations with Italy have dragged on since May 1976, with France, Japan, and the United Kingdom watching closely to see whether the Italians can withstand Soviet pressure to break the agreement by offering better terms. The betting is that Italy will cave in.

A reduction in the trade deficit is expected in 1977 with continued -- if sluggish -- Western growth leading to

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expansion of Soviet exports; a sharply lower grain bill will reduce imports. A deficit of \$4 billion or less and a \$3 billion increase in debt is anticipated. A further decline in the deficit is likely in 1978, given continued economic growth in the West and the bumper grain crop Moscow expects this year. Oil exports could fall, but probably not enough to prevent an increase in total exports while imports should be stable or lower.

Prospects in the longer run, however, are much dimmer because the expected decline in Soviet oil production and exports will seriously aggravate the Soviet hard currency position. Western bankers will probably have increasing doubts about Moscow's ability to maintain its foreign exchange earnings and manage its debts in the 1980s. Substantial new credits are likely to depend upon Soviet willingness to undertake large compensation deals, particularly for development of energy resources, that provide assurances of export capacity.

#### Grain

Even with normal harvests, Moscow will need to import 10-20 million tons of grain annually to support announced livestock expansion programs during the next several years. If past practice holds, about half of Soviet import requirements would be filled by the United States. The need for US supplies obviously depends both on the size of Soviet requirements and on production and stocks in other supplier countries. Attempts to apply US leverage on the grain issue might lead to minor concessions in the short run but would carry longer run costs. The threat of withholding grain, even if not exercised, would compromise US reliability as a supplier and lead the Soviets to pursue alternatives.

Our leverage is lessened by the wide range of options available to the Soviets in the event of a moratorium on US grain shipments.

- In the short run, other countries would be able to provide additional grain, especially at premium prices.
- Over the longer run, the USSR could probably arrange for alternative supplies, perhaps with the aid of long-term contracts.
- Domestic demand for grain could be substantially reduced by (1) rationing and other conservation

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measures, (2) export cuts, and (3) further slaughtering of livestock if need be.

-- In dire circumstances, Moscow could fall back on strategic grain stocks.

MFN

Soviet exports would be little affected by the granting of most-favored-nation status. Most Soviet exports to the United States either enter tariff free or carry tariffs little higher than MFN rates. A few million dollars' worth of manufactured goods would benefit from MFN treatment, particularly if quality and servicing deficiencies were overcome. MFN is a relatively minor issue in the broad context of US economic relations with the USSR. The restrictions of the Trade Act of 1974, in any case, blunt the effectiveness of using MFN as a bargaining tool.

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USSR: Hard Currency Trade 1/

Million US \$

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	<u>Soviet Exports</u>	<u>Soviet Imports</u>	<u>Trade Balance</u>
1971	2,702	3,043	-341
1972	2,880	4,273	-1,393
1973	4,902	6,654	-1,752
1974	7,629	8,558	-929
1975	7,983	14,386	-6,403
1976	9,895	14,896	-5,001

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1. Based on Soviet statistics.

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of Western equipment and technology and proposed several joint projects with Western firms to develop Soviet resources. Western governments -- especially France, Italy West Germany, the United Kingdom and Japan -- have extended substantial low interest, guaranteed, long-term export credits. These credits have been critical to Moscow's rapid expansion of trade with the West since the Soviets have not been able to increase exports rapidly enough to pay for imports.

Expanded trade with the US was a key to the detente policy of the USSR. Anxious to acquire US technology and capital, Moscow set goals for rapid increases in trade volume. Eximbank credits were available from 1972 to 1974 and equipment orders from the US increased from \$90 million in 1970 to \$865 million in 1974. Soviet contracts placed in the US have fallen off since that time. Imports based on these orders exceeded \$800 million in 1976, but it has been mainly Soviet grain requirements that have generated large imports from the United States -- \$1 billion in 1973, \$1.2 billion in 1975, and \$1.6 billion in 1976. Soviet sales to the United States have consistently fallen far short of purchases. As a result the USSR has incurred a cumulative trade deficit of \$6.5 billion with the US since 1971. The deficit was \$2.4 billion in 1976 alone.

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USSR: Trade with the United States 1/

	Million US \$		
	<u>Soviet Exports</u>	<u>Soviet Imports</u>	<u>Trade Balance</u>
1971.	60	143	-83
1972	93	560	-467
1973	186	1,382	-1,196
1974	234	746	-512
1975	190	2,025	-1,835
1976	264	2,662	-2,398

1. Based on Soviet statistics.

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The 1977 figures will show a decline in US-Soviet trade as US grain shipments and scheduled deliveries of equipment fall off.\* According to US statistics grain imports from the US by the end of June were down by almost half from first half 1976 and machinery by almost one-third. US imports from the USSR will be higher in 1977, reducing the US surplus to somewhat more than half of last year's.

### Technology

Soviet leaders recognize that rapid growth can now be achieved only by accelerating technological progress. Although past development relied heavily on rapid growth in the labor force and the stock of plant and equipment, the USSR can no longer sustain development of this kind. The leadership recognizes that growth will depend mainly on rapid productivity gains through the adaptation of new technology. The problem is that the Soviet R&D sector has lagged in developing and applying new technology. As a result, the USSR in the 1970s has turned increasingly to imported technology as a means of accelerating technological progress and economic growth.

The major means of acquiring Western technology is by purchasing machinery and equipment. Other

channels have included the acquisition of technical data, contacts with Western firms and scientists, and formal

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\* Soviet Deputy Foreign Trade Minister Sushkov said at the US-Soviet Commercial Commission meeting in June that equipment deliveries from the US would be down sharply this year.

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arrangements for joint research and exchange of scientific and technical information. None of these means have lived up to Soviet expectations. Soviet industry is slow to get foreign technology into operation and even slower to spread it throughout a given industry. Soviet labor is unfamiliar with complex foreign machinery, spare parts for foreign equipment are often in short supply, and maintenance programs are frequently inadequate. As a result, Western equipment is not as productive in a Soviet setting as it is on native ground. Attempts to exploit foreign technical data or copy foreign machinery have had mixed success. In some military fields, the results have been good; in civilian sectors, the outcome has been less impressive.

Moreover, the volume of Western machinery is small relative to domestic investment in machinery in the USSR, although the share has doubled in recent years to roughly 5% of total domestic investment in equipment. The US share is only about one-half of 1%. The small scale of imported equipment coupled with problems of assimilation and diffusion, leads us to be less sanguine than the Soviets about the contribution that foreign technology will make to accelerating overall economic growth and to narrowing the technological gap with the Industrial West.

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Although Western equipment has not substantially impacted on overall Soviet economic performance, the impact has been relatively large in some areas. In addition to key areas of the chemical industry, foreign technology has raised technological levels in such sectors as computers, electronics, oil field exploration, and automotive manufacturing.

Soviet dependence on the West for equipment in these high-priority areas, however, does not equate with Soviet dependence on the United States. The Soviets recognize that other countries often can provide technology that is as good or nearly so. Although the US share of Soviet machinery imports from the West more than tripled between 1972 and 1976, it is only 16% of total imports of Western equipment. In 1972 the Soviets imported less than \$60 million worth of machinery and equipment from the United States, or less than a 5% share of the Western total. In 1976 it was \$824 million. Imports from the United States have featured earthmoving equipment (bulldozers, pipelayers), equipment for the Kama River Truck Plant, and oil field and pipeline equipment. While US companies are the preferred sources in these fields as well as for computer hardware and software, the USSR has obtained, for example, computer hardware and various kinds of automotive equipment and machine tools from Western Europe and Japan.

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Outlook

With increased emphasis on raising productivity in the current five-year plan, the Soviet leadership may feel the need for Western equipment and technology even more acutely than in the past. But the USSR probably will not have the foreign exchange to pay for substantial increases in machinery imports. The growing expense of debt service may limit machinery imports to perhaps \$5-6 billion annually (1977 prices) for the next two or three years. Thereafter, the expected fall in crude oil production (and oil exports) threatens to squeeze further Moscow's capacity to import Western manufactured goods.\*

The fall in import capacity will force the Soviet leadership to make hard decisions regarding trade with the West. A policy to maintain equipment imports in the face of shrinking hard currency resources would dictate sharp reductions in imports of other goods such as steel. Imports directed toward energy production and conservation will probably take precedence, as failure to obtain such equipment and technology would only exacerbate Soviet problems and increase Soviet hard currency expenditures for oil over the longer run. Imports of plant and equipment designed to increase future export capacity will have priority second only to energy-related imports.

\* See section entitled "Energy" below.

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Soviet contracts placed in the United States for machinery and equipment have fallen off since Eximbank credits have been unavailable to the USSR. In 1976 the US share of Soviet contracts placed in the West fell to about 15%, down from 20% in 1974.

With a 15% share of imports through 1980, US equipment would only be equivalent to 0.5% of the total value of equipment scheduled to be installed in the Soviet economy in 1976-80. In short, US leverage is limited because the USSR can go elsewhere for roughly equivalent machinery and technology, except in a few sectors or for a few giant projects. The United States is the preferred source of oil field technology and equipment that the Soviets will need to stave off or slow the expected production decline. But even in this area non-US suppliers can provide much of what the Soviets will require.

For now there seems little chance that the United States can convince its allies to band together to exert leverage on the USSR. The past record in the export control field indicates that the COCOM countries' concern for the commercial benefits of technology exports to Communist countries far outweigh their fears of the possible strategic implications of the technology. With the growing economic problems of the USSR, especially in oil production, and the probable increased need for Western technology and equipment, Western attitudes may change.

Appendix A provides a brief survey of technology areas in which the Soviets have shown interest, and some judgements about technological levels in the US and other Western countries.

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Energy

Oil

The Soviet oil supply will become a critical problem within the next few years. New deposits are not being found and developed rapidly enough to offset declines in older fields, and production techniques now in use have focused on gains in annual output at the expense of maximum lifetime recovery. As a result, production will soon peak, perhaps as early as 1978 and certainly by the early 1980s. Production of 10.4 million b/d in 1976 was close to the estimated maximum potential of 11-12 million b/d, and output is likely to fall to only 8-10 million b/d by 1985. Production of other major energy sources is being pushed about as hard as Soviet industrial capabilities permit. Thus, even with a major step-up in allocation of investment capital to the fuel producing sector, growth of domestic energy production will slow in the 1980s.

The downturn in oil production seems inevitable and probably will be sharp, but its timing is not as predictable. To stave off or slow the expected production decline, the Soviets will need substantial amounts of western oil field technology and equipment. Because of its superior technology, the United States is the preferred source of much of this equipment and know-how. Without such assistance, Soviet oil

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production will fall sooner and more sharply than would otherwise be the case.

Items from the West that could provide the most rapid and effective help in exploiting existing fields include: high capacity submersible pumps and gas-lift equipment, drill pipe, casing, drill collars, rock bits, rotary drilling rigs, drilling mud technology, and multizone completion equipment.

To increase total fluid (oil and water) recovery, large numbers of high capacity submersible pumps and/or other fluid lifting equipment will be needed. The only pumps adequate to deal with the Soviet lifting problems are produced in the US and are in relatively short supply. The USSR has been buying several hundred submersible pumps annually in the US for the past 6 years and has tried to buy a turnkey plant for their manufacture. Thus far, neither of the two US producers has been interested in supplying the production technology to the Soviets.

As an alternative to high-capacity submersible pumps, the Soviets are negotiating for large-scale purchases of gas-lift equipment. They hope to sign a contract for about \$1 billion worth of equipment for this project from US, West European, or Japanese suppliers by the end of 1977. Only the US has the technology to produce the downhole gas lift equipment; thus all equipment other than compressors

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(valued at \$400 million) must be bought in the US. Because of the long lead times in the design, production, and installation of such equipment, the USSR probably could not have all the units installed before the early 1980s.

The quality of Soviet drill bits generally is poor compared with Western bits. The Soviets recognize that better quality bits would improve drilling efficiency and would permit wells to be drilled more rapidly. They have bought small quantities of US bits and have been trying for years to buy a turnkey plant to produce US-design bits. But the price of the plant has escalated during the negotiation period, and the Soviets are now seeking US assistance to re-equip an existing Soviet plant to produce these bits. The contract for the re-equipment deal (\$170 million) is expected to be signed this year.

US rotary drilling equipment and technology would be a distinct asset to the Soviets in searching for and developing new oil fields. About three-fourths of all Soviet drilling is done with the turbodrill, which becomes increasingly inefficient at depths greater than 2,500 meters. Soviet drilling capabilities continue to lag behind those of the West where rotary drilling is used. As the average depth of drilling increases in the USSR, rotary drilling would be more efficient than the Soviet turbo rigs. Rotary rigs in operation in the USSR (20 percent of the total rig park) are comparable to US equipment produced in the 1950s.

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The supply of drill pipe, casing, and drill collars in the USSR is not adequate in the sizes, quantity, and quality required for field development, especially in poor climates and under difficult well conditions. As the requirement to drill to greater depths increases, both onshore and offshore, the USSR will need larger amounts of high-quality drill pipe, most of which will have to come from the West.

Scientifically planned drilling fluid programs are almost unknown in the USSR. Most drilling crews use local clays mixed with water and additives. After a well is completed, the mud is stored for future use regardless of requirements. Such practices cause formation damage, reduce recovery rates, and cause wells to be abandoned needlessly. A related problem is the need for better cementing practices to improve well completion and to seal the well bore against the entry of ground water. The Soviets have indicated interest in US technology in these areas.

Multizone completion equipment is relatively scarce in the USSR, necessitating the drilling of separate holes for each producing zone in many fields. Acquisition of multizone completion equipment from the West would permit important economies in reduced drilling costs, savings in casing, tubing, flow lines, and drilling and pumping equipment.

For the long run, finding new oil reserves is even more important than increasing the yield of existing fields. In the present five-year plan, sizable reserves must be found,

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primarily in West Siberia, to maintain production at or near current levels as output declines in the older fields in the Western regions of the country. Discoveries must be made in East Siberia and in offshore areas of the Arctic Seas to prevent sharp declines in production.

In general, Soviet exploration equipment lags 10 years behind that used in the US. The USSR is particularly deficient in advanced seismic equipment and digital field computers for on-site evaluation of geologic structures in permafrost and in deep-faulted formations. Although some equipment is available in Western Europe and Japan, the best for Soviet needs -- especially portable field computers and software -- are made in the US.

The most obvious deficiency in Soviet oil field operations is the lack of modern offshore equipment and technology. The USSR now has only four mobile offshore drilling rigs (jackup types), all in the Caspian Sea, and only one is capable of drilling in water as deep as 90 meters. For the USSR to move to deeper water in the Caspian, or to the Arctic Seas, or to the Sea of Okhotsk off Sakhalin, Western experience, technology, and equipment will be essential. Although the US is the world leader in this technology, Dutch, French, Norwegian, British, and Japanese firms can supply some offshore equipment and know-how. The Soviets recently concluded a contract with a US firm and a West European company to build a yard on the shores of the Caspian Sea to produce offshore mobile drilling rigs.

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Gas

Natural gas output is expected to increase to about 560 billion cubic meters (9.4 million b/d of oil equivalent) by 1985. This is almost double the level of production in 1975 and probably will exceed 1985 crude oil output in caloric terms. The key to growth will be the pipeline capacity needed to carry large volumes of gas from huge new West Siberian fields to the western USSR and Europe. The main bottleneck will be high-capacity compressors, turbines, and valves; most of these are imported from the West and have long lead times for negotiation, manufacture, and delivery.

Gas consumption will continue to increase substantially in industrial sectors that are already large gas consumers, particularly chemicals. While the possibilities for substituting gas for coal have been all but exhausted, gas could be substituted for oil in some industrial uses, notably as fuel for industrial boilers. Household use of gas will increase but will not involve gas-for-oil substitution, since oil has not generally been used directly for heating or other purposes.

Coal

Coal production will grow slowly -- probably at an average annual rate of 2 to 3 percent -- during the next 10 to 15 years. The actual rate will depend largely on the speed with which the Soviets develop the eastern coal basins. This coal,

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though cheap to mine, is expensive to transport over long distances to the main consuming centers, and much of it is of poor quality. An increasing share of output probably will be allocated to electric power production at the coal fields, in part to offset a decline in fuel oil supplies.

Imports of coal mining equipment from the West will be of some significance during the next few years as the USSR is in the process of purchasing giant mining shovels and high-capacity dump trucks (180 tons) from the US and Japan for development of a mine in the southern Yakutsk coal basin. Although the Soviets must import large-capacity equipment in the short run, they are taking steps to eliminate this dependence by programming production of such equipment in domestic plants.

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Financing Trade with the West: The Credit Factor

Moscow's equipment import drive has been made possible largely by Western governments which have offered credits at subsidized rates to encourage exports and to maintain employment and production in their capital goods industries. In the 1970s the USSR has drawn some billions in government-guaranteed credits mainly from France, Japan, West Germany, Italy, Canada, and Austria. The US Eximbank was in the running from 1972 until mid-1974, authorizing credits of \$468 million, matched by US commercial bank credits of the same amount.

The USSR's heavy reliance on Western government-backed credit to help finance hard currency trade deficits lasted until 1975 when the Soviet hard currency deficit reached a record \$6.4 billion. At the time that equipment deliveries were soaring as a result of orders placed in the West in 1972-74, the Soviets were hit by two unexpected events: the Western recession, which cut the demand for Soviet raw materials, and a disastrous grain harvest, which led to massive Soviet imports of Western grain. As a result the Soviets were forced to borrow heavily in the Eurodollar market -- at interest rates higher than for government-backed credits -- including a substantial amount on short-term. Moscow was able to reduce the trade deficit in 1976 because of a jump in exports (mainly oil), and some import cutbacks but only to \$5 billion.

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The larger-than-anticipated deficits in 1975 and 1976 forced the Soviets to use bank credits not only for grain, but for small equipment purchases and other purchases which normally would have been for cash. The share of total Soviet hard currency debt held by Western banks rose from 10-15 percent at the end of 1974 to almost 50% at the end of 1976.

The borrowing to finance grain and equipment purchases pushed the Soviet debt to the West from \$5 billion at the end of 1974 to \$14 billion at yearend 1976. As a result of heavy borrowing in 1975-76, many major banks reached or at least approached their legal or self-imposed ceilings on credit to the USSR. Moreover, the international banking community has grown concerned about the growth of the debt and the persistence of large trade deficits. Although bankers remain confident about the USSR ability to repay its debt, they feel that additional credits require higher interest rates. A \$250 million Eurodollar syndication for the USSR in 1976 -- although completed -- was poorly received, with several major banks refusing to participate.

The USSR has not actively sought a Eurodollar loan this year and reportedly will borrow on the Eurodollar market only if it can receive prime rates. Although the

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growth of the Soviet debt has caused concern in Western financial circles, Moscow can still get credit thanks largely to slack demand in Western money markets and a dearth of other creditworthy borrowers. Western banks -- because of the growth and the level of the USSR's debt -- will, however, insist on higher rates than the Soviets judge acceptable.

Moscow's stubborn stance on terms is also hampering progress in negotiations for government-backed export credit lines. The "gentlemen's agreement" on export credit terms is now in effect, and the Soviets are unwilling to pay the higher interest rates required. Soviet negotiations with Italy have dragged on since May 1976, with France, Japan, and the United Kingdom watching closely to see whether the Italians can withstand Soviet pressure to break the agreement by offering better terms. The betting is that Italy will cave in.

A further reduction in the trade deficit is expected in 1977 with continued -- if sluggish -- Western growth leading to expansion of exports; a sharply lower grain bill will reduce imports. Soviet trade data for the first half show a lower deficit than in the first half of last year, with exports up 11 percent and imports down 2 percent. The improvement should continue for the remainder of the year, resulting in a trade deficit for 1977 of \$4 billion or less. A further decline in the deficit is likely in 1978, given continued economic growth in the West and the bumper grain crop Moscow expects this year. Oil exports could fall but not enough to prevent an increase in total exports, while imports should be stable or lower.

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The 1977 trade deficit should boost the debt by about another \$3 billion, bringing the Soviet debt to the West to \$17 billion at yearend. There have been several indications of Soviet hard currency stringencies this year.

- o The Soviets sought and received a 4-year deferment on repayment of half of a \$32 million note due in July.
- o Some US banks have experienced longer-than usual delays in Soviet payments of accounts.
- o Soviet buyers have asked Japanese companies to extend payment terms from 30 to 90 days.

Moscow's current cash problems are probably only temporary. The Soviets could have sold considerably more gold than they have. Gold prices have been attractive for most of 1977, but Soviet sales were low for the first half of the year.

Thus, despite Moscow's recent financial difficulties, its payments problems appear to be manageable for the time being. The Soviets should be able to handle the 1977 trade deficit as it did in 1976 -- by borrowing, albeit at higher rates than Moscow wishes to pay; cutting lower priority imports; delaying payments occasionally; and probably selling gold before the year is out.

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Prospects in the longer run, however, are much dimmer with the expected decline in Soviet oil production in the late 1970s or early 1980s. Although the range of uncertainty regarding future oil production and consumption make it difficult to predict the impact of the looming oil problem, the decline in oil production will seriously aggravate the Soviet hard currency position.

Although Moscow will wish to continue financing a major share of machinery through long-term credits, it will find it increasingly difficult to do so after 1980. Western bankers, previously confident of the USSR's reputation as a good credit risk, will probably have increasing doubts about Moscow's ability to maintain its foreign exchange earnings and manage its debts in the 1980s. Bankers are likely to demand more financial information and higher interest rates from the USSR as they realize the impact of the oil problem on Moscow's hard currency position. Substantial new credits are likely to depend upon Soviet willingness to undertake large compensation deals, particularly for development of energy resources, that provide assurances of export capacity.

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USSR: Hard Currency Balance of Payments  
and Outstanding Indebtedness

Million US \$

	<u>1975</u>	<u>1976</u>	<u>1977<sup>1/</sup></u>
Merchandise exports, f.o.b. <sup>2/</sup>	7,997	9,895	11,300
Merchandise imports, f.o.b. <sup>2/</sup>	14,380	14,896	15,000
Merchandise trade, net. N.E.S. <sup>3/</sup>	200	400	200
Nonmonetary gold	1,000	1,361	1,000
Services and transfer payments, net	-100	-271	-400
CURRENT ACCOUNT BALANCE	-5,283	-3,311	-2,700
Medium- and long-term capital, net <sup>4/</sup>	3,000	4,000	3,000
BASIC BALANCE	-2,283	-689	300
Yearend indebtedness	10,000	14,000	17,000

1. Preliminary.

2. Official Soviet foreign trade statistics.


3. Including estimated revenues from arms sales and hard currency expenditures for Cuban sugar; excluding hard currency trade with other CEMA countries.

4. Including medium- and long-term syndicated Eurocurrency credits.

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Soviet Dependence on US Grain

The USSR probably will need to import 10-20 million tons of grain annually in the next few years even if normal weather allows a grain output of 180-220 million tons. In poor harvest years -- grain production below 180 million tons -- Soviet purchases could fall in the 20-30 million ton range. If a grain harvest is very good as it was in 1976 and is likely to be this year -- above 220 million tons -- imports probably will range between 6 and 10 million tons.\*

These imports are needed because the Soviet demand for grain continues to outpace increases in production. Grain output in the USSR increased by more than 75% between 1960 and the record harvest year of 1976. However, the program to improve consumers' diets, largely by increasing the availability of meat, more than doubled the demand for grain as livestock feed in this time period. Moreover, the Tenth Five-Year Plan for 1976-80 indicates a rapid recovery and expansion planned for 

\* Grain harvest estimates for 1976-1980 assume that the trend in the use of fertilizer and other technological improvements in 1961-1974 leading to higher grain yields will continue through 1980 but that the average weather conditions experienced in the early 1960s will prevail. The average annual demand for grain in 1976-80 is estimated at 225 million tons, based on projections of normal requirements for food, seed, industry, exports and feed. The level of imports would not necessarily equal the difference between production and requirements: smaller crops could result in lower requirements because of other options open to Soviet planners such as curtailed demand.

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livestock inventories and meat production after the disastrous harvest of 1975, requiring supplies above the annual average level of the past five years. Presumably the USSR will also want to replenish normal carryover stocks.

The demand for US grain depends on the size of the Soviet requirement as well as on production and stocks in other supplier countries. If past practice is followed, about half of Soviet grain imports will be filled by the United States. In this connection, the Soviets have committed themselves to a long-term grain import agreement with the US for the delivery of 6-8 million tons per year for the five years beginning October 1976.\* Presumably, after buying grain under this agreement, the Soviets would then buy from non-US sources to maintain access to these markets before coming back to the US. For example, if the Soviets needed as much as 25 million tons per year, they could be expected to take 8 million tons under the long-term agreement, exhaust non-US supplies of 10-15 million tons, and rely on the United States for their remaining needs.

Despite the continued Soviet need for grain imports, there does not seem to be a strong case for US leverage. From the US side, political and economic interests dictate a policy of

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\* The United States may sell less than 6 million tons if it declares a shortage. It may sell more than 8 million tons if supplies permit.

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cultivating large, stable agricultural exports. US interests aside, if a moratorium were to be levied on US grain shipments to the USSR, the range of options open to the Soviets would weaken such an action. In the short run, other countries could provide additional amounts of grain beyond the 10-15 million tons of normal available supplies if stock positions were favorable. Over the longer run, the Soviets could develop the markets of other exporting countries, effectively shifting the pattern of Soviet imports away from the US. Long-term contracts with Canada, Argentina, Australia, Brazil, and France would require extensive negotiations but could serve to stimulate grain output in these countries, adding as much as 10-12 million tons to the amount available for export.

Domestically, the USSR could substantially reduce the demand for grain. As in 1975, they could:

- maintain livestock on alternative feeds,
- raise the extraction rate for flour, thus lowering bread quality but saving grain,
- deplete nonstrategic grain stocks, and
- when necessary, slaughter livestock.

Further, purchases of meat could be substituted for grain and, as a last resort, the leadership could authorize the use of strategic grain reserves. Prolonged belt-tightening is not out of the question, although the leadership's commitment to provide more meat is strong.

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In 1975 the USSR also canceled longstanding export commitments to Eastern Europe, thus saving about 5 million tons of grain. This option could be used again. It would reduce the USSR's need for grain but force Eastern Europe into the international grain market. The effect on the Eastern Europe economies could be substantial, particularly in light of their hard currency deficits. They would have to compete with the USSR for grain and pay the higher prices for grain caused by the massive Soviet purchases.

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USSR: Grain Production and Trade 1

	<u>FY 1972</u>	<u>FY 1973</u>	<u>FY 1974</u>	<u>FY 1975</u>	<u>FY 1976</u>	<u>FY 1977</u>
Production						
Million metric tons	181.2	168.2	222.5	195.6	140.1	223.8
Imports 2						
Million metric tons	7.8	22.9	11.0	5.6	26.4	10.3
Million US \$	478.0	1,431.0	804.0	996.0	3,728.0	1,500.0
Exports 3						
Million metric tons	7.2	5.3	7.0	6.3	3.4	4.0
Million US \$	554.0	481.0	802.0	839.0	477.0	560.0

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1. Production data are for the crop year preceding the stated fiscal year. Trade data are for fiscal years, July through June.
2. Including some shipped to third countries.
3. Data are an average of two calendar years derived from official Soviet foreign trade handbooks.

MFN: Impact on Soviet Exports to the United States

The denial of MFN status to the USSR has little effect on Soviet exports to the US since most are either duty-free or are subject to relatively low rates. The Soviets are aware of this, but want MFN for political purposes. Its granting by the US would indicate in Soviet eyes US recognition of the USSR as an equal.

Of the total imports for US consumption from the USSR in 1966 of \$215 million, 60 percent entered duty-free. The duty on the remainder averaged 9.8 percent. In the case of several of the major dutiable goods, the tariffs were low and MFN would have made little difference. For example, the tariff on Soviet sales of \$54 million of crude oil and fuel oil was \$1 million (one-half cent per gallon); under MFN the bill would have been about \$300,000 (one-eighth to one-quarter cent a gallon). Similarly, the tariff on diamonds is 10 percent and would fall to 4 or 5 percent under MFN -- not enough to have a substantial impact on sales.

MFN status could have somewhat more of an impact on Soviet exports of manufactures. In recent years, Moscow has tried to boost exports of manufactured goods -- particularly tractors, watches, cameras, and machine tools -- to the United States. Except for agricultural tractors, which are duty free, MFN could make a major difference. Soviet machine

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tools currently face a 30 percent tariff hurdle, compared with 6-7 percent under MFN. Similar differences apply to cameras and watches. Soviet vodka exports have a duty of \$5.00 per gallon, compared with an MFN rate of \$1.25 gallon. While MFN treatment of Soviet manufactured goods exports would substantially reduce the prices to US consumers, the Soviets would still have the problem of quality, distribution, and service -- particularly in high-technology goods such as machine tools, for which price carries less weight in the buyer's decision. Although MFN treatment would mean that a somewhat greater share of Soviet exports would be manufactured goods, the increase in total exports would be small.

Areas of potentially large Soviet exports to the United States are those resulting from such projects as the development of LNG and other raw materials. Various projects discussed by the USSR with US companies have involved large, long-term exports of Soviet products in return for US equipment, know-how, and credits. Credit rather than MFN is the major barrier to US participation in these projects.

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## APPENDIX

### Soviet Interest in Western Technology: Some Examples

#### Semiconductors\*

Because of the importance of semiconductor technology to the development of modern computers and especially to military electronics systems, the USSR has launched a major effort to overhaul its badly outdated industry and build a modern one based on Western technology. In the past three years the USSR, mostly through illegal channels, has acquired in the United States and Japan large quantities of production machinery and test equipment. Illegal acquisitions ought to make it possible for the USSR to produce at least small quantities of high-quality integrated circuits. Whether they will enable the USSR to produce advanced microcircuits in very large volume may depend crucially upon the further acquisition of comprehensive production know-how.

The United States until recently held unrivaled world leadership in semiconductor technology, but the expansion of US subsidiaries abroad and the sale of licenses to Western firms have greatly narrowed the technology gap. The United States continues to excel in two crucial areas of semiconductor production -- mask-making and final test equipment -- and in new fabrication techniques such as ion-implantation.

Eastern Europe needs advanced microcircuits to build modern data processing computer systems which are in great demand throughout Eastern Europe. Poland has acquired one turnkey facility from France for the production of relatively simple types of integrated circuits, and other turnkey facilities for other semiconductor devices and complementary products. Other countries in Eastern Europe have managed to acquire only discrete items of Western machinery.

#### Computers

The Communist countries have been trying to acquire Western production technology across the entire spectrum of

\* Semiconductors are electronic components that generally have replaced vacuum tubes as the basic building blocks of electronic equipment. Major types of semiconductors are transistors, diodes, and, in their most advanced form, integrated circuits.

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computer related equipment, including disc drives and packs, tape drives, printers, core memories, and other items. Some technology, of minor significance, has been purchased through legal channels and some illegally. The Soviets also may be acquiring some useful information in design, development, or production through S&T agreements with US firms.

The Communist countries have bought large quantities of computers and peripherals because of the poor quality and inadequate supply of domestic computers. To free itself of long-term dependence on the West and to catch up with Western state-of-the-art, the USSR, in the late 1960s, initiated a cooperative venture with East European countries to produce RYAD machines -- third generation computers based on IBM-360 designs. Production of these computers, which are only now being serially produced in several countries, was made possible by Soviet and East German acquisitions of hardware, design information, and technical documentation in the period before sales were licenses for Communist countries.

The Soviets prefer US computer products because only the United States can provide hardware and software across the board. In the case of very large scientific computers and very high capacity magnetic disc drives, the United States remains a unique source of supply. Although the computer industries of other Western countries collectively can provide the components to assemble most types of computer systems, only the US industry has large volume production of the full range of equipment.

The economic impact of Western imports in the USSR and Eastern Europe is difficult to measure. In Eastern Europe, the spread of small but powerful minicomputers to small plants and institutes, as well as large well-known facilities, in a variety of industries, almost certainly will help to improve efficiency and productivity in research and manufacturing. In the USSR, Soviet computer capabilities generally may have been enhanced substantially by recent imports of very large US computers to Aeroflot and Kama. These sales include crucial training of programmers and engineers and will provide the USSR with important experience in large data handling operations which can be applied to future indigenous development of large systems. Even so, the Soviet record in developing and implementing the managerial, service and industrial infrastructures needed to plug Western technology into the Soviet economy is not good.

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### Numerically Controlled Machine Tools

Numerically controlled (NC) machine tool technology is highly prized by the USSR as one solution to the problem of raising labor productivity. NC technology permits the automation of the small and medium batch production processes widely employed in all industrialized countries and is particularly important for aircraft production.

The Soviet machine tool industry, concerned for many years with the mass production of highly standardized, general-purpose machine tools, has not kept up with US and Western advances in NC state-of-the-art. In particular, the Soviets are deficient in the production of contouring NC machine tools capable of operating in three or more axes simultaneously, of machining centers and of computer-controlled (CNC) machines and direct numerical control (DNC) systems.

To breach the gap in NC technology, the USSR has entered into a number of S&T agreements with firms in France, Italy, West Germany, and Japan. As far as is known, no agreements have been concluded with US firms. In addition, the USSR has acquired a large number of multiaxis NC machine tools and machining centers from Italy, France, Switzerland, and Sweden, many with capabilities which exceed embargo limits. Most East European countries also have entered into licensing or cooperation agreements with various Western firms to develop and produce NC machine tools.

Firms in Western Europe and Japan produce most types of NC machine tools currently produced in the United States. Even in the most advanced areas of NC technology (CNC and DNC), in which the United States for many years was the world leader, Japan and West Germany are now able to match US capabilities.

### Oil Industry

The USSR, the world's leading producer of oil, has vast resources, but the supply of oil will become a critical problem within the next few years. New deposits are not being found and developed rapidly enough to offset declines in older fields, and production techniques now in use -- such as excessive water flooding -- have focused on gains in annual output at the expense of maximum lifetime recovery. As a result, production will soon peak, perhaps as early as 1978 and certainly by the early 1980s.

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A downturn in oil production seems inevitable and probably will be sharp, but its timing is not as predictable. Although the discovery of new fields may arrest or slow the decline, such respites are likely to be temporary because depletion of existing fields is now rapid and exploration and development of frontier areas is a slow and costly process. To stave off or slow the expected production decline, the Soviets will need substantial amounts of western oil field technology and equipment. Because of its superior technology, the United States is the preferred source of much of this equipment and know-how. Without such assistance, Soviet oil production will fall sooner and more sharply than would otherwise be the case.

Items from the West that could provide the most rapid and effective help in exploiting existing fields include: high capacity submersible pumps and gas-lift equipment, drill pipe, casing, drill collars, rock bits, rotary drilling rigs, drilling mud technology, and multizone completion equipment.

Because of severe water encroachment in fields accounting for the bulk of Soviet oil production, increasingly large volumes of water must be lifted for each barrel of oil produced. To increase total fluid (oil and water) recovery, large numbers of high capacity submersible pumps and/or other fluid lifting equipment must be used in the important Urals-Volga region and in the newer fields in West Siberia. Although the USSR and some West European countries produce oil well pumps, the only pumps adequate to deal with the Soviet lifting problems are produced in the US and are in relatively short supply. The USSR has been buying several hundred submersible pumps annually in the US for the past 6 years and has tried to buy a turnkey plant for their manufacture. Thus far, neither of the two US producers has been interested in supplying the production technology to the Soviets.

As an alternative to high-capacity submersible pumps, the Soviets are negotiating for large-scale purchases of gas-lift equipment for use in two of the largest oilfields in West Siberia -- Samotlor and Fedorov. They hope to sign a contract for about \$1 billion worth of equipment for this project from US, West European, or Japanese suppliers by the end of 1977. The technology to produce the downhole gas lift equipment does not exist outside the US. Consequently, all equipment for the proposed gas-lift project other than compressors (valued at \$400 million) must be bought in the US. Given the long lead times involved in

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design, production, and installation of such equipment, it is doubtful that the USSR could have all the units installed before the early to mid-1980s.

The quality of Soviet drill bits generally is poor compared with western bits, and they must be replaced much more frequently. The Soviets recognize that better quality bits would improve drilling efficiency and would permit wells to be drilled more rapidly. They have purchased small quantities of US drill bits, and have been trying for 3 years to buy a turn-key plant to produce US-design bits. However, as the price of the plant escalated during the negotiation period, the Soviets decided to seek lower-cost US assistance to reequip an existing Soviet plant to produce these bits. Negotiations for the re-equipment deal (\$170 million) are in the final stages, and a contract is expected to be signed this year.

About three-fourths of all Soviet drilling is done with the turbodrill, which becomes increasingly inefficient at depths greater than 2,500 meters. Soviet drilling capabilities are improving, but continue to lag behind those of the West where rotary drilling is used. In the West, wells can be drilled to 3,000 meters in about one month, compared with an average of about 3 months in the USSR. As the average depth of drilling increases in the USSR, rotary drilling would be more efficient than the Soviet turbo rigs. Rotary rigs in operation in the USSR (20 percent of the total rig park) are comparable to US equipment produced in the 1950s. US rotary drilling equipment and technology would be a distinct asset to the Soviets in searching for and developing new oil fields.

The supply of drill pipe, casing, and drill collars in the USSR is not adequate in the sizes, quantity, and quality required for field development, especially in poor climates and under difficult well conditions. As the requirement to drill to greater depths increases, both onshore and offshore, the USSR will need larger amounts of high-quality drill pipe, most of which will have to come from the West. The US is preeminent in the production of drill pipe that can take the high stresses of deep rotary drilling.

Scientifically planned drilling fluid programs are almost unknown in the USSR. Most drilling crews use local clays mixed with water and additives. After a well is completed, the mud is stored for future use regardless of requirements. Such practices cause formation damage, reduce recovery rates, and cause wells to be abandoned needlessly.

A related problem is the need for better cementing practices to improve well completion and to seal the well bore against the entry of ground water. The Soviets have indicated interest in US technology in these areas.

Multizone completion equipment is relatively scarce in the USSR, necessitating the drilling of separate holes for each producing zone in many fields. Acquisition of multizone completion equipment from the West would permit important economies in reduced drilling costs, savings in casing, tubing, flow lines, and drilling and pumping equipment.

For the long-run, finding new oil reserves is even more important than increasing the yield of existing fields. In the present five-year plan, sizable reserves must be found, primarily in West Siberia, to maintain production at or near current levels as output declines in the older fields in the Western regions of the country. Discoveries must be made in East Siberia and in offshore areas of the Arctic Seas to prevent sharp declines in production.

In general, Soviet exploration equipment lags 10 years behind that used in the United States. The USSR is particularly deficient in advanced seismic equipment and digital field computers for on-site evaluation of geologic structures in permafrost and in deep-faulted formations. Although some seismic and geophysical equipment is available in Western Europe and Japan, the best for Soviet needs -- especially portable field computers and software -- are made in the US.

The most obvious deficiency in Soviet oil field operations is the lack of modern offshore equipment and technology. Soviet offshore experience thus far has been limited chiefly to relatively shallow waters of the Caspian and Black Seas where operations are conducted chiefly from trestles extending from the shore, or from man-made islands. The USSR now has only 4 mobile offshore drilling rigs (jackup types), all in the Caspian Sea, and only one is capable of drilling in water as deep as 90 meters. For the USSR to move to deeper water in the Caspian, or to the Arctic Seas, or to the Sea of Okhotsk off Sakhalin, Western experience, technology, and equipment will be essential. Although the US is the world leader in this technology, Dutch, French, Norwegian, British and Japanese firms can supply some offshore equipment and know-how. The Soviets recently concluded a contract with a US firm and a West European company to build a yard on the shores of the Caspian Sea to produce offshore mobile drilling rigs.

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## Chemical Industry

The USSR has been buying a huge volume of chemical equipment for the past 15 years. Purchases consist mainly of complete installations for producing synthetic materials, fertilizers, basic chemicals, and chemical intermediates such as ammonia. In 1971-75 alone, Soviet imports of chemical-petrochemical equipment from the West were valued at \$1.6 billion. The US had only a small share -- 4.3 percent or \$69 million -- of Soviet imports from the West during 1971-75, but participation by US firms is growing.

US firms generally have provided advanced chemical process technology or engineering design rather than equipment. In many cases Japanese and West European firms have been the major contractors and equipment suppliers even where US technology is involved. In the past five or six years the Soviets have purchased US processing technology for producing butadiene, ethylene, and vinyl chloride. They have also purchased complete US installations for producing acetic acid and ammonia.

Although inefficiency in construction and operation of chemical plants based on Western technology has denied the USSR the full potential benefits of its purchases, the Soviets have realized large increases in production of nitrogen fertilizers and modern synthetic materials, as well as economies of scale and manpower use. Chemical plants based on Western technology continue to make an important contribution to Soviet output of ammonia, urea fertilizer, polyethylene, and other major chemical products. Western supplied installations provided about 72 percent of Soviet ammonia production capacity introduced in 1971-75, and large plants based at least in part on Western technology are to provide more than three-fourths of the new ammonia production capacity to be introduced during 1976-80. Most of this capacity will be based on US technology.

The USSR has been negotiating with US firms during 1976-77 for chemical equipment and/or technology to produce ethylene oxide, fiber glass and fiber glass pipe, fungicides, herbicides, potassium chloride fertilizer, and synthetic rubber.

## Communications Technology

The USSR has had few dealings with the West in the area of communications technology, relying on indigenous production and imports from Eastern Europe. This policy has

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resulted in highly uneven programs: some communications systems serving only the military establishment are up to world state-of-the-art; the others, serving mainly civil users, are far behind those of the West. The Soviets have lagged particularly in telephone switching systems.

To overcome the gap in switching technology, while maintaining long-term independence from Western sources of supply, the USSR in 1976 was negotiating major turnkey deals with the French for plants to produce electronic telephone exchanges that would involve several hundred million dollars. The USSR has also ordered highly specialized computer-controlled telegraph message switching systems from France.

Since 1972, Eastern Europe has been importing Western know-how and turnkey production technology, including cable, microwave, multiplex, and switching systems. US participation has been limited largely to sales by West European subsidiaries of large multinationals.

The East Europeans are thus acquiring capabilities to build the most modern communications systems in general use anywhere in the world, saving them large R&D expenditures and years of development time. By the early 1980s they should be supplying the USSR with large quantities of equipment based on Western designs.

#### Motor Vehicles

The USSR has derived major benefits from a flow of automotive technology under contractual arrangements with foreign firms since the mid-1960s. The USSR has acquired plant design, production technology, licenses, and machinery for large-scale production of Western style passenger cars at the Volga (Tol'yatti) car plant, and for heavy diesel trucks at the Kama truck plant. Machinery has also been bought to outfit supplier plants that have been modernized or newly built to make parts and materials for Tol'yatti and Kama and to modernize other Soviet truck and car facilities.

Italy and other West European countries were the major suppliers of technology and equipment for Tol'yatti. The United States has played a much larger role in providing technology and equipment for Kama, supplying about 40 percent of the \$1 billion being spent in the West. US firms provided manufacturing engineering services and machinery for the foundry, a highly automated facility, incorporating the

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most advanced melting technology.

Because of the international character of the automotive industry -- widely interchangeable technologies are available from West European countries and Japan -- most of the specialized machine tools and other equipment that the Soviets have bought from the United States could have been supplied by other firms. Only the gear cutting machinery, for which [ ] holds a dominant position in the world, may be considered unique because of its high productivity and reliability. Nevertheless, the USSR has put out feelers for US assistance in laying out and equipping new shops for the ZIL truck production association which would produce castings, stampings and pressings, and complete truck diesels on a large scale. Other preliminary discussions with US firms for truck technology in the last two years have been concerned with help in organizing the production of axles for very heavy highway trucks, turbochargers for diesel engines and electric wheels for large off-highway dump trucks.

Although the dominance of US machinery producers has declined in many areas as foreign firms master mass production technology and offer low-cost alternatives, US machinery still enjoys the confidence of the world auto industry. It is distinguished by high productivity, reliable accuracy, and rugged durability under mass production conditions. It costs more than many foreign alternatives, but tends to be worth the extra cost in the long run.

### Tractors

The USSR produces more tractors than any other country but less than 1 percent are designed and equipped for nonagricultural applications, and few of these are adapted for use under difficult climatic and geographic conditions. As exploitation of petroleum and mineral resources in the USSR has expanded into remote permafrost and desert areas, the Soviets have shown a growing interest in procuring large, high-powered, specialized, industrial-type tractors from the United States and Japan.

Since 1970, the United States and Japan have supplied more than 3,000 tractors in horsepower ranges of 120 to 500. Those in the upper horsepower ranges are used for such tasks as laying pipelines, for ripping frozen ground in the goldfields, and for construction of the BAM railroad.

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Most of the tractors imported from Japan, many of which are produced under US license or incorporate US engines, are for use primarily in forestry projects in the Soviet Far East.

The USSR appears to be striving for long-term self-sufficiency in tractor production. Among other things, it has an agreement with a large US tractor manufacturer for cooperation in the design and development of tractors. Manufacturing machinery and equipment has been procured in the West for the large Cheboksary tractor plant which, when completed, will produce heavy-duty tractors in the 330-500 horsepower range, thus reducing the need for Western imports.

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August 1, 1977

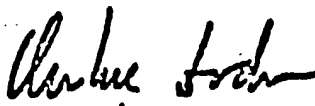
MEMORANDUM FOR

The Secretary of State  
The Secretary of Treasury  
The Secretary of Defense  
The Secretary of Commerce  
Director, Central Intelligence Agency  
The Assistant to the President for Energy  
The Assistant to the President for  
Domestic Affairs and Policy  
The Chairman, Joint Chiefs of Staff

SUBJECT:

PRC Meeting Regarding US/  
Soviet Economic Relations

The attached is an outline of the subject matter which will be discussed at the PRC meeting on US/Soviet economic issues to be scheduled sometime in mid-August. State and Treasury are taking the lead in the preparation and interagency coordination of the necessary papers.

  
Christine Dodson  
Staff Secretary

Attachment

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SEPARATED FROM ATTACHMENT

TRANSMITTAL SLIP		DATE
		25 AUG 77
TO: PPG (Ch/P&R)		
ROOM NO.	BUILDING	
REMARKS:		
<p>Re attached memo dated 1 Aug 77 from NSC requesting US/Soviet Economic Relations papers to be discussed at Policy Review Committee meeting.</p> <p>ER M 77-10525</p>		
FROM:		
D/U		
ROOM NO.	BUILDING	EXTENSION
4F42	Hqs.	6576

FORM NO. 241  
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REPLACES FORM 33-6  
WHICH MAY BE USED.

(7)

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