CHAPTER IX

The East-West Trade Policies of America's CoCom Allies

CONTENTS

CHAPTER IX

The East-West Trade Policies of America's CoCom Allies

East-West trade has always been **more important to Western Europe and Japan than to the United States. Economic and political imperatives in other Organization for Economic Cooperation and Development (OECD) nations have combined to create a generally favorable attitude toward trading with the Communist world, an atmosphere that prevails today in both government and business circles. It has also carried over to Western European and Japanese views on export controls and technology transfer. Indeed, while the issue of technology transfer to Communist nations is a matter of controversy in the United States, such debate is virtually nonexistent in Japan and most West European countries; they accept trading with Communist countries as a more or less normal part of foreign economic policy. For a variety of reasons, America's European and Japanese allies do not necessarily share its concern over the economic and security problem raised by trade and technology transfer to Eastern Europe, the U.S.S.R., and the People's Republic of China (PRC). This fact has relevance to the debate within the United States over East-West trade and technology transfer policy.**

WEST GERMANY

INTRODUCTION

Current West German policies towards trading with the East are best understood in their historical context.

Germany has been transferring technology to Russia for well over a century. The long historical tradition of Russo-German economic interdependence is characterized by the German export of machinery in return for imports of Russian raw materials. Table 28 demonstrates the degree to which the two economies were oriented towards each other prior to World War I.

Bilateral trade was always more important for Russia than for Germany, and after the Bolshevik Revolution, the Soviet Government continued to seek German machinery imports. In fact, there was considerable

Table 28.— Russo-German Trade Percent of Total Russian Imports and Exports

	Russian imports	Russ Ian exports
1858-62	28%	16%
1868-72	44	24
1914	47	29

SOURCE: Juergen Kuczynski and Grete Wittkowski. Die Deutsche russischeschen *Handelsbeziehungen in den ietsten 150 jahren Berlin: 1947* pp. *24-25.*

German-Soviet clandestine military cooperation. Although the volume of trade between the two countries declined after the Nazis came to power, German-Soviet economic cooperation continued until the 1941 Nazi invasion of the U.S.S.R. After the War, for political reasons. West German trade was

[1]Adam B. Ulam, *Expansion and Coexistence* (New York, 1969), pp. 152-153.

largely reoriented away from the East, but the historical legacy of close economic ties has profoundly affected present German attitudes towards trading with Russia. Despite the cold war, many West German businessmen look on the U.S.S.R. and Eastern Europe as natural and desirable markets for their manufactures.

The German business community has long favored trading with Communist countries and separating political from economic relations with the U. S. S. R., but early postwar West German Governments did not take this view.[2] Prior to the election of Chancellor Winy Brandt in 1969 and the inauguration of a new *Ostpolitik*, German Governments led by the Christian Democrats (CDU) looked upon trade with the East as a primarily *political* problem: since trade with the East was relatively unimportant economically, it should be controlled and used to promote West Germany's political goals. The most important of these was the reunification of Germany under a Western system or, failing that, a strengthening of East Berlin's ties with Bonn. Governments of West Germany under Chancellors Adenauer, Erhard, and Kiesinger attempted to implement linkage strategies, making trade conditional on Soviet political concessions on the German question. Both negative linkage or trade denial (the predominant form of leverage prior to 1969) and positive linkage or trade inducement were attempted, but these produced only marginal compromises, and no substantial Soviet political concessions.[3]

As early as 1952, however, an organization of businessmen was created to promote and coordinate East-West trade. Known as the *Ostauschuss der deutschen Wirtschaft,* or Eastern Committee, the group was sponsored by the powerful Federation of German Industry, and charged both with furthering trade with the Communist countries and with representing West German business on that subject before the Government. The *Ostauschuss* has always had a semiofficial character; it has nevertheless disagreed publicly with some Government attempts to restrict trade. It remains today an important organization for furthering East-West trade, although some German firms claim it has lost momentum in recent years. The *Ostauschuss* favors technology exports to the East, but it also supports strict German adherence to the Coordinating Committee for Multilateral Export Controls (CoCom).

Adenauer in particular felt that since the U.S.S.R. was West Germany's political antagonist, it was wrong in principle to sell it any products that could enhance its military capacities. Until 1963, the various Adenauer administrations used political and security arguments against trading with Communist nations, claiming that such trade was dangerous and economically unimportant. That part of the business community engaged in trading with Eastern countries countered with economic arguments in favor of trade, holding that it was economically beneficial for German industry and could even have positive political consequences, by creating desirable interdependencies and giving the U.S.S.R. a stake in the stability of the West.

The clash between Government and industry over exporting to Communist nations peaked in the late 1950's, although as late as 1963 Chancellor Adenauer upbraided those German businessmen exporting to the Russians for their disloyalty to the German reunification cause. Soon after erection of the Berlin wall, he also criticized the United States for selling wheat to the U. S. S. R.: "I can't stand any more of this wretched talk of detente."

---

[2] In 1954, a survey by Gabriel Almond found that, on the question of trade with the East,

> It remains interesting that the business community in Germany is relatively unaware of the priority of political factors in Communist policy-making. Only government officials and some leaders of business pressure-groups seem to see this point. Few of the industrialists, even in the largest establishments, are aware of it. Their thinking about the possibilities of the Communist market is dominated by simple, apolitical economic calculation.

See Gabriel Almond, "The Politics of German Business," in Hans Speier and W. Phillips Davison, eds., *West German Leadership and Foreign Policy* (Evanston, Ill., 1957), p. 237.

[3] For a fuller discussion of the policy of linkage in West German-Soviet relations, see Angela Stent Yergin, "The Political Economy of West-German-Soviet Relations, 1955-1973" (unpublished Harvard University Ph.D. dissertation, 1977).

In the mid-1960's, the Erhard and Kiesinger administrations retained a basically restrictive attitude towards trade with the Communists, but attempted to use it to induce greater polycentrism in Eastern Europe. Thus, they offered more favorable credit terms to Eastern Europe than to the Soviet Union. The business community was largely opposed to this policy, favoring the total separation of trade and politics.

After Will Brandt's election, the Social Democrats (SPD) took over the formulation of *Osthandel* (trade with the East) policy. In general, they favored a depoliticization of trade and eschewed negative linkage, although they were not averse to employing positive linkage strategies and offering economic incentives in return for relatively minor political concessions. Since 1969, the German Government and the business community have converged in their desire to separate trade and politics. Whereas previous Governments intervened to hinder East-West trade (e.g., by preventing the granting of credits, or by canceling specific orders), present ones frequently act to facilitate it. In several of the biggest deals involving the export of technology to the U.S.S.R. (for instance, the Kursk deal, described below) the Government has pressured the Soviet Government to accept terms favorable to German corporations. Since 1952, the *Ostauschuss* has consistently favored trade with Communist nations while warning against exaggerated expectations. During the last Brezhnev visit to Bonn, the business community was noticeably cooler than the Government towards the 25-year economic agreement signed by Brezhnev and Schmidt. Ironically, the business community is sometimes now more skeptical than the Government about the value of increasing trade with Communist nations, including the benefits to German employment.

As the West German Government has relaxed its political restrictions on trade with the Eastern bloc, the U.S. Government has been moving in the opposite direction. As a result, the United States and West Germany disagree with increasing frequency over the politics of East-West trade. The reaction of a German Government spokesman to the Jackson-Vanik amendment illustrates the prevailing German attitude toward U.S. efforts to use trade for political purposes in dealing with Communist countries:

> A policy like the one Congress thought was right or like what our own opposition occasionally recommends, cannot only fail to achieve the desired goal, but can even make it more difficult.[4]

ECONOMIC FACTORS

West Germany is heavily dependent on foreign trade, which accounts for 30 percent of its gross national product (GNP). A healthy export sector is a vital component of its economic viability. Since West Germany is far more heavily trade dependent than is the United States, it tends to favor exports regardless of the destination. West Germany's postwar economy was built on Chancellor Erhard's implementation of the *Soziale Marktwirtschaft* (social market economy) theory, designed to create a truly competitive market. In the 1950's, exports of manufacturers and engineering goods led the way to remarkable economic growth, and German officials and businessmen generally assume that exports of technology are necessary for continued economic growth. This applies to exports to the East.

In 1978, total West German trade with Communist countries (excluding East Germany and including China, North Korea, and Mongolia) amounted to over 30 billion Deutschmarks (DM) (roughly $15 billion, see table 29). This was 5.7 percent of total West German foreign trade. Trade with East Germany, which West Germany considers "inner-German trade," rather than foreign trade, came to 8 billion DM. The U.S.S.R.

[4] *New York Times*, Jan. 18, 1975. The West Germans have succeeded, behind the scenes, in securing the emigration of about 60,000 ethnic Germans per year from the U.S.S.R. and Eastern Europe. In 1978, 58,000 emigrated: 36,000 from Poland, 12,000 from Romania, 8,500 from the U. S. S. R., 900 from Czechoslovakia, and 500 from elsewhere. After the Jews, ethnic Germans are the largest group allowed to emigrate from the U.S.S.R.

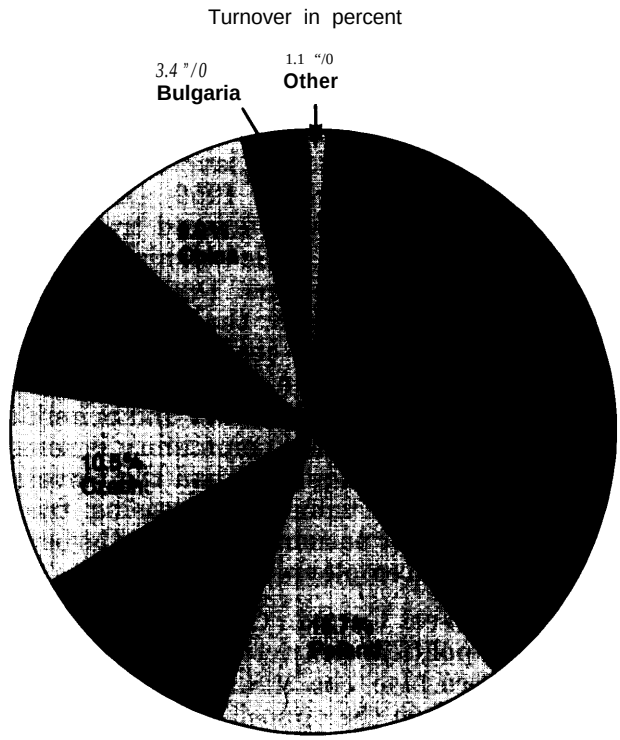
Table 29.— West German Trade With Communist Nations, 1970 and 1978 (million DM, figures rounded off)

	1970				1978			
	Total	Import	Export	Balance	Total	Import	Export	Balance
U.S.S.R.	2,800	1,254	1,546	+ 292	11,707	5,406	6,301	+ 895
Poland	1,402	744	658	- 86	4,732	2,086	2,646	+ 560
Czechoslovakia	1,785	727	1,058	+ 331	3,178	1,357	1,821	+ 464
Hungary	1,012	490	522	+ 32	3,487	1,293	2,194	+ 901
Romania	1,302	580	722	+ 142	2,983	1,214	1,769	+ 551
Bulgaria	477	237	240	+ 3	1,032	314	718	+ 404
East Germany	4,548	2,064	2,484	+ 420	8,820	4,066	4,754	+ 688
China	1,001	389	612	+ 223	2,723	734	1,989	+ 1,255
Total	14,327	6,485	7,842	+ 1,357	38,662	16,470	22,192	+ 5,722

SOURCE: Statistisches Bundesamt *Statistiches Jahrbuch fuer die Bundesrepublic Deutschland*
Der Bundesminister fuer Wirtschaft, *Der Deutsche Osthandel zu Beginn des Jahres 1979*
Der Bundesminister fuer Innerdeutsche Beziehungen. *Die Entwicklung der Beziehungen zwischen der Bundesrepublli Deutschland und der Deutschen Demokratischen Republik, 1969.1976*

was Germany's single most important Communist trading partner ($5-1/2 billion total turnover), representing 39 percent of its *Osthandel.* Poland followed at 16 percent, Hungary and Czechoslovakia at **11** percent, Romania and China at 9 percent[5] (see figure 11). West Germany is also the most important Western trading partner of the Communist countries and represents 21 percent of all OECD exports to Communist nations.[6] Today West Germany is the leading capitalist trading partner of the U. S. S. R., Bulgaria, Poland, and Hungary. Indeed, it is Hungary's second largest trading partner, after the U. S. S. R.[7] Manufactured goods constitute 89 percent of Germany's exports to the East, while 50 percent of its imports are of raw materials. Trade with all of these countries is conducted under bilateral trading agreements, and West Germany grants most-favored-nation status to all Communist countries, within limits imposed by the European Economic Community (EEC). From the point of view of the German economy, overall dependence on trade with Communist countries is small. Nevertheless, certain sectors of the West German economy (e.g., the steel industry) are quite dependent on exports to the East, and technology transfer to the East also provides substantial employment in certain industries. The Soviet Union and Eastern Europe are the largest export market for the West German machine-tool industry; approximately one-third of machine-tool exports from West

Figure 11.—Regional Distribution of West Germany's Trade With the East, 1978



SOURCE: Der Bundesminister fuer Wirtschaft, *Der Deutsche Osthandel zu Beginn de Jahres 1979.*

[5]Der Bundesminister fuer Wirtschaft, *Der Deutsche Osthandel zu Beginn des Jahres 1979* (Bonn, 1979), p. 26.
[6]Ibid., p. 16.
[7]I bid., pp. 4-10.

Germany go to Communist nations, and East-West technology trade is a significant employment guarantor for medium-sized machine-tool firms. Ten percent of German investment goods exports go to Eastern Europe and the U. S. S. R., and some large firms, Salzgitter for example, are fairly dependent on trade with Communist nations to keep their workers employed. Indeed, to the extent that *Osthandel* is still debated in West Germany, Government statements emphasize its positive economic aspects. During the 1976 election campaign, the opposition CDU criticized the Government for granting overly generous credit to Communist nations. The Government's reply stressed the importance of trade with the East to domestic employment. It claimed that *Osthandel* provided 300,000 jobs, and was vital for West Germany's continuing economic health. Interestingly, it was left to the business community, and particularly companies engaged in trade with Communist countries, to point out that imports from the East could have a negative effect on employment.[8]

In opposition to this historic trade dependency and regardless of the political climate, a number of economic factors act as deterrents to greater technology transfer from West Germany to the Communist nations. The central problem limiting trade with the Communist countries, as one German official put it, is simply that the Russians and Eastern Europeans cannot pay. The chronic shortage of hard currency in the East, combined with the Soviet and East European insistence that trade be bilateral, means that Eastern trading partners must find noncurrency means of paying for their West German imports. Although Eastern-bloc countries would like to export machinery to Germany, the West Germans are still unwilling to buy such manufactures in large quantities: they are of inferior quality and pose a potential competitive threat to domestic products. The lack of suitable East European and Soviet imports therefore places substantial limitations on West Germany's exports of technology. Additionally, since the German Government does not subsidize interest rates on credits, the Soviets prefer to deal with nations from whom more favorable credit terms are available. Such credits do, however, provide one means of freeing hard-currency to pay for additional German imports. In some Eastern European nations, German corporations are able to enter into joint ventures, giving them 49-percent ownership, but the U.S.S.R. does not permit any foreign investment in Soviet enterprises.

Given these problems, the most viable form of West German-East European economic relations has been the use of compensation agreements. Under these the Soviets and East Europeans pay for their imports of German technology with products produced from German machinery and equipment. The West Germans see limited benefits in such countertrade, however, and are reluctant to respond to Soviet and East European initiatives to expand this kind of business.[9]

Together, these built-in economic constraints inhibit a massive expansion in West German trade with the East. Moreover, the need to protect German domestic production has given rise to import restrictions. These further limit the amount and kind of East European goods that can be imported to pay for West German exports.

POLITICAL FACTORS

A variety of political factors, some of them contradictory, also affect West German trade with the East. Most important is West Germany's desire to maintain and im-

[8] The head of the West German Eastern Committee (Ostausschuss) of the Federation of German Industry replied to Government claims by arguing, "If you calculate that way, you must compare the jobs which are secured through trade with the East with those that are threatened through imports from the Eastern bloc." See *Writschaftswoche*, Oct. 1, 1976.

[9] For a German discussion of the limits of compensation deals and the advantages of cooperation, see Matthias Schmitt, *Industrielle Ost-West Cooperation* (Stuttgart, 1974).

prove relations with East Germany. Inner-German relations are a key factor determining West Germany's differentiated technology transfer policies toward Eastern Europe, the U. S. S. R., and the PRC. Prior to 1969, West Germany predicated its economic relations with East Germany on the declared aim of achieving German reunification. This goal has shifted somewhat since the Brandt Ostpolitik and the 1972 basic treaty between West and East Germany. In this treaty, Bonn gave *de facto,* but not *de jure,* recognition to East Berlin. Although the East Germans count their trade with West Germany as foreign trade, Bonn does not. To do so would be to imply recognition of East Germany as a legitimate foreign country. Inner-German trade comes under a special category; imports from East Germany are called "supplies," and exports to it are called "deliveries." Inner-German trade is today more highly politicized than West German trade with other Communist countries; its chief stated aims are to improve political contacts between the two countries and to facilitate greater family reunification and a more favorable environment in Berlin. West Germany uses technology transfer as well as other forms of trade to facilitate greater inner-German contacts. Thus, inner-German economic relations are a special and unique category in West German export control policies towards the Communist countries.

Inner-German relations have largely determined West Germany's political and economic relations with other Communist countries, and at various times Bonn has implemented different trade policies toward Eastern Europe. In the mid-1960's, a "bridge-building" policy was designed to encourage East European independence from Moscow by offering Eastern Europe (excluding East Germany) special economic incentives, including easier credit terms than those available for the U.S.S.R. This policy proved politically counterproductive when the Soviets began to resist Western encouragement of polycentrism in Eastern Europe, and after the invasion of Czechoslovakia, Bonn altered its policy so as not to alarm Moscow. Eastern Europe remains an important market for West Germany, and differences remain in economic policies toward Eastern Europe and the U. S. S. R., but Bonn no longer views its trade with Eastern Europe as an instrument with the express political purpose of creating greater independence from Moscow. [10]

Today, the economic and political aspects of *Osthandel* are generally perceived as mutually reinforcing rather than as a specific source of leverage. West German policies regarding technology transfer to Communist countries reflect Bonn's desire to promote better relations with East Germany and the rest of Eastern Europe, while ensuring that the U.S.S.R. complies with the 1971 Four-Power Agreement on Berlin. Bonn prefers to deal with the U.S.S.R. only on matters of bilateral foreign policy; it eschews public criticism of Soviet domestic policies. The German goal of encouraging greater civil rights in the U.S.S.R. and Eastern Europe is pursued by carefully offering the U.S.S.R. certain political and economic incentives out of the public eye. This policy has led to U. S.-West German disagreements over President Carter's human rights policy. In Chancellor Schmidt's words, "As regards human rights, we on this side of the Atlantic—and that includes my Government—are on the whole more reserved in our approach than the United States." [11] The German approach is basically that of Egon Bahr, special assistant to former Chancellor Winy Brandt, whose policy for dealing with the East was "change through rapprochement, " as opposed to change through confrontation. Bonn views technology transfer to the East as one of several means of improving relations with the U. S. S. R., which, it hopes, will eventually ease the inner-German situation.

[10] West Germany does differentiate between East European countries in its arrangements for the emigration of ethnic Germans. I t gives large-scale credits to Poland for the **35,000** or so Polish Germans who emigrate every year, but does not have this arrangement with other East European countries.

[11] I nterview in *Die Zeit,* J uly 21, 1978.

According to one German official, it is advantageous to Germany to assist through the export of technology in the construction of a Soviet industrial infrastructure. A more industrialized Soviet Union, so the argument goes, is less likely to be interested in war. Some in Germany feel that purchases of West German technology give Soviet leaders an increasing stake in peace and the economic status quo, thereby discouraging aggression. Proponents of this view favor increasing technology exports to the U.S.S.R. and ensuring its development as a highly technological society. Not all German officials agree, however.

Germany continues to place the effectiveness of the North Atlantic Treaty Organization (NATO) at the center of its foreign policy. " Bonn's concern with the security of the Western alliance therefore tempers its inclination to use technology transfer as a reward and incentive for good Soviet behavior; West Germany recognizes the need to comply with American security goals and to avoid sales of militarily useful technologies. Most German firms dealing with the East also accept the necessity of export controls and the need to comply with CoCom. Thus, there is a fairly comfortable *modus vivendi* between business and Government on questions of technology exports to the East. But different concepts of national security within the Atlantic Alliance create contradictory pressures influencing West Germany's technology transfer policy towards the Communist nations. Its *Wespolitik* demands a restrictive stance toward technology transfer, while its *Ostpolitik* suggests a more flexible use of trade to promote political moderation.

West Germany has been wary of any significant rapprochement—either political or economic—with the PRC. Although West Germany has sold technology to China, Eastern Europe and the U.S.S.R. remain far more important both politically and economically, and West Germany is wary of playing the "China card" for fear of repercussions in Europe. The recent heightened Western interest in the PRC has led to concern in Germany that other Western nations may begin to differentiate among Eastern trading partners, giving China preferential treatment, West German Government officials stress their even-handedness in dealings with all Communist countries. The guiding German principle is that one should not export to Czechoslovakia (or even Yugoslavia) any technology that one would not export to the Soviet Union; there is no guarantee that technology sold to any Eastern European country will not find its way to the U.S.S.R. The German Government applies the same logic to China. It favors a consistent East-West export control policy. Moreover, since trade with both China and the U.S.S.R. remains a marginal portion of West Germany's foreign trade from the point of view of the *Ostauschuss,* German exporters could well increase sales to both China and the Soviet Union. Discriminating against or in favor of either makes no economic sense.

TRADE IN TECHNOLOGY

Most officials claim that West Germany does not have a technology transfer policy towards the Communist nations. It does cooperate with other Western nations in CoCom, but apart from these multilateral export controls, the German administration has not developed clear, national guidelines on West-East technology transfer. Rather, a series of German laws and procedures comprise in aggregate an operating system for regulating the export of technology to Communist nations, and the technology transfer system therefore defines, rather than reflects, policy,

Interviews with Government and business officials in Bonn and Frankfurt reveal the absence of a generally accepted defini-

[12]For a general survey of Germany's position, see Angela Stent Yergin, " Soviet -West German Relations: Finland ization or Normalization?" in George Ginsburgs and Alvin Z. Rubinstein, eds., *Soviet Foreign Policy Toward Western Europe* (New York: Praeger Publishers, 1978), pp. 102-133.

tion of technology; as in the United States, most agree that the concept lacks precise definition. On the whole, international technology transfer is considered "part of the general process of diffusion by which the knowledge of, and use of, new products and processes passes from one production unit to another.[13] Most officials differentiate between technology and machinery in theory, but many have found it impossible to distinguish between software and hardware on a practical level, since technology is often embedded in equipment. Those officials who had read the Bucy report were somewhat skeptical of the feasibility of implementing it in CoCom.

West Germany is the largest single Western supplier of advanced technology to the Soviet Union. In 1977, for instance, 34 percent of the Soviet imports of high technology came from West Germany, as did 29 percent of its imports of manufactured goods. Japan was the next largest supplier, providing 17 percent of the U.S.S.R.'s high-technology imports and 20 percent of her imported manufactures. Germany is the second largest supplier of high technology to China, following Japan. In 1977, 15 percent of Chinese high-technology imports came from West Germany, as did 16 percent of its imported manufactures.[14]

West Germany exports a variety of technologies to the U. S. S. R., with machine tools and petrochemical plants leading the field. One-third of West Germany's machine-tool exports go to Communist countries.[15] Other larger scale exports are of mechanical engineering, electrotechnical, optical, and capital construction goods.

The most notable example of recent West German technology transfer to the U.S.S.R. is a giant steel complex being constructed at Kursk by a consortium of German firms (among them, Slazgitter, Krupp, Korf Stahl, Siemens, AEG, and DEMAG), originally slated to cost more than 5 billion DM. Although recently reduced in size, the Kursk plant represents the largest single deal in the history of East-West trade and will be the world's largest steel complex based on the direct reduction method. Under the terms of the agreement, the Soviets will sell back to West Germany iron ore pellets made at the plant.

Other large-scale German-Soviet deals involve the building of the new Sheremetyevo airport at Moscow, construction of several petrochemical plants and automobile factories, exports of energy technology, and collaboration on nuclear energy research. In Eastern Europe, among other projects, West Germany is supplying passenger jets to Romania, and constructing coal gasification plants in Poland and petrochemical plants in Hungary.

The Germans operate most often through turnkey projects, although the sale of licenses is growing.[16] West Germany has sold licenses for waste incineration to Czechoslovakia; know-how to make bus engines, color TVs, washing machines, chemicals, and windows to Hungary; production technology for high-pressure safety-valves, concrete mixers, and shoe products to Poland; and know-how for axis-blowers for nuclear power stations, furnaces for sulfur burning, herbicides, electrical equipment, and wedge presses to the U.S.S.R.

Private agreements between German firms and the Soviet State Committee on Science and Technology (SCST) are also becoming increasingly common. Siemens, Germany's largest computer manufacturer, has concluded an agreement with SCST to estab-

[13] Philip Hanson and Heinrich Vogel, "Technology Transfer Between East and West: A Review of the Issue," *Osteuropa Wirtschaft*, February 1978, p. 97.

[14] John P. Young, "Quantification of Western Exports of High Technology Products to Communist Countries," U.S. Department of Commerce, pp. 15-16

[15] John Dornberg, "Trade With the East Bloc is Causing Some Concern," *International Herald Tribune*, Apr. 19, 1977.

[16] According to E. C. I?. Secretariat, "General Aspects of East-West Licensing," *Eastern Business Magazine, vol.* 3, No. 1, the United States and the United Kingdom are the world's two greatest technology-exporting countries, with 30 to 40 percent of world trade in licenses.

lish a Center for Automation in Moscow. This is the first joint East-West scientific institute in the U .S.S.R., and Siemens hopes to facilitate its computer exports through it. While Siemens does not compete with American corporations in the large computer field, its smaller computers and microprocessors are competitive with American products. Yet computers represent less than 1 percent of German exports to the East, and Germany exports only a fifth as many computers to the Communist world as does the United States. About 6 percent of Siemens' computer exports currently go to the U. S. S. R.; Hungary and Czechoslovakia are more important markets at present. Despite the desire to expand computer sales to the East, when President Carter vetoed the Sperry-Univac computer sale to TASS in July 1978, the German Government discouraged Siemens from bidding for the contract.

German officials point out that Soviet intransigence on the Berlin issue continues to inhibit their exports of high technology to the U.S.S.R. For some years, the Soviets have delayed signing of a West German-U.S.S.R. agreement on scientific cooperation because of West Germany's insistence that West Berlin be included in its provisions. The absence of an agreement now means that Germany has less State-financed technological cooperation with the Communist world than do other Western countries. Although German officials believe that the Berlin issue will eventually be resolved and the agreement signed, they point out that today France is more likely than Germany to export high technology to Communist nations. German exports will remain largely composed of machinery.

In the last year, German trade with the PRC has grown faster than its trade with any other Communist country, and the question of technology exports to China is becoming more important. Germany today is China's third largest trading partner after Japan and Hong Kong. German imports from China are mainly textiles and primary products. Two-way Sine-German trade rose by 49 percent in 1978, to $1-1/2 billion, and West German exports to China rose by a spectacular 72 percent over 1977. German businesses are now discussing cooperation with the Chinese in the energy and nonferrous metal areas where, in exchange for technology, China will export raw materials. German exports to China now include large-diameter pipe, machinery, electrotechnical equipment, trucks, ships, and chemical products.[17] A $4 billion deal involving the sale of West German coal mining equipment and the training of Chinese personnel was recently concluded,'" and another $14 billion contract has been discussed. If it is concluded the German *Metalgesellschaft* will supply the Chinese Ministry of Metallurgy with 22 plants for nonferrous metal industry, jointly explore iron ore deposits, and market ores and processed materials.[19] But while many German businessmen welcome the potential of the vast Chinese market, Government officials and the *Ostauschuss* warn of exaggerated expectations for trade with China. The Chinese, they argue, are reluctant to incur a crippling debt; moreover, they prefer to accept credits in dollars rather than in Deutschmarks.[20]

EXPORT CONTROL POLICY

The legal framework under which exports of technology to the Communist world take place in West Germany differs markedly from that of the United States. Exports are unrestricted under German law, although the administration may recommend exceptions to the *Bundestag* (Parliament).[21] German exports are governed by the 1961 law on foreign trade and payments *(Aussenwirtschaftsgesetz* or AWG), supplemented by a

[17] Der Bundesminister fuer Wirtschaft, op. cit., pp. 11-12.
[18] *Financial Times*, Sept. 27,1978.
[19] Ibid., Nov. 15, 1978.
[20] *Handelsblatt*, Dec. 29/30, 1978.
[21] This section is based on Russell Baker and Robert Bohlig, "The Control of Exports: A Comparison of the Laws of the United States, Canada, Japan, and the Federal Republic of Germany," *International Lawyer*, vol. 1, No. 2, 1967, pp. 163-191.

foreign trade ordinance. Although the Federal Government has authorization to control exports of commodities and technical data (sec. 5-7, AWG) in the interests of national security, the *Bundestag* may cancel these restrictions within 4 months of their promulgation. This gives the legislature immediate and compulsory review of all foreign trade regulations issued by the West German Government. The working presumption of the law is that exports should remain uncontrolled except where special circumstances require use of standby statutory controls. This approach runs directly counter to U.S. export control policies, which require special approval for virtually all exports to Communist nations (see chapter VII).

Section 7 of AWG cites national security and foreign policy as criteria for restricting trade, but the AWG regulations encourage the granting of licenses for restricted goods unless it can be conclusively proven that the exports will injure Germany's economic or political security. The details of license requirements are found in periodic supplements to Annex AL of the Foreign Trade Ordinance of 1961. (The latest full list dates from December 1976, and the latest extra supplement from December 1978.)

The first three control lists–covering munitions, atomic energy, and "other strategic goods' '—are essentially the CoCom lists, or the International Strategic Lists. The German Government recently added three items not covered under CoCom to the national atomic energy and industrial list—heavy-water containers, installations of fuel elements for nuclear powerplants (which the German Government tried unsuccessfully to add to the CoCom international atomic energy list), and rocket installations. The fourth list largely covers nonindustrial goods, like botanical plants, alcohol, and raw materials, controlled either because of Common Market regulations or because they are in short supply in Germany.[22] AWG also restricts the export of certain kinds of technical data, and of documents concerning the manufacture of goods on the International Strategic Lists.

The German system of export licensing for technology sales to Communist nations is well-organized, and information on the procedures is readily available to businessmen. A company wishing to export a controlled item to the East applies to the *Bundesamt fuer gewerbliche Wirtschaft* (BGW or Ministry of Industrial Economy) in Frankfurt. BGW is empowered to grant licenses that do not need CoCom permission, and 30 to 40 percent of all applications are decided in the Ministry. Once the application is complete, it takes only about 3 weeks for the Ministry to grant a license. Applicants must promise in writing that the products will be used only for the stated purposes. For instance, when the Soviet Academy of Sciences purchased a Siemens computer, it had to sign an end-user statement regarding its use. German corporations must also include assurances that the products will remain in the country to which they are exported. Officials admit, however, that technology may reach Communist nations via neutral non-CoCom countries like Austria, Switzerland, and Sweden. Bonn has few means of preventing this.

BGW refers about 60 percent of all license applications to the Ministry of Economics for further consideration. The Ministry of Economics cooperates with the Ministries of Foreign Affairs and Defense in deciding whether the application should be brought up in CoCom. The criteria for deciding whether a license should be granted internally or should go to CoCom relate to possible strategic use, end use in general, whether other corporations or countries have already sold the item to Communist countries, and the character of the technology embodied in the product. German cases in CoCom require about 3 months for a decision, unless American reexport licenses are required. In this case, they may take up to 2 years.

The Foreign Ministry's most important licensing criteria are political, but do not in-

[22] For the latest list of goods subject to export licensing, see *Beilage zum Bundesanzeiger, No.* 246, Dec. 30, 1976.

elude the use of export control as a reaction to short-term political developments as in the United States. President Carter's denial of a license to Sperry-Univac in response to the Soviet dissident trials in 1978 prompted the West German Foreign Ministry to publicly state that Germany would never link exports to domestic developments within the Soviet Union. There is, in fact, no legal way for Bonn to deny export licenses for such reasons. The Government is bound by AWG to grant licenses unless it can show that there is a real national security danger involved in the export. However, the Foreign Ministry may deny export licenses if it judges that the export of a particular product could exacerbate international conflict and threaten German security. For instance, Germany once exported small handguns to a Communist country. These were intended for sports use only and were permitted under CoCom regulations. When very similar guns later appeared in terrorist hands in the Middle East, the German Government refused, despite repeated requests, to grant any more export licenses for this type of weapon. German firms can sue the Government if they are not satisfied that their export license denial was based on a threat to national security. Another political criterion for export license decisions is the German Government's desire to maintain equivalent technology export policies toward both the PRC and the Soviet Union. Germany does not want to exacerbate tensions with the U.S.S.R. by adopting a more lenient stance toward China.

Because West Germany's trade with East Germany is considered domestic inner-German trade, it is not covered by AWG. Rather, it is regulated by a special legal system. The highly sensitive nature of inner-German relations makes it extremely difficult to elicit information on technology transfer between East and West Germany. Here, export control more closely resembles American law than the West German foreign trade law: exports are forbidden unless expressly permitted, and CoCom regulations apply to East Germany. Thus the system of granting export licenses is the same for East Germany as it is for the rest of the Communist world. There have periodically been proposals to differentiate in export license-granting procedures as between East Germany and other Communist countries, but these suggestions have so far been rejected.

Inner-German technology transfer is sometimes controversial among West European nations because, according to the 1957 Treaty of Rome, East Germany receives the same tariff privileges as does West Germany, making it the *de facto* 10th member of the Common Market. East Germany is considered part of the West German domestic market; it is not treated as a foreign country, and therefore the EEC common external tariff does not apply to West German imports from East Germany.[23] other EEC members periodically complain about East Germany's privileged treatment, but Bonn has thus far succeeded in retaining this special status. Inner-German trade, like Germany's trade with other Communist countries, consists largely of the exchange of West German manufactures for East German primary products.

There are periodic charges that high technology finds its way to the Communist nations via inner-German trade because of loopholes in the intricate system. German Government officials deny these allegations. They assert that technology is unlikely to slip through to East Germany because there is less technological cooperation with East Germany than with any other Communist nation. Moreover, East Germany is the most highly developed Communist society, well able to produce its own technology. The question of inner-German technology transfer remains a matter of debate. and hard data on the issue are difficult to find. The East German press ignores the subject of technology transfer, but defends trade with West Germany in general.

[23] For a detailed discussion of East Germany's status in the Common Market, see Sighart Nehring, "Der Sonderstatus des Innerdeutschen Handels"" ("The Special Status of' Inner-German Trade), *Wirtschaftsdienst*, 1977XLL, pp. 6111-637.

CREDITS AND TARIFFS

West Germany's credit regulations differ from those of many Western countries. Although commercial interest rates have tended to be lower than other countries, the West German Government does not subsidize interest rates on official credits. An Economics Ministry spokesman states, "West Germany is unlikely to set up an institution similar to the Eximbank (Export-Import Bank) unless competition from other Western countries forces us to."

In general, therefore, West German official credits are no more competitive than those of other NATO countries. This gives rise to frequent East European complaints. Nevertheless, Government-guaranteed, long-term commercial bank credits are readily available to Communist countries. An interagency Government committee meets bimonthly with representatives of banking and industry to discuss export credit decisions. West German banks sometimes charge lower than the current market rate, but in such cases companies charge the purchaser higher prices and reimburse the banks for the difference between the market rate and the rate of interest charged. Given the healthy state of the German export economy, and West Germany's continual trade surplus with Eastern nations, there is little pressure from business to facilitate more East European purchases.

In 1977, German banks and firms extended a total of $11 billion in credits to Communist nations; of these, two-thirds were bank-to-bank credits that did not qualify for Federal insurance. The Soviet debt to West Germany is currently about $2.8 billion, and the total East European debt is about $8 billion, or a quarter of the Communist countries' total debt to the West.[24] In addition West Germany has granted East Germany an annual interest-free "swing' credit—meaning that either side can use it—of 850 million DM.

Compensation deals now constitute about 15 percent of West German trade with Communist nations. In May 1978, Brezhnev and Schmidt signed a 25-year agreement on economic cooperation which envisages a broadening of trade relations and cooperation.[25] Given Communist lack of hard currency, it is likely that the number of compensation deals will increase in the future.

While West Germany still restricts some imports, particularly textiles, to protect domestic industries, it has gradually liberalized its import restrictions on Communist goods. Only 7 percent of imports from the East are restricted–mainly textiles, steel, glass, ceramics, and leather goods. Import restrictions do not apply to the minimal technology imports from Communist nations. The Soviets export only a tenth as much technology to West Germany as the West Germans export to Russia. The U.S.S.R. has sold West Germany some steel technology and Hungary has sold pharmaceutical technology. Another example is Salzgitter's purchase from the U.S.S.R. and East Germany of a licensed process to produce low-density polyethylene." The U.S.S.R. has also sold at least 18 licenses to West Germany for metallurgical, chemical, and electronic products.[27] Despite these very limited technology imports from Communist countries, West German-COMECON technology transfer is, according to one German official, essentially a "one-way street."

[24] *Le Monde*, Aug. 1/2, 1976.

[25] For the text of the "Agreement on Developing and Deepening Economic Cooperation," see *Soviet News*, May 9, 1978.

"Leslie Colitt, "East-West Licensing Turnaround," *Financial Times*, Apr. 30, 1976.

[27] John W. Kiser I II, "Report on the Potential for Technology Transfer From the Soviet Union to the United States" (unpublished), October 1977.

FRANCE

INTRODUCTION

France's approach towards East-West trade and technology transfer is determined by its overall foreign policy stance: a strong desire to be independent, sovereign, and free from American hegemony; a preference for diversifying international links as much as possible, irrespective of the ideological and political character of other nations; and an aversion to mixing politics and economics, particularly where doing so would interfere with France's goal of maximizing foreign policy options. Technology transfer to Communist nations is not a political issue in France; indeed, relations with the U.S.S.R. arouse little controversy within the country, while relations with the United States are a far more delicate and contentious subject, particularly given the strength of the French Communist Party. The question of adhering to American-based export control policy through CoCom arouses much more disagreement in Paris than the issue of what should be sold to Communist countries. The general French approach is to support and increase trade with Communist nations in any goods and by all possible means; to eschew the use of economic levers in the pursuit of political goals; and to maximize the economic and political benefits to France which can be gained from East-West economic exchanges.

ECONOMIC AND POLITICAL FACTORS

France, like West Germany and Britain, enjoys an export-oriented economy, and its high level of trade dependence influences its attitudes towards trading with Communist nations. The French Government views trade with the U.S.S.R. and Eastern Europe as "normal' '-"just like our trade with the United States, " according to a Foreign Ministry official. Trade links with the PRC are newer and less well-established. The French are primarily concerned with diversifying their exports as much as possible, and welcome Communist markets for their trade expansion potential. They also view trade with the East as an important employment source. Although trade with the U.S.S.R. and Eastern Europe forms only 4 percent of total French trade, officials point out that trade with Communist countries has kept alive some branches of French industry. Six years ago, the medium-sized machine-tool industry was struggling to survive; since then exports to the U.S.S.R. have revived machine-tool production and enabled the industry to reorganize more efficiently.

One official also claims that trade with Communist countries is a stabilizing factor for the French economy, since the Eastern countries with their countercyclical markets are secure even in times of economic crisis in the West. (This is a debatable point. See chapter II I.) In global terms, France's comparative trade advantage lies in its consumer products, but there is relatively little demand for these in Communist nations. French exports to the East are primarily industrial goods. The main drawbacks of East-West trade for France lie in the lack of suitable Eastern imports and the difficulties raised by compensation deals.

France, therefore, faces many of the same economic problems in its relations with the U.S.S.R. and Eastern Europe as do its European allies and the United States. It is the political aspects of French trade with Communist countries, not the economic factors, which distinguish French policy towards trade and export control.

The political determinants of French export control policy reinforce the economic determinants, and both point towards encouraging East-West trade. Since de Gaulle's 1966 overtures towards the Soviet Union, France has sought to establish a "special relationship" with Russia, and has consistently tried to improve France-Soviet relations. According to official spokesmen, French national security is enhanced by improving economic and political relations with

the U. S. S. R., and to this extent economics and politics are linked. France has historically accorded top priority to its relations with the U.S.S.R. (as opposed to the rest of Eastern Europe), and it is more concerned with France-Soviet trade than with economic relations with other Communist nations. Poland comes next in economic and political importance.

TRADE IN TECHNOLOGY

France has been losing relative importance as a trading partner for the Communist countries, moving from third largest capitalist trading partner of Communist countries in 1970 to fourth in 1976, after Germany, Japan, and the United States.[28] French trade with the Communist world amounted to $5.3 billion in 1976. Nearly 90 percent of this was with the Council for Mutual Economic Assistance (CMEA) nations, the most important of which are the U.S.S.R. and Poland (see table 30).

France is the Soviet Union's third most important source of Western technology, supplying 11 percent of Soviet high-technology imports, and 14 percent of its manufactured imports in 1977. It also ranks third among Western exporters of technology to China, supplying 14 percent of China's high-technology imports in 1977, but only 2 percent of its manufactured imports.[29]

Technology plays a relatively important role in French exports to the East, although the French Government does not have an official definition of technology. Some officials define technology as know-how, exclusive of machinery; others say one cannot separate technology and equipment; still others seem to apply different definitions of technology to different circumstances. The share of machinery in French exports to the U.S.S.R. is significantly higher than in exports to other countries. Fifty percent of French exports to the U.S.S.R. are of machinery; 30 percent are of semifinished products. The main technologies sold to the Communist nations are turnkey plants for chemicals and gas-lift equipment (which uses computers); computers; and metallurgical, industrial, and petrochemical equipment.

In April 1979, Giscard d'Estaing and Brezhnev signed a 10-year economic accord designed to invigorate France-Soviet trade during the 1980's. The treaty provides for tripled bilateral trade and emphasizes industrial cooperation agreements and long-term deals. These cooperative projects in-

[28] Le Courier des Pays de L'Est, Mensuel D'Informations Economiques. *Le Commerce de la France Avec les Pays de L'Est en 19701976* pp. 7-8.

[29] John P. Young, op. cit., PP. 1 5-16"

Table 30.— French Trade With CMEA Members, 1970-76 (in millions of dollars)

	1970			1976-		
	Export	Import	Balance	Export	Import	Balance
CMEA	647,640	452,640	+ 195,000	2,735,400	1,995,840	+ 739,560
Bulgaria	47,760	18,960	+ 28,800	102,240	49,920	+ 52,320
Hungary	46.680	27,120	+ 19,560	129,360	98,520	+ 30,840
Poland	81,240	67,920	+ 13,220	749,880	429,840	+ 320,040
East Germany	59,640	42,240	+ 17,400	214,680	187,680	+ 27,000
Romania	82,080	53,280	+ 28,800	258,360	206,040	+ 52,320
Czechoslovakia	57,120	39,720	+ 17,400	161,640	108,480	+ 53,160
U.S.S.R.	273,120	203,400	+ 69,720	1,119,240	915,360	+ 203,880
Total Communist countries	'$734,520	$535,440	+ $199,080	$3,143,760	$2,210,160	+ $933,600

CMEA = Council for Mutual Economic Assistance

SOURCE Organization for Economic Cooperation and Development Statistics

elude new sources of energy, energy-saving equipment, electronic products (including computers), machinery and machine tools, and metals, chemicals, and petrochemical products. The agreement further specifies that French companies and banks will take part in building industrial complexes in the U.S.S.R. and that similar Soviet institutions will participate in projects in France. The French companies providing equipment, licenses, and credit for factory construction in the U.S.S.R. will be partially or totally reimbursed in products manufactured by these Soviet industries.[30]

In the first 6 months of 1979, $340 million worth of new France-Soviet contracts were signed, the key ones in high-technology areas. Meanwhile, in 1978 the French company Technip won one of the biggest single Soviet orders placed in a Western country, a $213 million contract for gas-lift installations to improve oil recovery levels in Western Siberia.[31] Another major new contract won by Thompson-CSF will supply $100 million of telephone equipment to the U.S.S.R.[32]

Under the most publicized France-Soviet high-technology deal, a group of French companies will sell a computer and ancillary equipment to the Soviet news agency TASS. The $20 million contract involves an Iris 80 computer from CII-Honeywell Bull SA, ancillary equipment from three subsidiaries of Thompson-CSF SA, and programing and software from Steria *(Societe de Realizations en Informatique et Automatique).* Although the 1980 Olympics will be a major user of the system, it will not be fully operational until 1981.[33] This order originally went to the American firm Sperry-Univac, but in July 1978, President Carter vetoed the license application as a sign of U.S. displeasure with Soviet dissident trials. In the wake of this action, and following U.S. guidelines, both the German and British Governments discouraged firms from bidding for the deal.[34] The French corporation won the contract before President Carter decided to reverse his decision. The French Government opposes the practice of subjecting technology exports to short-term political interference.

EXPORT CONTROL, CREDIT, AND TARIFF POLICY

France enjoys good cooperation between business and Government on questions of Soviet and East European trade. The Government encourages industry through subsidized credit and other policies, and the Department of Industry maintains close contacts with businessmen on East-West issues. Government and business also appear to have worked out a viable *modus vivendi* for licensing technology exports. According to a computer industry spokesman, firms have learned to write applications for export licenses that are virtually certain to be approved. More skeptical observers claim that the French Government turns a blind eye to violations of export license application procedures, particularly where end-use statements from Soviet organizations are concerned. In any event, industry and Government appear harmonious over these questions. The French Communist Party, working through various companies, encourages trade with Communist nations, and several prominent Communist businessmen are engaged in East-West trade.

France's ambivalent attitude towards the United States in general, and towards U.S. attempts to limit technology exports through CoCom in particular, complicates its export control policy. As one spokesman put it, "We can't always align ourselves with Washington–we would not have a foreign policy if we did that. " This gives rise to paradoxes. Officials point out that France is even more concerned about Soviet military strength than is the United States: Paris is geographically more vulnerable to Moscow than is Washington. On the other hand, French export control policy is greatly affected by France's general aversion to complying with U.S. demands. Unlike Britain

[30] *Financial Times*, Apr. 30, 1979; *Le Monde*, May 2,1979.
[31] *Financial Times*, Apr. 27, 1979.
[32] *Financial Times*, Apr. 4, 1979,
[33] *East-West Trade News*, Apr. 4, 1979.
[34] *Les Echos*, Aug. 18, 1978.

and Germany, staunch supporters of NATO, France is only a marginal member. In 1966, after resisting American efforts to integrate NATO forces, France removed its troops from NATO. Presently it participates only selectively in military and related activities. The French are also sensitive about admitting that they belong to CoCom; official spokesmen even claim it is not known publicly that France is a member. The great secrecy surrounding France's relationship to CoCom testifies to the extreme sensitivity of the whole subject of allied cooperation on technology exports to Communist countries.[35] officials indicate that France alone is the best judge of its security interests, an attitude that applies equally to relationships in both NATO and CoCom. While France shares with Germany and England a basically favorable predisposition toward East-West trade, it resists U.S. attempts to control technology exports.

The domestic legal framework governing technology transfer is elusive. While no laws state the rules on export licensing, various pieces of information suggest how the system functions. Products for which export licenses are needed appear on export control lists published periodically by the Ministry of Economics and Finance in the *Journal Officiel de la Republique Francaise.*[36] An interministerial committee establishes the criteria for items requiring export controls. The lists are essentially the three CoCom lists. France has few, if any, unilaterally controlled items, and only about 8 percent of exports to Communist nations need licenses.[37]

Unlike the other systems under review, the French process of export licensing begins with customs officials, to whom firms needing licenses submit applications and copies of contracts. If customs officials decide that the license application requires CoCom approval, they send it to the Ministry of Industry, which sends it in turn to the Ministry of Foreign Affairs. On more sensitive items, the Ministry of Defense may also become involved. No regular interministerial committee comparable to those in Britain and West Germany exists to deal with sensitive technology licensing applications. Nevertheless, if the CoCom representative in the Ministry of Foreign Affairs requires further consultation, an unofficial committee of intergovernmental advisors can be summoned to discuss the case. The CoCom representative from the Ministry of Foreign Affairs also presents the French position before CoCom, signs the license application after approval, and sends it through the Ministry of Industry to customs, which notifies the firm. From the companies' point of view, therefore, the export-licensing system begins and ends with customs.

France appears not to require formal third-country statements (promising that the technology will remain in the country to which it is sold and not be exported to third parties) prior to licensing, as do Britain and Germany. Soviet and East European end-user statements are required, however.

The French Government facilitates the export of technology to the East by providing generous credit supports and other financial facilities. Medium-term credit insurance (up to 3 years) is available in France from the *Compagnie Francaise d'Assurance pour le Commerce Exterieur (COFACE),* a quasi-public agency under the supervision of the French Government. COFACE provides East-West trade credit insurance with both commercial and political risk coverage for 8 to 95 percent of the credit. A few large commercial and investment banks provide the bulk of export credits for East-West trade. The most prominent of these are the *Credit Lyonnais* and the *Societe Generale,* both

[35] Although it is housed in a section of the U.S. Embassy in Paris, CoCom is not listed in the Paris telephone directory—neither under its name nor in the street directory.

[36] See Ministere de L'Economie et de Finances, "Avis aux Importateurs et aux Exportateurs relatif aux produits soumis, au control de la destination finale," *Journal Officiel de la Republique Francaise,* July 14, 1977, for the latest list. Curiously, the first export list was published in this journal on Dec. 31, 1961. The question of how French businessmen knew prior to 1961 for which goods they required licenses remains unanswered.

[37] *Le Monde Diplomatique,* September 1978. However, Professor Marie Lavigne, author of this article, cites a U.S. source, explaining that it is impossible to obtain French information on these figures.

large nationalized banks, and the *Banque de Paris et des Pays Bas.* A corporation seeking to finance trade with Communist countries usually deals directly with one of the contracting French banks and then with COFACE. After it has secured COFACE credit insurance, it has access to French Government-supported refinancing facilities through the *Banque Francaise du Commerce Exterieur,* a publicly chartered bank whose capital is held by the *Banque de France* (the Central French bank) and various other banks.

France charges all-inclusive rates on Government-supported export credits.[38] In this it differs from other major Western trading partners of Communist countries. For the 1974-79 period, for example, the France-Soviet intergovernmental agreement stipulates that France grant the U.S.S.R. a $3 billion credit at interest rates ranging from 7.20 percent to 7.55 percent (depending on the value of the projects) to facilitate Soviet purchases of French machinery. Similar agreements exist with other Communist countries." There is, therefore, ample credit support available for exports of French technology to the East.

Like Germany, France has felt the lack of sufficient and suitable East European imports to balance its exports. Only a few French import controls cover Eastern goods, and these are mainly on textiles and shoes. No import controls exist on Communist technology, perhaps because very little Soviet or East European technology is presently imported. In 1971, after the U.S.S.R. criticized France for not buying enough of its finished goods, a French company called *Gisofrac* was established to promote Soviet manufactured imports. Supported by the Government and the three nationalized banks, *Gisofrac* deals exclusively with Soviet, not French, exporters. The director of the company admits that the results so far have been disappointing. On some occasions, the Soviets have been unable to supply machines in the quantities ordered. France imports a small number of Soviet Lada automobiles and it has also acquired some Soviet technology, including a recooling system (purchased on license), a press (the price of which was considered by some to be too high), and some petrochemicals. The problems of inferior Soviet quality limit the attraction of these products for the French market. France and the U.S.S.R. have a mutual credit agreement, but until now very few Soviet credits have been used to finance Soviet exports to France.[40] A France-Soviet intergovernmental commission has formed working groups to resolve some of these problems, but for the moment Soviet technology exports are only a marginal part of France-Soviet trade.

[38] For a more detailed discussion of French export credit support, see Suzanne F. Porter, Ea.st-11'es *t Trade Financing: A n In troductory Guide.* U.S. Department of Commerce (Washington, D.C.: (government Printing Office, 1976).

[39] See *Le Courier des Pays de L'Est,* October 1978, No. 222, pp. 18-21, for details of credit agreements with other socialist countries.

[40] Interview with Paul Nouailhac, Gisofrac, May 30, 1979, Paris.

THE UNITED KINGDOM

INTRODUCTION

The British attitude toward technology transfer to Communist nations more closely resembles the West German than the French approach, although the British share the French view that trade and politics are two separate activities which should be linked tenuously, if at all, While the Germans have revised their views of the political dimensions of *Osthandel,* the British have fairly consistently separated their economic from their political relations with Communist countries. This stance has caused occasional friction in British-U.S. relations. But the United Kingdom not only values its membership in NATO; it also prizes its close relations with the United States. As a result,

Britain is not averse to cooperating with the American-inspired export control policy toward Communist nations.

ECONOMIC AND POLITICAL FACTORS

The economic and political determinants of British technology transfer policy to Communist countries are somewhat different from those of West Germany and France. Britain, too, is an export-oriented economy with a high trade dependence, and trade with Communist countries is viewed as a guarantor of employment. Consequently, the United Kingdom favors technology transfer to Communist nations for domestic economic reasons. Nevertheless, there is also some concern about the negative employment effects of imports from the East and about the problems of countertrade. British-Soviet trade suffers from the same economic restraints as do German-Soviet and France-Soviet trade; the predisposition to trade with the East is modified by the difficulties of the Communist nations in paying for these imports.

Because there is no problem equivalent to that of the two Germanies in British foreign policy, London's trade with the Eastern countries is less influenced by political goals than is that of Bonn. Moreover, the constraints limiting Germany's China policy do not apply to the United Kingdom. For some years, in fact, the United Kingdom has been actively engaged in the transfer of technology to China, and it intends to continue this policy. National security considerations, therefore, place only limited restraints on British technology transfer. However, given Britain's perception of its "special relationship" with America, its economic interest in expanding all forms of trade can conflict with its political goal of maintaining a relationship with the United States.

TRADE IN TECHNOLOGY, EXPORT CONTROLS, AND CREDITS

Total United Kingdom-Soviet trade in 1978 amounted to $2.2 billion (see table 31). Major exports were of machinery, chemicals, and nonferrous metals, and the primary imports were petroleum products and nonmetallic minerals.

Britain's technology exports to the East are primarily petrochemical plants, machine tools, transport equipment, gas pipeline, polyethylene plants, methanyl plants, secondary recovery for oil, and glass fibers. Exports of energy technology are expected to increase as the United Kingdom develops its North Sea oil reserves. Some British energy technology is also being exported via U.S. multinational subsidiaries in Britain, and British credits are used for these exports. Sale of turnkey plants is the predominant form of technology transfer, although license sales are also important. Britain is not as large a supplier of high technology to Communist nations as West Germany, however. In 1977, the United Kingdom supplied the U.S.S.R. with 2.2 percent of its high-technology imports and 6 percent of its manufactured imports.[41]

Table 31.—United Kingdom Trade With the U.S.S.R. (in million pounds sterling)

	1972	1978
Imports	218.7	688.2
Exports	90.3	423.1
Total	390.0	1,111.3
Balance	– 128.4	– 265.1

SOURCE Department of Trade, London

[41] John P. Young, op. cit., p. 15.

The British definition of technology stresses the software concept: it includes technical data, expertise, information, and patents, and not merely equipment, machinery, and other hardware. However, controls are regarded as most practical in the case of hardware. Indeed, the British generally regard the Bucy report recommendations on control of "know-how'" as too restrictive and unworkable. One former British delegate to CoCom argues that end-use statements on software do have value. This official expresses the hope that the Bucy recommendation should not "herald a change in Western policy and practice. "4[2]

Technology transfer to Communist nations is regulated by the export of goods (control) order, supplemented by a Consolidated List of Goods Subject to Security Export Control, which includes all those goods requiring export licenses when sold to Communist nations. The lists contain three sections: the Munitions List, the Atomic Energy List, and the Industrial List. These closely parallel the German lists, and contain the items on the CoCom lists. In addition, Britain prohibits the export of certain goods for domestic reasons.[43] The licensing system functions on the exceptions principle. License applications are handled by the Department of Trade, which discusses the license requests with an interdepartmental committee. About 1,000 license applications are processed every year, and the average time required for a decision is 1 month. The major criteria affecting these decisions are CoCom considerations, national security, and the possibility of technology diversion to Communist nations via third countries. These are balanced against the effect on domestic employment.

The British Government encourages industry to consult with the Department of Trade before submitting license requests, so that by the time the applications are made the outcome is usually assured. The British Government has, however, been known to turn down licenses for which CoCom approval has been granted. There is an appeals procedure for licenses that are denied. After the British Government has approved the license, it goes to CoCom and, if the product embodies American-originated technology, to the United States. In 1978, a series of interdepartmental meetings investigated the effectiveness of controls on the export of technology to third countries, and decided that they were effective.

The British Government subsidizes interest rates for credits to Communist countries, and guarantees credits granted by commercial banks through the Export Credit Guarantee Department. In an attempt to boost United Kingdom-Soviet trade, in 1975 Britain offered the U.S.S.R. a $2 billion credit line for the purchase of British technology over a 5-year period at an interest rate of about 7 percent—a rate lower than that paid by Britain itself for money borrowed overseas.[44] The U.S.S.R. has been very slow to take up these credits, and Britain still maintains a large trade deficit with the Soviet Union. Given Britain's economic problems, its major concern regarding East-West trade is on the import, rather than the export, side.

---

[42]R. J. Carrick, *East-West Technology Transfer in Perspective* (Berkeley, Calif.: University of California Policy Papers in International Affairs, 1978), pp. 42-43.

[43]See Consolidated List of Goods Subject to Security Export Control, *Trade and Industry* (London, Apr. 30, 1976).

[44]Christopher S. Wren, "Britain to offer Soviet $2 Billion in Trade Credits," *New York Times*, Feh. 18, 1975; Melvyn Westlake, "Where Critics of Russian Trade Credits Go Wrong," Times, Mar. 4, 1975.

JAPAN

INTRODUCTION

The volume and policy framework of Japan's trade with the Communist world derive more from commercial than from political factors. Though small in terms of Japan's overall foreign trade, business with the East operates under liberal Government policies. Export controls reflect purely economic concerns: balance of payments, the stability of the yen, the growth of the Japanese economy, and the development of its foreign trade. Singularly absent from the theory and practice of Japanese foreign trade and technology transfer are strategic and national security, or political concerns (e.g., human rights). Nonetheless, Japan has traditionally cooperated with the United States through CoCom on matters of export control.

ECONOMIC FACTORS

Japan's dramatic postwar development was facilitated both by cheap labor and by the prudent use of imported technology to boost productivity. As Japan's economic miracle emerged and domestic industry developed its own technologies, the country's dependency on imported raw materials and energy grew. To balance such imports, Japan has looked increasingly to foreign markets for finished goods and consumer products, machinery, and technology. Given the limited markets for consumer goods in China, the Soviet Union, and–to a lesser extent—Eastern Europe, the Japanese are increasingly likely to emphasize machinery exports to those areas.

Japan is the world's second largest petroleum consumer (after the United States) and the largest importer of crude oil. In the mid-1970's, its purchases accounted for 16.7 percent of the international oil market, compared with 13.4 percent for the United States. Furthermore, Japan is heavily dependent on both OPEC and what the Japanese call the "umbrella of the majors:" 72 percent of its oil imports, 43 percent of its refining operations, and 47 percent of its distribution network is in the hands of the large multinational oil companies. Japanese oil imports from the Middle East require a month in transit in supertankers of 100,000 tons, and cost 1,000 yen per ton to transport.

These considerations provide a powerful incentive to seek alternative suppliers of petroleum. China and the Soviet Union both offer such sources to Japan, albeit with a number of unresolved questions about the Communist nations' own future energy needs and their ability to quickly and economically bring new oil reserves into production. If such questions could be resolved, oil imported from the U.S.S.R. would require only 2 days in transit aboard smaller tankers in the 25,000- to 50,000-ton range, and would cost only an estimated zOO yen per ton to transport, exclusive of transportation from the Soviet oilfields to port.[45] Soviet oil would also provide the Japanese with some protection against supply interruptions caused by unrest in the Middle East, sparing them the traumas they endured during the 1973-74 embargo.

In the now-moribund Tiumen oil development project, the U.S.S.R. promised Japan a maximum of 25 million tons of oil a year at a cost of $1 billion, with delivery scheduled to commence in 1980. Soviet behavior, however, indicated that any such deal would be fraught with political and strategic difficulties—as when, in March 1974, the Soviet side suddenly shifted its plans from a Tiumen-Nakhodka pipeline (to be built with Japanese assistance) to a request for Japanese aid in building the BAM (a second Trans-Siberian railroad) in order to ship the oil by train.[46]

---

[45] John P. Hardt, George D. Holliday, and Young C. Kim, *Western Investment in Communist Economies* (Washington, D. C.: Government Printing Office, 1974), p. 45; Roger Swearingen, *The Soviet Union and Post-War Japan: Escalating Challenge and Response* (Stanford, Calif.: Hoover Institution, 1978), pp. 121-128.

[46] Gerald I.. Curtis, "The Tyumen Oil Development Project and Japanese Foreign Policy Decision -Making," in Robert A. Scalapino, cd., *The Foreign Policy of Modern Japan* (Berkeley, Calif.: University of California Press, 1977), pp. 157-158.

Meanwhile, the Chinese have persistently offered "oil without strings" to Japan. Shipments have grown in relative terms but remained small in absolute quantity in comparison to the Soviet proposal: 1 million tons in 1973, 4.9 million tons in 1974, and about 8 million tons in 1975. The Chinese apparently feel that the provision of "oil for the lamps of Japan" (and Japanese factories) is advantageous to them politically as well as economically. Among other things, it can serve to mute Japanese enthusiasm for an "energy alliance" with the U.S.S.R. Thus, Chinese oil exports to Japan have risen steadily even as PRC exports in other areas have diminished, and the 1975 quoted price per barrel, worldwide inflation in oil prices notwithstanding, was 70 cents lower than in the previous year.[47] But the fact remains that Chinese oil is heavy, with a high wax and sulfur content, and is generally difficult and expensive to refine, especially by comparison with the lighter crude the Soviet Union can provide. Coal, which provided roughly one-sixth of Japan's energy needs in 1972, is almost two-thirds imported. In the mid-1970's, Japan could import coal from Siberia for $3 per ton, compared with $18 a ton for U.S. coal.[48] Lower costs, transportation savings, and the guarantee of long-term, stable supplies through imports from either the U.S.S.R. or the PRC will continue to make such nations attractive as trading partners. Japan extended $150 million in bank credits to the U.S.S.R. in 1974, in return for which Japan will receive 104 million tons of coal between 1979 and 1998. Approximately one-seventh of these credits will be returned to Japan for the purchase of consumer and manufactured goods.

Japan has also recognized the Soviet Union as an important source of the other raw materials required by Japanese industry. In 1975, the U.S.S.R. provided 20 percent of Japan's lumber and cotton imports, 21 percent of its potassium salt imports, 26 percent of its nickel imports, 29 percent of its asbestos, and between 40 and 80 percent of all precious metal imports. The Soviet Union ranked third in importance as a source of iron ore, chromium, and copper respectively, and fourth in terms of coking coal. For Japan, each of these commodities falls in an area of high import dependency (in many cases, 85 to 100 percent) .49

Given the critical nature of these raw materials for Japanese industry, it is safe to say that the U.S.S.R. is more important as a supplier to Japan than Japan is to the Soviet Union, despite the recent achievement of a trade balance favorable to Japan. In fact, the volume of Japanese trade with the Communist world is relatively small. In 1977, China and the U.S.S.R. ranked 10th and 11th, respectively, among Japan's export markets, and 11th and 13th among the sources of Japanese imports. This trade is growing, however. Trade figures for 1978 (see table 32) reveal that exports to the PRC rose by 47 percent and those to the U.S.S.R. by 26 percent over the previous year. Similarly, imports from China rose by 32 percent from 1977 to 1978, although imports from the U.S.S.R. remained virtually unchanged.

Table 32.—Japanese Trade With the U. S. S. R., East Europe, and the PRC—1978 (in thousands of dollars)

	'Della-rs	Percent
Exports		
U.S.S.R.	$2,253,840	(+ 26.2%. 1977)
PRC.	2,613,736	(+ 47.20/., 1977)
East Europe.	616,318	(- 17.0°/0, 1977)
Total	$5,837,935	(+ 30.970, 1977)
Imports		
U.S.S.R.	$1,318,765	(+ 0.6°/0, 1977)
PRC.	1,809,000	(+ 32.2% 1977)
East Europe.	212,291	(+ 9.1%, 1977)
Total	$3,473,793-	(+ 15.7% , 1977)

SOURCE *Summary Report Trade 01 Japan,* no 11. November, 978, p 68 Data for' January-November 1978, period only

"Ibid., pp. 169-170.

'"Sir John Crawford and Saburo Okita, eds., *Raw Materials and Pacific Economic Integration* (Vancouver: University of British Columbia Press, 1978), p. 218.

[49]Hardt, Holliday, and Kim, op. cit., p. 44.

Seen in their historical context, these figures indicate that while the *relative* importance of Japanese-Soviet trade has not increased markedly since World War II, the increase in absolute terms has been phenomenal, reflecting the remarkable overall growth of the Japanese economy and foreign trade. Table 33 summarizes Japan's postwar trade with the Soviet Union.

Japan's trade with Eastern Europe has remained small and largely stagnant. Poland and Romania are Japan's two major East European trading partners, but trade with them between 1977 and 1978 either increased only marginally (Poland 1.1 percent) or actually declined (Romania, minus 16.6 percent). Japan reportedly hopes to remedy this situation with a major breakthrough in computer exports to the Eastern European telecommunications market. Its major competitor here would be Britain.

Japan appears to be in a better position than Germany, Britain, and the United States to circumvent the problem of severe limits in the Communist nations' ability to pay for imports. Given the nonmarket countries' preference for bilateral deals involving counterpurchase, barter, or buy-back arrangements, the Japanese sogo *shosha* (all-round trading companies) have an unmatched natural affinity for compensation negotiations that stems from a long history of multifaceted, multilateral business and trading arrangements.[50] Japanese trading companies possess worldwide marketing networks, and have the financial ability to engage in triangular or "switch" trading (whereby Japanese firms sell the ruble credits they have earned to a third country or company at a markup), as well as the ability to dispose of a wide variety of unrelated products. The Japanese have also shown themselves sensitive to the importance of structural arrangements in East-West trade. In recent times, major Japanese traders have modified their organizational frameworks (especially where the sales function was geared primarily to handle a single item) in order to better manage the kinds of multidimensional projects demanded by East-West trade.[51]

Table 33.—Postwar Development of Japanese-Soviet Trade (in thousands of U.S. dollars)

Year	Exports	Imports	Total	Balance
1946 . . .	$ 24	$ 0	$ 24	+ $ 24
1950 . . .	723	738	1.461	– 15
1960 . . .	59,976	87,025	147,001	– 27,049
1970 . . .	340.932	481,038	821,970	- 140,106
1975 . . .	1,626,200	1,169,618	2,795,818	+ 456,582
1978 . . .	2,502,195	1,441,723	3,943,918	+ 1,060,472

SOURCE Japanese.Soviet.East European Trade Association, Tokyo, Japan, 1979

POLITICAL AND FOREIGN POLICY FACTORS

Taken by themselves, a number of political, strategic, and foreign policy aspects of the Soviet-Japanese relationship might be expected to affect Japanese policies on trade with and technology transfer to the Communist world. That they are not the major determinants of Japanese policies and practices in these areas can be attributed to the primacy of economic factors and to Japanese recognition of the fact that "linkage" between its trade and foreign policy objectives cannot be carried out successfully. Japan simply does not have the cards to play in a trade-and-foreign-policy poker game with the Soviet Union. Economic and political relations with the U.S.S.R. are therefore kept clearly separated.

The Soviet Union presents Japan with several irksome diplomatic problems. Most important, perhaps, is the insistence of the Soviets on retaining the Northern Territories, a group of Japanese islands captured in the final days of World War II. In fact, the U.S.S.R. and Japan have never signed a formal peace treaty, because neither side has been willing to yield on the Northern Territories issue. Fishing rights have been

[50] Raymond Mathieson, *Japan Role in Soviet Economic Growth: Transfer of Technology Since 1965 (New* York: Praeger Publishers, 1979), p. 29, pp. 236-237.

[51] Japan International Trade Organization (JETRO), *Japan's Plant Exports, No.* 11, (Tokyo: JETRO, 1977), pp. 13-14.

another source of Japanese-Soviet dispute. In this area the Soviets have clearly and consistently held the upper hand. Annual negotiations over catch quotas, and the recent imposition of Soviet sovereignty over waters within 200 miles of its coast, have slowly eroded Japanese competitiveness with the giant and technologically advanced Soviet fishing industry.

Numerous public opinion surveys have indicated that the U.S.S.R. is "the most disliked" country among the Japanese public. Indeed, in 1978, anti-Soviet feeling ran as strong as at anytime during the past 15 years, with 40 percent of all respondents listing the U.S.S.R. at the top of the list of nations they most disliked.[52]

China, by contrast, has fared much better, with only about 10 percent of the 1978 sample listing it as "the most disliked" (and with 15 percent describing it as the "most liked, " in contrast to less than 5 percent for the U. S. S. R.)." Moreover, with the exception of a brief reversal during the height of the Great Cultural Revolution, Japanese public opinion has tilted increasingly towards China. For whatever it is worth in terms of its actual influence over the making of Japanese foreign policy, public opinion does not seem to regard the Communist bloc homogeneously as a "security threat, " and is unlikely to be sympathetic to a campaign to restrict exports on those terms.

Unfortunately, there is no comparable information on the general attitudes of Government and foreign policy elites. Nevertheless, American Japan-watchers and Japanese scholars agree that the Japanese defense and foreign policy establishments view the U.S.S.R. as the chief military threat to Japanese security. But if Japanese strategic and diplomatic vulnerability has affected trade and technology transfer policies, the effect appears to be more to encourage than discourage trade. As a nation defenseless on all sides, Japan pursues a strategy of "being friends with everybody" and maintaining an evenhanded stance in the Sine-Soviet conflict. Reflecting the great importance of economic needs, a 1974 White Paper on Foreign Trade prepared by the Ministry of International Trade and Industry (MITI) noted that to ensure stable supplies of essential resources, Japan would be required to pursue a policy of "orderly imports" and "diversification of import markets.'" Among other things, this meant deepening interchanges with the Communist bloc as well as with Latin America and Africa.[54] Similar sentiments were expressed by Mr. Hatoyama, Minister of Foreign Affairs, in a speech to the Diet in October 1977. According to the strategy he outlined for Japanese-Soviet relations in the coming year, Japan would (a) strive to develop relations across a number of fronts (economic, cultural, political) simultaneously, but (b) would insist that any long-term relations depend on a peace treaty and a settlement of the territorial issue.[55]

Practical experience effectively precludes the Japanese from accepting the idea of controls or embargoes on technology transfer on political or general foreign policy grounds. Such a stance is reinforced by the fact that the "leverage-through-linkage" strategy has its critics on the Japanese scene. Japanese scholars and officials alike have argued variously that the Japanese need to take the initiative in increasing Soviet trust in their intentions, that issues such as the return of the Northern Territories should be subordinated to pragmatic trade considerations, and that the overwhelming military might of the U.S.S.R. makes linkage an impractical ploy. Others see increased trade and other exchanges as one way to halt the "spiral model of insecurity and conflict" that has been at the root of Japanese-Soviet relations since at least the end of the 19th century. From these perspectives, Japanese demonstrations of "good faith" and "reliability"

[52] *Foreign Opinion Notes: U. S. International Communication Agency*, May 7, 1979, p. 4 (figure 2).
[53] Ibid., p. 2 (figure 1).
[54] Crawford and Okita, pp. 170-171.
[55] "k~pewh *by Itchiro Hatoyama, Minister of Foreign Affairs* (Tokyo: Foreign Press Center, Oct. 3, 1977).

through trade, they feel, can serve to alter prevalent attitudes and to create a more fruitful atmosphere for political negotiations.

On occasion, controversy internal to the Japanese Government has arisen over the issue of linking or not linking trade and economic cooperation with foreign policy considerations. A case study of the now defunct (for economic, not foreign policy, reasons) Tiumen oil project reveals that certain officials in the Foreign Ministry did favor a linkage strategy vis-a-vis Japanese participation in Siberian development, while MITI and the Ministry of Finance were adamantly opposed to the idea. In the end, the opponents of linkage (including then-Foreign Minister Ohira) carried the day.[56]

Nor is there any evidence that officials in the Japan Defense Agency (JDA) see a threat to Japan's security as a result of the transfer of Japanese technology to the Soviet Union. Unlike the U.S. Department of Defense, JDA appears to be a captive of other bureaucratic interests, centered chiefly in MITI, Foreign Affairs, and Finance. Its position papers, at least until quite recently, failed to reflect an independent agency viewpoint. In fact, according to some sources, they were drafted outside the confines of JDA, though bearing its imprimatur. In any event, though a recent JDA paper called for increased R&D expenditures for domestic production of defense equipment, there is no mention of the strategic ramifications of technology transfer, economic competition with the Communist bloc, or the military implications of foreign trade.[57]

Japanese defense and foreign policy specialists who are concerned about the Soviet military threat view a continuing defense relationship with the United States as their best defense. They see a substantially lower level of security threat from China. Indeed, Japanese officials have suggested that Japanese technical assistance to aid in China's modernization and industrialization makes a positive contribution to Japanese security by reducing the possibility of domestic upheavals and foreign policy radicalism.

This view would also appear to coincide with Japanese public opinion. According to a December 1978, poll by the Japanese Public Survey Opinion Organization, most Japanese see "domestic political order" (47 percent) and the "state of the economy" (33 percent) as more critical to Japan's security than military measures or defense *per se (14* percent) .58

TRADE IN TECHNOLOGY

Determining the share of Japanese trade that can be categorized as "technology transfer" is difficult. In 1976, machinery accounted for 40 percent of Japan's exports to the Soviet Union and 11 percent of its exports to China, in terms of dollar value. Among exports to all nations, Japanese machinery represented slightly under a third of total value. But Japanese machinery exports appear to be rapidly expanding. By 1978, machinery represented 64 percent of all Japanese exports, and 35 percent of all exports to Communist-bloc countries (including 4? percent of exports to the Soviet Union and 20 percent of exports to the PRC) (see table 34). This expansion can be at least partly explained by the fact that Japanese industrial output and export product lines have been affected by increasing competition from abroad, as other Asian nations (such as Korea and Taiwan) have gained the advantage of cheap labor in labor-intensive industries like ceramics and textiles. These changes have led the Japanese to develop new export lines in machinery, technology-intensive goods, and metals.

However, by using the U.S. Commerce Department's definition of "high-technology items" (see chapter VI) Japan is a relatively

"Curtis, pp. 163-164.

"Japan Defense Agency, *The Defense of Japan* (Tokyo: JDA, 1976), p. 128.

[58]*Research Memorandum: U.S. International Communication Agency,* Apr. 27, 1979, p. 7.

Table 34.—Japanese Machinery Exports, 1978, by Region (in thousands of U.S. dollars)

	Machinery exports	All exports	Machinery as % of total
IW nations	$27.144,870	$37,268,971	72.8
LDC.	**22,158,104**	**37,017,595**	**59.9**
Communist bloc	1,817,140	5,181,217	35.1
U.S.S.R.	952,194	2,012,288	47.3
PRC. :	460,546	2,311,332	19.9
East Europe.	310,269	554,815	55.9
Total	$51.120,220	$79,467,933	64.3

SOURCE *Summary Report Trade of Japan,* no 10 October 1978, PP 128-29 (table 10) Data available for January October 1978, only

insignificant source of technology to the U. S. S. R., which purchased only about 18 percent of its Western machinery and equipment imports from Japan in 1977 (as opposed to 28 percent from West Germany and 9.4 percent from the United States, see table 35). The Japanese led the competition (West Germany, France, Britain, and the United States) only in Soviet imports of calculating machines (including computers), special-purpose vessels, and optical instruments between 1972 and 1977; and ranked second as suppliers of valves; batteries and cells; tubes, transistors, and photocells; optical elements; and image projectors. Japan supplied the Soviet Union with none of the following high-technology items, which could be viewed as strategically or militarily sensitive: aircraft turbines; nuclear reactors; telecommunications equipment; electron and proton accelerators; aircraft; and aircraft parts. In the area of oil-refining equipment, however, Japan far outstripped all competition. In this category it supplied 87 percent of the Soviet Union's imports from Western sources, although this only amounts to 36 percent of total Soviet oil-refining equipment imports. Other categories of technology-intensive imports in which Japan was an important Western supplier include power-generating and electrical equipment (with 40.6 percent of imports from Western sources); chemical industry equipment (2 I percent); excavation equipment (36 percent); and compressor equipment (19 percent).

Plant exports comprise the dominant share of technology transfer by the Japanese, with license and patent exports playing only a minor role. Japan's plant exports to the rest of the world totaled $6.5 million in 1976, an increase of about one-third over the previous year, even though total exports grew by only one-fifth. Chemical plants represented about 40 percent of the value of transferred technology, and plants to manufacture heavy electrical equipment also figured prominently. The Communist bloc ranked first among regional customers for Japanese plants (purchasing almost 30 percent of the total), with the Middle East second, and Latin America third.

Table 35.—Soviet Imports of Machinery and Equipment From Japan, the United States, and West Germany, 1977

	M&E imports	% of all M&E imports	% of all M&E imports from West
Japan . .	684.9	6.0	18.3
United States.	350.8	3.1	9.4
West Germany.	1,041.6	9.1	27.8

SOURCE Summary *Report: Trade of* Japan. no. 10 October 1978 pp. 128-29 (table 10) Data available for January-October 1978 only

In many cases, the Japanese have proven particularly adept at importing technologies, improving on them, and exporting the new generation to both Communist and free world countries. For instance, in 1968, Toyo Engineering obtained basic patents for an ammonia production process. In a year the firm's alterations led to a 30-percent increase in output. Mitsui and Co. then sold the process to the Soviet Union.[59]

Two recent Japanese economic forecasts, one developed by the prestigious Japanese Economic Research Center (JERC) and one by MITI, predict that technology will become an increasingly important component of Japanese exports in the next 5 years.[60] Specifically, these studies foresee the following changes in Japanese output and exports:

- 1985 machinery exports, especially products related to new technology and

[58] Japan International Trade Organization, op. cit.

[60] Kiyoshi Kojima, *Japan and a New World Economic Order* (Boulder, Colo.: Westview Press, 1977), pp. 130-136.

commodities incorporating electronics, will be 22 percent above 1975 levels;
- exports of plant construction material will increase;
- exports of finished chemicals, petrochemical products, plastics, iron and steel will decline;
- the share of value-added, "knowledge-intensive" products in the chemical industry's output will rise; and
- 1985 exports of precision instruments will increase 15.7 percent above 1975 levels.

In general, then, the Japanese economy is expected to continue its current move away from labor-intensive, low-productivity industries—which will emerge increasingly in the developing countries and will find a growing Japanese import market–towards knowledge-intensive industries dependent on high value-added per unit of raw material and labor. Since the Soviet capacity to absorb imports of finished products and consumer goods is somewhat limited, Japan can be expected to continue seeking Soviet markets for other Japanese exports–particularly those in which Japanese technology is embedded–to counterbalance imports of Soviet raw materials.

At the same time, according to JERC, China will pursue a course of economic development that will closely parallel the earlier Japanese experience. China, like early postwar Japan, will rely heavily on low-paid but plentiful and highly motivated labor, a high degree of capital formation, and extensive imports of technology. This pattern would make China an increasingly important market for Japanese technology exports. This attractive market can be expected to reinforce Japan's already-liberal stance toward technology transfer to Communist nations.

EXPORT CONTROL POLICY

The basis for Japanese export controls is provided by the foreign exchange and foreign trade control law enacted on December 1, 1949. It presumes that trade development is desirable and that trade with all nations, including Communist countries, should be permitted without controls except under certain circumstances relating primarily to fiscal considerations. This principle of "export freedom" is secured by article 47 of the law, as modified by the provisions of article 48. Licenses may be required for export at the discretion of the Government, depending on the goods involved, the designated recipients, or the mode of payment. The latter provision allows the Government to exercise authority over sales involving payments other than "standard measures of financial settlement" or cash.[61] It is under this provision that the executive branch—or, more precisely, MITI—is authorized to regulate the transfer of technology to other nations.

The law itself, however, contains no mention of the control of goods or technology for either military or political reasons. Nor is it specific regarding either the areas or the commodities for which controls are to be invoked. Substantive limitations are contained only in a Government export trade control order, of which 89 variants have been promulgated between June 1950, and June 1977.[62] The order is altered from one to eight times a year, depending on changes in Japan's domestic economic situation, its balance-of-payments positions, or shifts of Japan's national list. The latest available varient of the order contains 204 items. The few items that are not derived from CoCom are included for reasons of domestic short supply, to prevent dumping, or to improve quality control.

"Area restrictions" figure only marginally in the order's control provisions. They are not applied to Communist states *per se,* for the latter are lumped together with market economies under a broad designation "Area A." "Area B" restrictions apply only to those countries for which there are special, non-CoCom, embargo provisions (e.g., Rhodesia) and to others (e.g., Iran, Iraq, Nigeria)

[61] Baker and Bohlig, op. cit., pp. 163-191.
[62] Ibid., pp. 174-1 76; *Export Control: Export Trade Control Order* (Tokyo: MITI, 1978), n.p. (pt. I I-B).

with whom Japan has special balance-of-payments problems.

Both the law and the various orders operate in an atmosphere best characterized as a "presumption of license" rather than a "presumption of denial. " In contrast to the United States, Japan has never introduced a so-called "blanket clause" whereby restrictions pertain unless or until a general license is established or validated. [63] Indeed, article 2 and article 47 of the law foresee the eventual removal of export restrictions entirely by means of a periodic review of each order and through administration of both the law and orders according to minimal rather than maximal standards. [64] Currently (1979), certain additional steps in this direction appear to be under consideration. One involves a redrafting of the 1949 law by MITI so as to further reinforce the presumption-of-license provisions and to eliminate any vestiges of an atmosphere of restriction.

Explicit provisions for the regulation of technology *per se* are conspicuous by their absence in the law, the orders, and Japanese discussions of export controls. As noted above, such transfers can be regulated legally according to the provisions pertaining to methods of payment. But all interviews strongly suggest that they are not. It appears, rather, that Government officials strongly believe (and businessmen concur) that restrictions on the flow of technology are best left to the normal operation of commercial forces, i.e., to the desire of firms to retain a competitive advantage. They also suggest that the economic rather than security aspects of export regulation are firmly fixed in the minds of both those administering the law and those subject to it.

It should be noted here that the restrictions contained in the law and the orders apply only to Japanese firms located on Japanese territory and not to foreign subsidiaries, branches, or Japanese-based multinationals. There is no concept of extraterritoriality in Japanese trade law—or in Japanese law in general for that matter, except for serious criminal cases. Violation of export controls is a criminal offense, with sanctions of up to 3 years in prison and a minimum fine of 300,000 yen (about $1,500 at the current exchange rate). If, however, the price of the item involved "times three" exceeds the value of the minimum fine, the penalty is automatically trebled. Although the law contains no formal provisions for the Government to revoke a firm's export privileges, MITI's legal authority to exercise "administrative guidance" in granting licenses means that it can *de facto* indefinitely delay an offending firm's export privileges.

The licensing process in Japan operates on consensus between business and Government. It is not an adversary procedure, and it provokes few complaints, if any, from Japanese businessmen. **Most** Japanese-Soviet and Sino-Japanese trade passes through the hands of the 14 or 15 "all round trading companies" (the *sogo shosha).* [65] Thus, in comparison to the United States where large and complex deals involving the exchange of multiple products by trading conglomerates are more common in validated license decision cases than individual contracts signed by relatively small firms, there are probably few licensing instances that must be handled by the Japanese Government.

The setting in which the Japanese licensing process operates differs from that in the United States in other ways. Since its resumption following the 1956 agreements, Japanese trade with the Soviet Union has always taken place within the framework of intergovernmental trade compacts. Since 1966, these have provided comprehensive, 5-year projections of all aspects of trade exchanges. Not coincidentally, these also correspond to the time frames provided by Soviet 5-year plans. The original initiative for these

"'I bid., p. 174.
"I bid., p. 171: *Export ('on trol,* op. cit.

[65] Yataro Terada, "System of Trade Between Japan and Eastern Europe, Including the Soviet Union, " *Law and Contemporary?' Pro blems, 37, 3* (summer 1972): 434-435; Alexander K. Young, *The Sogo Shosha: Japan's Multi-Na tional Trading Companies* (Boulder, Colo.: Westview Press, 1979), pp. 195-221.

agreements came from the Soviets and, since 1968, the U.S.S.R. has tried unsuccessfully to get Japanese negotiators to commit themselves to trade agreements stretching over 15 to 20 years. Until the 1971-75 trade agreement, each trade "plan" also included a list of products to be exchanged and estimates of the volume or monetary amounts involved. For subsequent agreements, no estimates of amounts have been supplied, and the *annual* breakdowns of both products and amounts have been suspended. The list of items, however, has been retained. The 1971-75 trade agreement listed some 300 separate items for export and import, with a supplemental schedule of items provided to cover the "coastal trade" of the Soviet Far East.

The Japanese do not regard these agreements as legally binding, but they nonetheless affect licensing operations in important ways, as summarized below:

1. *A priori* agreement on what can and cannot be traded exists. Hence, instances of conflict between Government and business (and instances of denial) are extraordinarily rare.
2. The lists are useful to Japanese companies seeking trade as a means of identifying favorable market opportunities in the U.S.S.R. They also shape the long-term planning of production and immediate production decisions of firms involved in import-export exchanges with the U.S.S.R. In point of fact, the quantities actually traded usually surpass the levels provided for in the agreements. Both sides use the item lists and designated quantities in their annual trade reviews to determine if "trade on a regular basis, " the catch phrase of every agreement, is in fact occurring.
3. The lists are credited with "greasing the wheels" of the licensing bureaucracy.
4. Japanese business is protected by the agreements against Soviet dumping.[66]

[66] Terada, op. cit., pp. 432,433.

The licensing process itself is characterized by extensive informal consultation between MITI and the exporting firm even before negotiations with a Communist foreign trade organization commence. Companies brief MITI on the trade and payment provisions, returning for further consultation at successive stages if the package alters. For exports to non-Communist nations, such a review process apparently occurs only when Japan Export-Import Bank credits are involved.

In effect, therefore, a system of thorough preliminary clearance operates. The licensing process is expedited by the flexibility of the Soviets. If they do not think that a license will be forthcoming, they do not seek trade agreements. There is no evidence of Soviet pressure in cases where a license has been denied. At a second stage, the Japanese firm brings the negotiated package back to MITI for approval of credit and payments provisions, which will also likely involve the Ministry of Finance and the Export-Import Bank. At the present time, about half of all Japanese-Soviet deals involve exporter credits. The other half involve buyer's credits that depend on loans from the Export-Import Bank to the Foreign Trade Bank of the U.S.S.R.

By law as well as practice, export licensing remains largely the prerogative of MITI. No interagency boards or committees are involved. The Ministry of Foreign Affairs apparently plays an occasional consultative role, being contacted to "hear its views, " while the Ministry of Finance is involved on a more regular basis.

Issues of conflict rarely surface in the licensing process. When there are differences of opinion within MITI or strong communications by one of the other ministries, then MITI convenes an informal "committee," which is usually made up of members from the economic agencies (Ministry of Finance, Export-Import Bank, Economic Planning) and Foreign Affairs. Only when bank-to-bank loans are at stake is the conflict likely

to be referred to the Cabinet and Prime Minister.

There are no provisions for public accountability in the licensing process. The Government is not required to bring instances of approval or denial to the attention of the Diet (Japanese Parliament) or the public at large. Although notification of completed contracts is published in an official gazette, information about license approvals or denials is not. There has been no discussion of the issue of export controls, technology transfer, or licensing procedures in the Diet during the past few years.

SUMMARY

A number of factors, both economic and political, serve to create differences between the United States and its CoCom allies in East-West trade and export control policy. Our major Western trading partners–West Germany, France, Britain, and Japan–are all far more heavily dependent on foreign trade; West Germany, for example, derives nearly one-third of its GNP from international commerce. Similarly, trade with the Soviet Union, China, and Eastern Europe provides economic benefits of far greater relative importance to our CoCom allies than it does to the United States.

While the value of technology exports to the U. S. S. R., Eastern Europe, and the PRC is not large as a percentage of total German, British, French, or Japanese foreign trade, such exports do provide critical support of key sectors within each nation's economy. Jobs, markets, foreign exchange, and balance of payments are all at stake, and these economic factors clearly influence the policies and practices of our CoCom partners with respect to the transfer of technology to Eastern-bloc nations. In general, it can be said that Germany, France, and Britain tend either to see their economic and political interests as harmonious or to separate economic interests from any conflicting political factors, and in either case to base their East-West technology transfer policies primarily on economic factors. To the limited extent that trade with the East is used for political leverage, the linkage tends to be positive rather than negative—that is, trade is used as an inducement to political accommodation, and not as a weapon for punishment.

Japan's economic circumstances differ somewhat from those of the European nations, but the Japanese situation also encourages East-West trade and technology transfer. Highly dependent on imports of raw materials and energy from both the Soviet Union and China, Japan relies heavily on export markets that are shifting increasingly away from consumer goods and toward technological items. The Communist nations provide attractive markets for technology exports. Furthermore, problems in Soviet-Japanese relations are submerged by these economic interests, partly because Japan lacks the strategic and diplomatic strength to use foreign trade as a diplomatic playing card, and partly because the Japanese Government sees trade with the U.S.S.R. as a tool for lessening tensions between the two nations.

The CoCom nations' generally favorable stance regarding trade with and technology transfer to the East is reflected in the ease with which export licenses are granted. The export control systems employed by West Germany, France, Britain, and Japan all operate on the presumption that exports should be permitted in all cases except those involving items with clear and exclusive military value. A cooperative relationship between business and Government appears to exist in each of our allies' export control programs, making it possible for licenses to be granted swiftly and easily. In most cases, a time-consuming scrutiny by Government officials is not considered necessary before permission to export technology is granted.

54-202 0 - ?9 - 14

Nonetheless, all four CoCom allies adhere to CoCom's policies and regulations with respect to exports that might jeopardize Western security. Even France, a nation that in recent years has pursued a foreign policy pointedly independent of United States interests, has found it expedient to follow CoCom guidance in regulating exports to the East. Each nation maintains a list of embargoed exports or items requiring special permission for export, and in most cases the national lists largely coincide with CoCom lists. In at least one instance involving nuclear powerplant components, West Germany has taken an even stricter stance than CoCom in adding items to its list.

The major constraint on West European and Japanese transfers of technology to Communist nations stems from the inability of the purchasing nations, particularly the U. S. S. R., to arrange for payment. The Soviet Union suffers both from a shortage of hard currency and from a lack of exports attractive in Western markets. Consequently, the sale of Western technology must frequently be based on buy-back agreements that involve future payment in imports of products produced with the exported technology. The CoCom nations generally provide the U.S.S.R. with favorable credit terms through subsidized interest rates, and even Germany which does not offer lower official rates is generous in the amount of official credit available to the East.

In summary, our West European and Japanese allies and trading partners perceive East-West technology transfer as part of a larger picture involving trade in general, rather than as an issue in its own right. Like other aspects of export policy and other features of diplomatic relations with Communist nations, the sale of technology to the East is dealt with through a relatively routine weighing of national economic and political costs and benefits. Germany, France, Britain, and Japan have weighed their interests and determined that they are best served by a technology transfer policy that is generally liberal, yet remains within the boundaries of the strategic requirements of Western security.