

**CHAPTER 12**

**Policies of Other  
Supplier Countries**

# Contents

	<i>Page</i>
INTRODUCTION .....	473
I: WEST EUROPEAN AND ASIAN SUPPLIER COUNTRIES .....	474
Trends in Economic Interaction .....	475
Foreign Policy Contexts .....	478
Institutional Mechanisms for Promoting Technology Trade .....	482
Financing Technology Trade .....	489
Development Assistance and Training Policies .....	494
Multilateral Policy Formation: The European Community and the Euro-Arab Dialog .....	497
Policy Variation and the Future of Western Technology Trade .....	501
II: SOVIET BLOC SUPPLIER COUNTRIES, .....	503
Trends in Soviet Bloc Economic Interactions with the Middle East .....	503
Soviet Bloc Policies Affecting Technology Trade .....	506
The Record of Soviet Technology Transfer Policies .....	511
Explanation of Soviet Bloc Performance .....	513
The Future of Soviet Bloc Economic Interaction .....	516
III: CONCLUSION: TRADE AND POLITICS IN SUPPLIER COUNTRY POLICIES .....	517

## Tables

<i>Table No.</i>	<i>Page</i>
99. Exports and Imports to Middle East as a Percentage of Total Exports and Imports for Western Nations, 1973 and 1981 .....	475
100. Egypt, Industrial Country Aid and Market Shares, 1981 .....	478
101. Significant Bilateral Relations in Civilian Technology Trade, Late 1970's .....	478
102. Comparison of Official Export Support Programs, 1982 .....	494
103. Soviet, U. S., and French Military Arms Transfers to the Middle East 1976-80 .....	504
104. Middle East Imports From Selected Western Countries and the U. S. S. R., 1970 and 1978 .....	505

# Policies of Other Supplier Countries

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## INTRODUCTION

The governments of other supplier nations have developed different approaches to technology trade and transfer, but their policies have been generally viewed by U.S. observers as comparatively supportive of technology exports by domestic firms. The policies of other supplier governments are important, because debates about U.S. policies often center on questions of what other governments do, and how important their policies are in affecting the pattern of technology trade.

The purpose of this chapter is to analyze variation in the policies of both Western and Soviet bloc nations, and to evaluate the significance of those policies for technology trade with the Middle East. First, as background to the treatment of specific policies, patterns of economic interaction between various suppliers and Middle East nations during the past decade are examined, and explanations for observed patterns considered. Government policies affecting technology transfer to the Middle East (including foreign, commercial and development assistance policies) are then discussed and variation assessed. Finally the chapter evaluates the effects of these policies on the extent and nature of technology trade with the Middle East. This analysis provides a foundation for assessment of U.S. policies in chapter 13.

The chapter deals with two sets of supplier nations: West European and Asian supplier countries in Part I and Soviet bloc supplier countries in Part II. In addition to the United States, the most important nations supplying advanced civilian technologies to the Middle East are advanced industrial nations in Western Europe and Japan. Developing nations such as South Korea have expanded their role in Middle East markets, primarily in labor-intensive construction projects. Firms from

Western Europe and Japan can, in most cases, supply advanced civilian technology comparable to that of the United States. In Great Britain and France governments have been noticeably involved in Middle East politics and diplomacy, but in all of these industrial countries public and private sectors have cooperated through a broad range of institutions to promote technology trade and transfer.

While in no case are foreign policy positions simply derivative of economic and energy interests in the Middle East, many supplier countries have formulated foreign policy by emphasizing economic interests, and some have concluded that enhancing their economic welfare may bring political benefits as well. Taking different approaches, most have developed policies more favorable to technology trade with the Middle East than those of the United States, as outlined in chapter 13.

The Soviet Bloc countries, in contrast, conduct comparatively small amounts of commercial technology trade with the Middle East and therefore do not figure as prominently as competitors in the sectors examined by OTA. For the Soviet Union, military assistance has been the most important channel for interactions with Middle East nations, but interest in expanding commercial trade has grown in recent years. Some East European countries have been more active in civilian trade than has the Soviet Union, but they still provide only a comparatively small share of total exports to the region and their sales have been concentrated in a few sectors such as heavy machinery. Despite the comparatively small role that Soviet bloc nations play in commercial technology trade with the Middle East, the region has been important to them as a focus of military assistance and their largest noncommunist developing-country export market.

The analysis that follows concludes that governments play an important role in setting the context for technology trade through development of overall foreign policies toward the region. The context for economic interaction is thus set by political and historical factors. French exports flow primarily to Egypt and Algeria (the latter a former colony), while British exports go to the Gulf States, including the United Arab Emirates (UAE), Qatar and Oman (an area under British rule in years past). Japan's technology trade relationship is less concentrated, a trend reflecting the fact that Japan is a relative newcomer to the region. Soviet bloc trade is most notable with Iraq, Iran, Syria, and Algeria. Former colonial ties, oil import requirements, and political alliances have been important factors influencing the volume and nature of technology trade between the various supplier and recipient countries.

Generally speaking, those countries playing central political and diplomatic roles in the Middle East (Great Britain and the Soviet Union) have placed less stress on commercial pro-

motion of technology trade than countries such as Japan, West Germany, Hungary and Romania which have not taken such leading roles. Only France has attempted to combine a high-profile political role with government-led trade promotion. This analysis indicates that the Western countries eschewing leading political roles have in some cases been able to establish extensive trading relations with a politically diverse group of Middle Eastern countries.

Foreign policies set the context for technology trade, but all of the Western nations have a wide range of specific policies designed to promote technology trade by putting buyers and sellers in contact, by financing exports, through development assistance and some multinational efforts such as the Euro-Arab dialog. These specific policies and programs support expansion of technology trade but certainly do not determine its nature or volume. It is quite striking, however, that in Western Europe and Japan government and business commonly end up on the same side, promoting technology trade.

## **I: WEST EUROPEAN AND ASIAN SUPPLIER COUNTRIES**

During the last decade economic involvement of West European and Asian countries in the Middle East has increased rapidly. By the end of the decade, the area had become a key trading region for them. This growing economic interaction is illustrated by the fact that the Middle East replaced the United States as the largest market for exports from the European Community (EC). In 1980, Japan became the supplier country with the largest volume of exports to the Middle East. Newly industrializing nations such as South Korea, which are heavily dependent on petroleum imports from the region, have also rapidly expanded exports in less advanced technology

products and services to the Middle East. In 1981, more than 15 percent of South Korea's exports went to the Middle East.

These countries were stimulated to increase such trade in order to cover their rising energy imports from the Middle East. Generally speaking, despite the fact that they have attempted to reduce their dependence on oil imported from the Middle East, they all remain heavily dependent on those hydrocarbon imports. The Middle East is Japan's energy lifeline—more than 64 percent of Japan's crude oil and refined product imports came from the region in 1982. Similarly, the Western Europe

imported more than 60 percent of its oil and refined products from the Middle East in the same year. Middle East demand for technology trade and transfer grew along with the energy requirements of the Western supplier nations.

### TRENDS IN ECONOMIC INTERACTION

Table 99 shows that the Middle East market has become increasingly important for Western supplier nations, in terms of both exports and imports. Imports of these nations from the Middle East are overwhelmingly oil-related. Some, such as Japan, have had a continuing balance of payments deficit with the Middle East, due to large oil and gas imports which have far outstripped rising exports. Were it not for Japan's extreme dependence on Middle East oil, the country's overall trade balance throughout the world would have been approximately three times as favorable as it was in 1983.

Another factor which distinguishes the economic interaction of the supplier countries one from another is the extent of their arms sales in the region. Japan is unique among these supplier countries in its policy of not selling arms. West Germany has not officially embraced arms sales in its interactions with the region, but does export armaments to countries in the Middle East. France ranks a distant third to the U.S.S.R. and the United States in arms sales to the region. The United

Kingdom ranks a close fourth.<sup>1</sup> Among the non-U. S. Western suppliers, France has capitalized on arms sales to the Middle East. French exports of arms to the Middle East quadrupled between 1974 and 1980, and of \$4.8 billion in French military sales worldwide in 1981, 72 percent went there. Therefore, for France and to a lesser extent the United Kingdom, arms sales in the Middle East are a significant part of their economic interactions with the region.

Japanese economic interaction is further marked by large plant exports, averaging around \$3 billion annually to the Middle East in recent years.<sup>2</sup> This represents roughly one-quarter to one-third of Japan total plant exports worldwide in recent years. Japan also exports large volumes of chemical and heavy industrial products. Up until the oil crisis of 1973-74, Japan's direct investment in the Middle East was severely limited. By 1981 the total proportion of cumulative Japanese investment in the region, much of it in resource-related investments such as petrochemical operations, had risen to 6.2 percent of total foreign investments.<sup>3</sup> Such investments, however, are minuscule in comparison to the total volume of Japanese exports to the Middle East—\$ 170 million compared with \$14 billion per annum in recent years.

In Japan's approach to Middle East markets, the major trading companies have figured prominently. Preferring to establish their own outposts, various Japanese trading companies have concentrated on specific country markets—Mitsui in Iran, Marubeni and Mitsubishi in Saudi Arabia, Nissho Iawai in Ku-

Table 99.—Exports and Imports to Middle East as a Percentage of Total Exports and Imports for Western Nations, 1973 and 1981

	Exports		Imports	
	1973	1981	1973	1981
Japan	4	11	12	30
France	5	9	9	17
West Germany	3	8	6	9
Italy	5	17	12	22
United Kingdom	4	9	7	7
United States	3	8	2	6

NOTE Middle East includes Saudi Arabia, Iran, Algeria, Egypt, Iraq, Kuwait, Libya, UAE, Syria, Lebanon, Jordan, Qatar, Oman, North Yemen, South Yemen

SOURCES United Nations, *Trade With Industrial Countries*, International Monetary Fund, *Direction of Trade Yearbook*

<sup>1</sup>See Anthony H. Cordesman, *Jordanian Arms and the Middle East Balance* (Washington, L. C.: Middle East Institute, 1983), pp. 150151.

<sup>2</sup>Plant exports combine capital equipment, technology, construction and managerial services in one package. In 1982, for example, 141 Japanese plant exports to the Middle East valued at \$3.1 billion occurred. These exports represented almost one-quarter of all Japanese plant exports worldwide. See *Tsusansho Koho* (MITI Gazette), June 23, 1983.

<sup>3</sup>Japanese Ministry of Finance data show that the bulk of these investments were in real estate, branch offices and manufacturing. The largest part of the manufacturing investments are in the petrochemical industry and oil-related investments.

wait. The trading companies with their diversified trade portfolios are major conduits for economic interaction—one selling TVs to Egypt, water and crude oil pipe to Iraq and Saudi Arabia, construction machinery to Iraq, Iran and Turkey.<sup>4</sup> Japan's operations in the Middle East are thus quite varied, including direct investment and joint ventures, but featuring sales of equipment, products and most particularly plants.

In contrast, South Korea's forte has been construction services. In 1981, South Korea ranked second in the world in the value of construction contracts won by its firms. Almost the entire number (93 percent) of the \$13.7 billion worth were won in the Middle East. To illustrate their importance, these contracts totalled four times the nation's exports to the region in that year, and about equalled Japan's exports to the Middle East. South Korea's economic interaction with the region—like that of the Philippines, Pakistan, and Thailand—has featured construction services involving the temporary "export" of Korean labor.

Most other developing countries, such as Taiwan, export comparatively small volumes of light manufactured goods, including clothing, electrical appliances and light manufactures. Taiwanese exports to the Middle East in 1981 totalled \$1.2 billion.

Newly industrializing nations export light manufactures and construction services to Middle East nations, and have not been major exporters of advanced technologies and equipment. These nations thus play important roles in large Middle East development projects, but as a rule do not compete directly in advanced technology trade. This situation is changing, as indicated by the growing awards of Saudi Arabian hospital design (and construction) contracts to South Korean firms.

The proximity of Europe to the Middle East and the dependence of many West European nations on petroleum imports have served to stimulate economic interaction. West Euro-

<sup>4</sup>C. Itoh's include these varied operations, in addition to a number of others. See *Middle East Economic Digest*, December 1982, p. 23.



Photo credit Middle East Economic Digest

Korean construction worker in the Gulf

pean exports have been concentrated in electrical equipment and machinery, and this pattern is particularly noticeable for West Germany and Italy. French telecommunications exports have surpassed the nation's heavy machinery exports to Egypt and Iraq, and British telecommunications exports have been particularly strong in Egypt, Iraq and

Saudi Arabia. France and Italy have been perhaps most willing to strike technology for oil deals with oil-producing nations such as Iraq. Bilateral government-to-government oil purchases have become increasingly important, and associated with them have been sales of advanced technologies, including nuclear technology transfers.<sup>5</sup>

All of the West European nations have favored turnkey plant sales, rather than direct investment. Britain has been less successful in overall exports; however, there are estimated to be 30,000 British consultants working in the lower Gulf region alone, indicating British strength in technical services. The French and the West Germans, with their traditions of technical education, have been sensitive to training needs of Middle East nations. Each of the West European nations thus specializes in particular types of technology trade with specific Middle East countries, and as a rule their joint-venture equity participation in the region is quite limited.

Still another distinguishing feature of economic interaction of supplier states is their economic assistance to Middle East nations. In a number of cases, government-supported economic assistance projects involve government and private sector working together. In terms of the total value of official development assistance (ODA), all of these nations rank below the United States, which provided \$5.7 billion worldwide in 1981, compared with \$4.1 billion for France, \$3.2 billion for West Germany and Japan, and \$2.1 billion for the United Kingdom. Pleasuring ODA as a share of gross national product (GNP), France (.73 percent) ranks well ahead of the United States (.20 percent), followed by West Germany (.47 percent) and Britain (.44 percent), and Japan (.28 percent).

No Western nation directs to the Middle East more ODA proportionally than does the

<sup>5</sup> See David A. Deese and Linda B. Miller, "Western Europe," in *Energy and Security*, David A. Deese and Joseph S. Nye (eds.) (Cambridge, Mass.: Ballinger, 1981). The authors note that, despite the fact that France has most aggressively pursued bilateral deals, the French have reaped no (1) lions and Jan t ages in terms of assured oil supplies. See p. 205.

United States, which provided Egypt and Israel together with about 33 percent of all American ODA worldwide during the same year. The total bilateral ODA contribution of West European nations and Japan to certain Middle East nations has been considerable, however. In 1981, for example, Egypt received \$2.4 billion in ODA, of which the United States provided 44 percent of the total and the other major Western suppliers together almost 35 percent. See table 100. To cite another example, Algeria received \$80 million in technical cooperation grants during 1981, of which the European Economic Community (EEC) contributed more than \$70 million, with the largest contribution made by the Federal Republic.<sup>6</sup> Historical and colonial ties color French assistance to Middle East nations, particularly Algeria.

To summarize, these countries display significant variation in patterns of economic interaction with the Middle East. The region makes up a large share of some of these nations' exports—in Japan and Italy, exports to the region made up about 11 and 17 percent respectively of the total worldwide in 1981. With the exception of Great Britain, these nations are heavily dependent on oil imports from the Middle East.

France and the United Kingdom stand out in their emphasis on arms sales. Turnkey plant and equipment and product sales have been the dominant modes of civilian technology trade, with the British active in consultancies and the Germans and French in technical training and assistance. France is the largest donor of economic assistance and its program is centered in former colonies in the region.

For all of these nations, economic interaction rose sharply during the last decade, and for most of them (with Japan and West Germany being the exceptions) interactions were concentrated in a few nations important for political reasons, as shown in table 101. Indeed, for even those nations with virtually no previous

<sup>6</sup> Data from Organization for Economic Cooperation and Development (OECD), *Geographical Distribution of Financial Flows to Developing Countries 1978-81* (Paris: OECD, 1983).

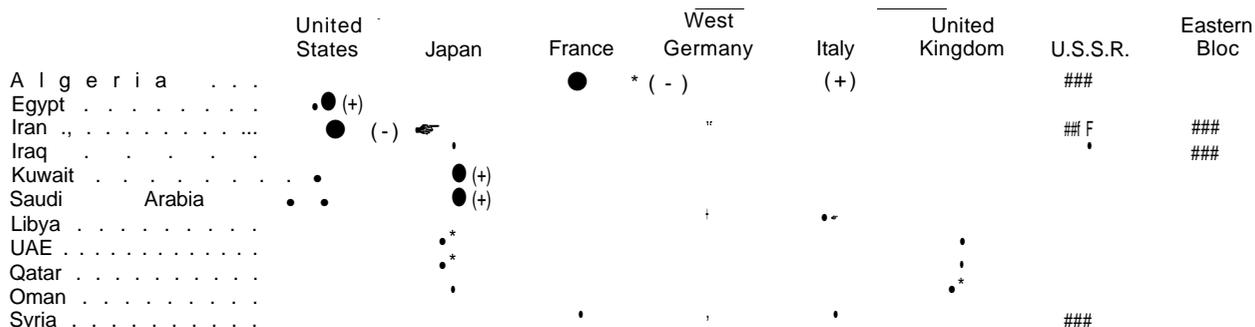
**Table 100.—Egypt: Industrial Country Aid and Market Shares, 1981**

	Total imports to Egypt		Total official receipts for ODA (AID)*	
	Million U.S. dollars	Exporter country share as percent of total industrial country exports to Egypt	Million U.S. dollars	Donor country share as percent of total bilateral industrial country ODA
United States . . . . .	1,737	29 %	913	44%
Japan . . . . .	38	0.6	76	4
France . . . . .	114	2	391	18
West Germany . . . . .	883	14	77	4
Italy . . . . .	651	10	172	8
United Kingdom . . . . .	433	7	12	15
Industrial country total . . . . .	6,033		2,071	
Total world . . . . .	8,782		2,404	

\*Includes Official Development Assistance, as well as bilateral Concessional transactions such as export credits

SOURCE For total Imports International Monetary Fund Direction of Trade Statistics 1983, for aid. OECD Geographical Distribution of Financial Flows to Developing Countries 1982

**Table 101.—Significant Bilateral Relations in Civilian Technology Trade, Late 1970's**



(+) or (-) increasing or decreasing

\* Strong presence

" " Preeminent market share (25 percent + of total imports to recipient country)

# Significant presence for Soviet bloc, but much smaller than any Western presence

Based on total Imports from Industrial countries for United States, France, West Germany, Italy, or United Kingdom 1978 International Monetary Fund, Direction of Trade Yearbook. Various Volumes U S S R and Eastern Europe based on Joint Congressional Economic Committee. The Political Economy of the Middle East. 197378 (Washington D C U S Government Printing Office, 1980) p 515

SOURCE Office of Technology Assessment

ties to the Middle East, during the 1970's the region became a major factor in economic and energy planning. Chapter 4 presents a detailed analysis of supplier shares in technology trade during the past decade.

## FOREIGN POLICY CONTEXTS

National approaches to technology trade distinguish the major Western supplier countries one from another. Each country's strategy is influenced importantly by traditions of government-business relations, as well as by

historical ties with the Middle East, energy requirements and geographical proximity. Technology trade takes place within a broader foreign policy context, the prime elements of which are examined briefly below.

While there is considerable variation in the policy perspectives and actions taken by each of the major Western suppliers, two important themes stand out. First, they have at times been reluctant to follow the U.S. lead in international energy policy and diplomacy during the last decade, reflecting their comparatively high dependence on imported oil and a perceived shift away from the United States as

preeminent alliance leader. Secondly, while there are notable differences in the roles that governments play, in all of these nations business and government consistently end up on the same side—favoring promotion of technology trade with the region.

Regardless of whether one concludes that this policy emphasis results from a concentration on economic interests at the expense of political principles, or whether one argues that these two sets of interests are simply perceived as more congruent than is the case in the United States, the striking fact is that many of these nations have included calculations of their economic interest centrally in the development of their foreign policies. After a brief review of the general foreign policy context, the chapter reviews trade promotion and financial policies, paying special attention to the institutional mechanisms supporting government-business policy coordination.

Geography and history figure in the foreign policy perspectives of various supplier nations. Europe and the Middle East are natural economic partners, given their geographical proximity and accessibility through the Mediterranean seaway. Their colonial association has given Europeans experience with Middle Eastern customs, habits, and language. Japan and other Asian nations, in contrast, are situated thousands of miles away and lack a history of colonial, political or cultural ties. It is not an exaggeration to say that up until the time of the 1973 oil crisis many Japanese knew little about the Middle East.

Among the major Western supplier countries, France had the most extensive colonial involvements in the Middle East—in Tunisia, Morocco, and Algeria (where a long independence struggle had deleterious effects on French relations with the Arab world), and in Syria, where the French relinquished League of Nations mandates in the mid-1940's. Under De Gaulle, who was intent to return France to great power status in the 1960's independent of either the United States or the Soviet Union, the French actively sought to create a third force in world politics emphasizing

nationalism—a resonant theme for many newly independent states.

De Gaulle, and then his successors Pompidou and Giscard D'Estaing, courted the Arabs beginning with a condemnation of Israeli action after the June war in 1967. Even for French leaders such as Pompidou with a less grandiose vision of the French place in international affairs, the nation was viewed as a regional power in the Middle East, which was generally construed to include the Mediterranean rim. In addition, French policy reflected a desire to balance American policy in the Middle East, which was seen as strongly weighted toward Israel, with Western representation in the Arab states. This desire for representation also explains France's greater willingness to cooperate with Arab states in the military sphere, exemplified by sales of Mirage jets to Libya in 1969 and nuclear cooperation with Iraq.

These larger foreign policy concerns dovetailed with evolving French economic and energy interests in the region. Like Japan, France imports a large percentage of its oil. In response to the oil crisis, French leaders moved to strike oil-for-technology deals with Arab nations, making export promotion (by firms many of which are nationalized) a top priority.<sup>7</sup> High-level officials visited Middle East nations looking to secure energy supplies and expand sales. From the French perspective, political and commercial relations go hand in hand; as former Foreign Trade Minister Michel Jobert put it, "there is no gap between diplomacy and commercial relations."<sup>8</sup> In Algeria, American, German, and Japanese exports have all surpassed French, illustrat-

<sup>7</sup>Lawrence G. Franko and Sherry Stephenson, "French Export Behavior in Third World Markets," in Center for Strategic and International Studies, *World Trade Competition: Western Countries in Third World Markets* (New York: Praeger, 1981), pp. 183-87. The continuing importance to the French economy of exports to the Third World is highlighted in a government study by Yves Berthelot and Jacques DeBandt, *Impact des relations avec le Tiers Monde sur l'économie Française* (Paris: La documentation Française, 1982), report and supporting papers.

<sup>8</sup>"France and the Middle East," *Middle East Economic Digest*, May 1982, p. 6.

ing the maxim that when French political relations deteriorate commercial relations are likely to decline as well.

There was considerable speculation that Mitterrand's election would bring a shift in French policy toward Israel. French policy, however, remains firmly oriented in a state-led program of export promotion directed at the other countries in the region.<sup>9</sup> France is the West European nation which has taken the most energetic approach to opening relations with the Arab world during the last decade, and these efforts have been increasingly informed by an appreciation of the many trade, cultural and other opportunities rather than a simple oil-for-technology calculus.

Like the French, the Italians have aggressively expanded exports to the Middle East to cover oil imports. By virtue of its geography, Italy is in an excellent position to expand such trade. It has established a particularly strong trade relationship with Libya, followed by Saudi Arabia, Iraq, and Iran before the revolution. Probably more than any other Western country, Italy has cultivated the notion of interdependence between itself and the Middle East. Italian state or state-owned companies are central negotiators of commercial deals with Arab countries, in an approach that resembles that of the French.

Britain's relationship with the Middle East reflects that nation's role as the most important former peacekeeping power in the Gulf. Britain held key oil concessions in the former Ottoman Empire from the early 20th century, and was preeminent in securing oil concessions prior to World War II.<sup>10</sup> The British presence was felt particularly in the Gulf States, but in Egypt as well, during the colonial era. British leaders such as Foreign Secretary Arthur Balfour articulated sympathy with the "establishment in Palestine of a national home for

the Jewish people"<sup>11</sup> and Britain eventually became the mandatory power over Palestine until the establishment of the state of Israel.

While the legacy of Britain's colonial past is reflected in a largely pro-Arab Foreign Office, British policies have been motivated more than any other supplier nation by links to the United States.<sup>12</sup> Unique among Western nations in not relying on Arab oil, Britain has not been a major civilian technology exporter to the region. Commercial exports to the Middle East by British firms have consistently been lower than those of any of the other major suppliers. At the political level, Britain has denounced Israel's settlement policy, but has also refused to recognize the Palestine Liberation Organization (PLO).<sup>13</sup> While the British Government facilitates technology trade with the Middle East, it has generally not taken the high-profile initiating role that the French Government has taken.

At the other end of the spectrum in terms of historical and political ties to the Middle East are West Germany, and most especially Japan. West Germany is a relative newcomer to commercial activities in the Middle East. While some German companies have had long and uncertain associations with the Middle East that stretch back to the beginning of the century, Germany had no colonial involvement on which to build postwar economic relations. The Federal Republic, furthermore, carried a debt from the World War II era that has made the formulation of policy toward the Middle East difficult.

Bonn has consistently supported the State of Israel's right to exist, a stance which in the 1960's prompted 10 Arab States to sever diplomatic relations. During the postwar period, West German leaders were most intent on economic growth and were generally tentative

<sup>9</sup>The former French Minister of Research and industry, Jean-Pierre Chevenement, noted the importance of exports, particularly technology exports to the Middle East, and targeted sales to Egypt, Iraq, Algeria and Morocco. Interview at the Ministry, January 1983.

<sup>10</sup>Louis Turner, *Oil Companies in the International System* (London: Royal Institute of International Affairs, 1978), ch. 2.

<sup>11</sup>"The Balfour Declaration issued in 1917 stated this sentiment.

<sup>12</sup>Dominique Moisi, "Europe and the Middle East," in *The Middle East and the Western Alliance*, Steven L. Spiegel (ed.) (London: George Allen and Unwin, 1982), p. 23.

<sup>13</sup>The visit to Saudi Arabia by British Secretary of State for Foreign Affairs Frances Pym was cancelled abruptly in 1983 due to Prime Minister Thatcher's views on the PLO issue.

about asserting German interests on the world stage. In fact, some have argued that West Germany's preoccupation with the question of reunification with East Germany precluded any effective role in North-South issues.<sup>14</sup>

Where the French have been quick to stress the links and connections between politics and economics, between diplomacy and commercial relations, the West Germans have tried to separate the two—to minimize, neutralize and diffuse the political issues and let commercial deals be struck on their economic merits. In the years since 1974, Germany's continuing dependence on Middle East oil and the importance of Arab markets have resulted in efforts to maintain good relations with Arab leaders.

During the last decade West Germany has become more open to the Arab world. The SPD-FDP government] of Willy Brandt supported UN resolution 242 and endorsed European Community positions calling for the Israeli withdrawal from occupied territories. New diplomatic initiatives brought normalization of relations with all Arab states by 1974. More than any other of these major supplier countries, West Germany has given the lead in technology trade to private-sector firms, and the result has been extremely successful commercial relations with Middle Eastern countries noticeably devoid of special relationships.

Japan, even more than the Federal Republic of Germany (FRG), had no colonial and few political or cultural ties with the Middle East up until quite recently. The critical factor for Japan has been growing dependence on Middle East oil. In the wake of the oil crisis of 1973, Japan's Vice Premier and Minister of International Trade and Industry visited the Middle East with promises of massive economic and technical cooperation in return for oil supplies. After considerable discussion within the government, Japan announced its

support for the Arab position of Palestinian self-determination and Israeli withdrawal from occupied territories.

Japan's commercial involvement in the Middle East has grown rapidly; by the end of the decade Japan replaced the United States as the number one exporter to the region. Like West Germany, Japan has eschewed "special relationships, and sought to emphasize economic interactions while avoiding in particular any military involvements.

Japan's relations with the Arab world, like West Germany's, have expanded during the last decade. During the 1976 UN Security Council session, Japanese Ambassador Saito proposed a direct dialog between the PLO and Israel. In 1980 both Anwar Sadat and Yassir Arafat were invited to Tokyo, and the PLO leader met with former Foreign Minister Toshio Kimura. Japan was also criticized by high U.S. officials for its policy of buying oil from Iran during the 1979 crisis.

Clearly, Japan's oil dependency has stimulated economic interaction with the Middle East. Japan's export-oriented business sector has had a natural interest in opening the Middle East market. The Government of Japan has taken more of a leading role than the West German in backing up "national projects" in the Middle East involving investments in petrochemical and other industrial projects.

In July 1983, Japanese Foreign Minister Shintaro Abe visited Iran and Iraq in an attempt to persuade them to end their prolonged war. This uncharacteristic departure from Japan's normal reluctance to get involved in high-level diplomacy was inspired by Japan's growing trade with Iran and the desire of Japanese leaders to take on a larger political role.<sup>16</sup> Thus, in recent years Japan has begun to address political as well as economic issues in its foreign policy toward the region.

Newly industrializing countries such as South Korea and Taiwan have been much less

<sup>14</sup>See Roger Morgan, "West Germany's Foreign Policy Agenda." *The Washington Papers*, No 54 (Beverly Hills, Calif.:Sage, 1978), pp. 58-69.

<sup>15</sup>The Social Democratic and Free Democratic Parties formed a coalition government,

<sup>16</sup>See Tracey Dahlby, "Tokyo's Envoy to Ask End of Iran-Iraq War," *Washington Post*, July 29, 1983.

involved than the major suppliers in either commercial technology trade or high politics. In the case of Taiwan, relative isolation is heightened by the fact that many Middle East nations view the People's Republic of China as potentially far more important economically in the long term. In addition, Taiwan's ties to Israel, while somewhat limited and often covert, are not insignificant.<sup>17</sup>

South Korea has, like Japan, more actively nurtured ties with Arab states in the last decade. In 1979, President Choi virtually recognized the PLO, and in 1980 South Korea doubled its donation to the Palestinian Refugee Fund. Other developing nations—Pakistan, Thailand, India, in particular—have become major exporters of workers and some light manufactures to the region. The newly industrializing nations have thus been important suppliers of unskilled labor as well as technicians needed for large development projects.

Colonial ties, geographical proximity and energy requirements thus influence the foreign policy context within which technology trade occurs between each of the suppliers and the Middle East. Notable, however, has been a growing orientation toward the Arab states which at times has been coupled with a reluctance to closely follow the U.S. lead in energy and political matters. In all cases, the dominant theme has been to promote economic relations with the Middle East but, as analyzed in the next sections, the roles that governments have played vary distinctly.

#### INSTITUTIONAL MECHANISMS FOR PROMOTING TECHNOLOGY TRADE

None of the supplier countries have official public policies governing technology transfer to developing countries, or to the Middle East specifically. Nevertheless, all of them have employed a range of institutions in the public and private sectors to assist technology trade and transfer. Promotional activities in France have

<sup>17</sup>Taiwan reportedly bought Gabriel shipborne anti-ship missiles and Israeli technical personnel have trained Taiwan's navy. See *Far Eastern Economic Review*, July 9, 1982.

been coordinated through government ministries and departments which have attempted to link economic planning targets with associated export opportunities. In contrast, the West German Government has given the lead to private sector firms, but various ministries (Economics, Research and Technology, and Economic Cooperation) have supported private sector efforts—as have the financial institutions.

Japan and Britain lie somewhere in between France and West Germany in terms of the role played specifically by the government; in both cases quasi-public organizations have helped to coordinate promotional efforts. In Japan, however, the private sector firms and trading companies have played an especially strong role, and government efforts in trade promotion are much stronger than is the case in the United Kingdom. The section that follows examines these institutional mechanisms for promoting technology trade.

Government policies to facilitate technology trade fall into three broad and overlapping categories. The first serves to promote trade by putting buyers and sellers in contact with one another, by providing information that makes both sides aware of the potential benefits of transactions. The second set of policies deals with financial and insurance arrangements to complete or finalize the deals negotiated between buyers and sellers. Finally, technical training and development assistance policies often indirectly support technology trade.

Often the success of a country's policies to promote technology trade involving large contracts for supply of capital equipment and management services depends on coordination of the promotional, financial, and sometimes development assistance policy instruments. The strategy for achieving such coordination derives in large measure from longstanding patterns of government-industry relations unique to each country.

#### France

Credit or blame for the successes and failures in technology trade can be laid more di-

rectly at the feet of the French Government than any of the other Western supplier nations. Historically, the French state played a key role in modernization and industrialization.” Following World War II, the French embraced long-term “indicative” planning, a government-led planning system which not only involved setting production targets for the large state sector, but also incorporated the private sector in planning as well. The French state thus became a determined (if not always able) director of economic affairs, rather than a mere facilitator of private sector activities,

With initiative resting with the government, the private sector accommodated itself to that reality. As more and more nationalizations occurred (the most recent spurred by the election of the Socialist government of Francois Mitterrand in 1981), the distinction between the public and private sectors has blurred. Virtually all of the key high-technology firms (in nuclear power, telecommunications, aerospace and chemicals) are stateowned or operate with the government as a major partner. Close relations between government and private sectors are cemented by the fact that business and bureaucratic elites are both products of a small number of highly competitive government-run schools. ” Government policies such as the recent merger of the Ministry of Research and Technology with the Ministry of Industry indicate that the French emphasize the link between industry and technology development.

The French state mobilizes and coordinates relevant public and private actors in putting together packages of equipment and services for prospective buyers. This strategy is designed primarily to win large contracts, particularly in public works, where a number of firms are involved, a wide range of services required, and financing needs substantial. The

<sup>18</sup>See Andrew Shonfield, *Modern Capitalism: The Changing Balance of Public and Private Power* (New York: Oxford University Press, 1965), ch. 5, and H. Milward and S. B. Saul, *The Development of the Economies of Continental Europe* (Cambridge, Mass.: Harvard University Press, 1977), pp. 71-141.

<sup>19</sup>Ezra N. Sulieman, *Politics, Power and Bureaucrat*; in *France: The Administrative Elite* (Princeton, N.J.: Princeton University Press, 1974).

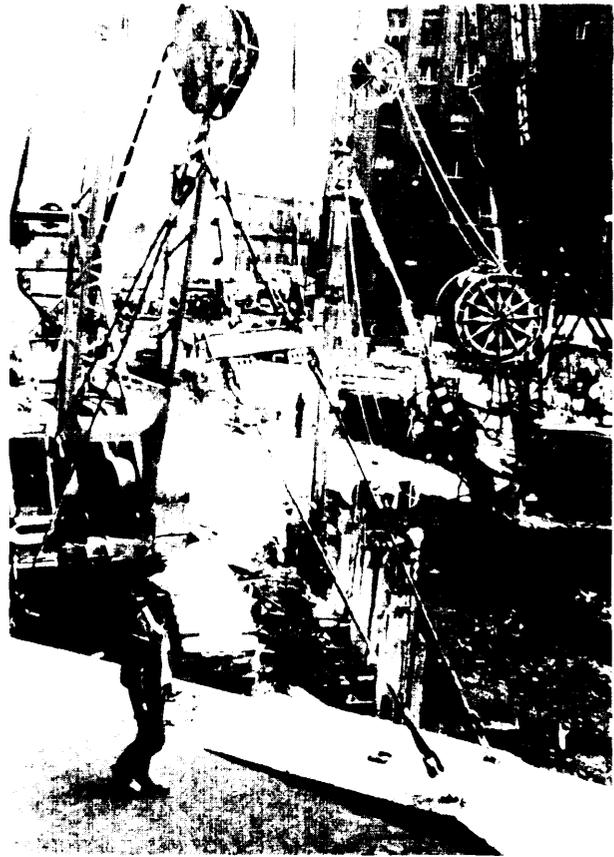


Photo credit Middle East Economic Digest

Cairo subway under construction. French firms won a large contract to carry out this project

state seeks to initiate potential business: building on a foundation of friendly political and personal relations with Middle East leaders, public officials bring together appropriate French suppliers.

The primary body responsible for external trade is the Directorate of External Economic Relations (DREE), headed by the Minister of Foreign Trade in the Ministry of Economic Affairs and Finance. The DREE is assisted by the French Center of Foreign Trade (CFCE), which has personnel at home and abroad who gather information for French industry. The DREE provides a wide range of services—it coordinates the French commercial attaches abroad, carries out sectoral studies, and coordinates export credit, insurance, financial negotiations and technical cooperation.

The policies of the DREE are designed to conform with the priorities and objectives of the French plan for economic growth. In other words, exports are not promoted randomly but certain sectors are targeted for attention. For example, the French drive to expand and modernize telecommunications within France during the 1970's was paralleled by an export drive in that sector.

Linkage between commercial activity and diplomacy is reinforced by close cooperation between the DREE and the Ministry of Foreign Affairs, which has a division dealing with the North African and Near Eastern countries. In addition, the Ministry for Cooperation and its directorate of Economic Development play an active role in the DREE export promotion. Export promotion is also a concern of government research institutes: the *Commissariat à l'énergie atomique* (CEA), for example, works with other government agencies in promoting sales of nuclear powerplants abroad. With the DREE at the center, export policy is thus coordinated with industrial, foreign and technology policies.

Not surprisingly, there are in France fewer private-sector organizations with central roles in export promotion than are present in some other supplier nations. One exception is the France-Arab Chamber of Commerce, founded by the Arab League, which has sponsored several conferences on technology transfer.<sup>20</sup>

## Japan

In contrast to France, where the state has dominated decisions affecting technology trade, in Japan an extremely dynamic and competitive private sector acts as partner to high-level government officials in policymaking. While Japanese government officials less frequently than their French counterparts take on such high-profile roles in initiating commercial relations with Middle East nations, they have facilitated "national projects"

by providing considerable government support, financial and otherwise. In advisory , councils and semipublic organizations, public and private sector officials build informal consensus on export policies.

Since the immediate postwar period, Japan has been governed by a conservative political coalition under the Liberal Democratic Party which has developed strongly pro-business policies. This unparalleled and continuing rule has made it possible for bureaucratic decision-making normally to prevail, with the Ministry of International Trade and Industry (MITI) central in international economic policy.<sup>21</sup>

Throughout the conservative rule, overarching government goals have put great weight on improving Japan's international and domestic economic situation—at first through comparatively strong official controls on investment, tariffs, in an industrial policy characterized by targeting key industries, and promotion of exports. Japan's share of world manufacturing exports nearly equals that of the United States; only West Germany ranks higher. More recently, many concrete steps have been taken to open the Japanese economy to foreign firms, but Japan's striking export success nevertheless is still viewed with concern by trading partners.

If Japan lacks an official technology transfer policy, it is the one nation which has put technology most squarely at the center of its industrial policies. Since the early 1970's, Japanese public and private-sector leaders have promoted a structural shift in the economy away from energy-intensive heavy industries and toward technology-intensive industries, a view first articulated in a report by the prestigious Industrial Structure Council (an advisory body to MITI, made up primarily of industrial leaders). On the domestic scene, MITI and the Science and Technology Agency through funding approved by the Ministry of Finance, have sponsored wide-ranging R&D

<sup>20</sup>Franco-Arab Chamber of Commerce, *Colloque sur la formation professionnelle et le transfert de technologies* (Amman, May 27-30, 1979), and *Colloque sur les énergies nouvelles* (Sousse, Tunisia, Oct. 27-30, 1980).

<sup>21</sup>Chalmers Johnson, *MITI and the Japanese Miracle* (Stanford, Calif.: Stanford University Press, 1982).

projects, many emphasizing commercialization of technological developments useful to industry.

On the international front, the impetus has been toward transferring technology and investment abroad. The Ministry of Foreign Affairs, and its Economic Cooperation and Middle Eastern Bureaus, while at times more cautious in its approach to Japanese overseas economic involvement has facilitated various development projects. In addition, the Japan External Trade Organization (JETRO) operates well-staffed and financed offices in the Middle East under MITI auspices which provide market surveys to Japanese exporters, and information about Japanese business to prospective foreign buyers.

The Japanese private sector has exceptionally diverse and numerous organizations involved in technology trade with the Middle East. There are more than 100 international trade associations and 34 overseas industrial and technical cooperation associations. Trade associations form the basis for industrywide collaboration on particular issues, including enforcement of voluntary export quotas agreed to by the government; during periods of recession they have helped form cartels.

These trade organizations, along with the largest Japanese firms and banks are organized in Keidanren, the Federation of Economic Organizations, an umbrella organization which has on many occasions taken a leading role in encouraging ties with Middle East. *Keidanren* leaders promoted, for example, Japan's first overseas oil development venture—the Arabian Oil Co.<sup>22</sup> In addition to the trade associations, Japanese banks play important roles in helping to finance overseas projects. The dozen commercial banks are each at the core of one or more groups of interrelated firms called *keiretsu*.

One of the most unusual features of Japan's private sector is the trading company. They number more than 6,000, but the top 10 are

<sup>22</sup>AOC was formed in 1958 by maverick private entrepreneur Yamashita Tare. The company gained a concession to explore for oil in the neutral zone between Kuwait and Saudi Arabia, and *Keidanren* leaders helped raise funding for the project.

best known and handle 50 percent of Japan's exports and 60 percent of the country's imports. What distinguishes the trading companies is the wide range of activities they perform—including financing, investment, resource development, construction, organizing joint ventures, marketing, third-party trade, and information gathering.

All of the major trading companies have offices in the Middle East, and they often work in conjunction with Middle East governments and the government of Japan in suggesting projects for support. If the trading company is successful in persuading the Japanese government to offer assistance for a project, that firm and its *keiretsu*-related companies—usually receive the bulk of contract awards from the recipient government.

While the public and private sectors in Japan are made up of many and often strongly competing agencies and organizations, there is considerable coordination between the two sides. One of the devices for bringing the two sides together already noted is the more than 200 advisory councils which include representatives from the private sector. Virtually all government policies are shaped initially by the reports of these councils.

Through these councils and through the widespread authority that the government has to collect data, a high degree of confidence is generated in the recommendations that come out of these meetings. Informal ties—including school affiliations, common background in public corporations—help to reinforce the exchange of information between government and private sectors. Many semipublic organizations such as the National Oil Corp. are led by former MITI officials. In addition, specialized private sector organizations such as the Japan Cooperation Center for the Middle East bring business people in touch with their counterparts abroad.<sup>23</sup>

<sup>23</sup>The JCCME holds annual conferences and publishes reports outlining developments in the Middle East, including specific legal and investment problems. See Japan Cooperation Center for the Middle East, Dai *nanka Chuto Kyoryoku Kenchi Kaigai*, Seventh Conference on Middle East Cooperation, report on the conference held Aug. 25-26, 1982.

In recent years, the Japanese Government has underwritten large overseas projects in the Middle East designated "national projects." The rationale is that no one Japanese firm could undertake such projects alone, but that Japan has an interest in fostering such cooperation with Middle East nations. A number of difficulties have arisen in conjunction with these projects, however. The Mitsui Co., with assistance from the Japanese Government and a number of private firms, undertook Japan's largest overseas project in Iran prior to the revolution. The huge petrochemical complex at Bandar Khomeini was 85 percent complete when the Iran-Iraq war flared, resulting in termination of activities. Japanese government and business have disagreed about how best to extricate themselves from the project, which resulted in severe financial loss for the Mitsui Co.<sup>24</sup> The somewhat ambiguous division of responsibilities between the two sectors has resulted in some disputes about how to resolve such issues of investment risk. The project is described in more detail in chapter 5.

Thus, while government and business sectors in Japan are made up of diverse and competitive elements, there are a number of formal and informal mechanisms for mitigating differences and forging common strategies. Perhaps more than is the case in any of the other Western supplier nations, the two sides act as partners in promoting technology trade.

### United Kingdom

In contrast to the situation in France and in line with their tradition of economic liberalism, the British have given the government the role of facilitating rather than directing economic activity. Government officials are charged with improving the climate within which business decisions are made, through sponsorship of tripartite discussions involving government, business and labor. The decisions, however, are made largely by private

sector actors. Government has thus sought to facilitate but not to initiate technology trade.

The British have also maintained a strict distinction between industries and banks. British banks, unlike their German counterparts, are forbidden by law from holding shares in British industries. This separation of corporate and financial institutions has apparently limited their ability to put together large package projects, judging from the fact that there are comparatively few British firms involved as large prime contractors for Middle East development projects.

Officially, British government activities in trade promotion are supervised by the British Overseas Trade Board (BOTB), with membership drawn from government and industry. The president of the BOTB is the Secretary of State for Trade, and the chairman is a leading industrialist. The BOTB typifies British response to economic issues—creation of a body that seeks to generate information and communication between the public and private sectors. The Board allocates funds, which in 1980-81 amounted to \$165 million, for export services.<sup>25</sup> In addition to gathering information for exporters, it provides market entry guarantee schemes (MEGS) for smaller firms entering new markets, and it supervises the Overseas Projects Fund which helps United Kingdom companies identify overseas opportunities. Its regional committees such as the Committee for Middle East Trade (COMET) attempt to inform British firms of Middle East export opportunities.

In practice, the Department of Trade is the focal point for export promotion. Organized in geographical branches, the arms of the Department are the commercial sections of the British embassies abroad. Sometimes the Department works with other ministries—such as Industry, which has organized several Middle East trade missions. The Foreign Office only rarely plays a role. One exception to this

<sup>24</sup>The Mitsui project was officially revived in 1983 after Iran agreed to provide financing, but before construction work resumed Iraq mined the harbor area near the site and Japan again delayed.

<sup>25</sup>The Board meets regularly to allocate funds for export promotion. See interview with John Biffen, Secretary of State for Trade, "The UK and the Gulf," *Middle East Economic Digest*, December 1981, p. 33.

general rule was a visit by Lord Barrington to Iraq several years ago which resolved some differences between the two nations and paved the way for improved commercial ties.

More in keeping with the British Foreign Office tradition was the cancellation of Secretary of State for Foreign Affairs Francis Pyre's scheduled trip to Saudi Arabia in 1983, due to Prime Minister Thatcher's unwillingness to meet with the PLO. The incident was viewed as potentially damaging to British exports. But while British officials have made numerous diplomatic trips to the Middle East, they have seldom acted as commercial salesmen.

While they are not as active as those in Japan, there are a number of private sector organizations involved in Middle East trade promotion, the oldest of which is the Middle East Association. The more recently formed Arab-British Chamber of Commerce has actually taken over from Arab embassies in Britain all the paperwork required to certify British goods for export. "The requirement that British goods carry a certificate of origin to assure compliance with the Arab boycott of firms doing business with Israel is met by the documentation center.

Trade promotion is also carried out by industrywide associations such as the Confederation of British Industries and by sectoral associations. In addition, the Association of Consulting Engineers assists members in design of major projects, a particularly strong suit for the British. In promoting British exports, quasi-public organizations such as the BOTB and the COMET, the likes of which do not exist in the United States, appear particularly important. In contrast to the situation in Japan, the British government takes a much less active role in trade promotion. The legal separation of corporate and financial institutions reduces the ability of the British to put together large packages, and suggests a partial explanation for the weaker export performance of the U.K. firms in Middle East markets.

<sup>26</sup>The ABCC, which publishes the *Trade Information Bulletin*, is almost entirely staffed by Arab nationals. It has links to the Franco-Arab Chamber of Commerce, and both were formed at the instigation of the Arab League.

## West Germany

The Germans have given the lead to private sector firms which in turn benefit from their close association with banks. The trade promotion strategy of the FRG thus stands in marked contrast to the French, and more resembles that of the United Kingdom. Following World War II, German leaders constructed a liberal economic policy, the *soziale markwirtschaft*, which was designed to promote the free play of market forces.<sup>27</sup> Under the Economics Ministry, a free trade orientation abroad was promoted in the belief that economic progress would be export-led.<sup>28</sup> The success of the German export strategy is well known. Two features distinguish the German approach: German financial institutions have interacted closely with industrialists; and the private sector has been export-oriented and relatively unimpeded by obstacles in the form of government regulation.

Promotion of technology trade between West Germany and the Middle East is more the province of the private sector than is the case in either Britain or France. However, three ministries with varying perspectives are involved in technology transfer. The Ministry of Economics, which is organized geographically with responsibility for the Middle East divided between the countries in North Africa (the "poor states") and those east of the Red Sea (the "rich states"), holds firmest to the line that the private sector should initiate and negotiate technology trade.

The Ministry has well-defined views that technology transfer should involve extensive cooperation in training, research and (to a lesser extent) the eventual establishment of joint ventures. While the Ministry has often been criticized for not providing subsidies to ex-

<sup>27</sup>See Henry Wallich, *Mainsprings of the German Revival* (New Haven, Conn.: Yale University Press, 1955); Edwin Hartrich, *The Fourth and Richest Reich* (New York: Macmillan, 1980); George Kuster, "Germany" in Raymond Vernon, *Big Business and the State* (Cambridge, Mass.: Harvard University Press, 1974).

<sup>28</sup>It should be remembered, however, that the FRG, like many other countries, has a variety of barriers to imports of equipment and services, including government procurement practices which reduce the "free play of market forces in the domestic economy.

porters, there is a strong feeling that the German position will be strengthened in the long run by deals that are economically sound. This attitude perhaps explains the fact that the Germans have been more willing than the Japanese and other supplier countries to forgo technology-for-oil swaps, preferring to buy their oil on the open market.

The Ministry of Research and Technology (BMFT) has traditionally followed a more interventionist strategy than the Economics Ministry. BMFT projects in developing nations often combine export promotion with development assistance. Middle East projects supported by the Ministry involve technology development and commercial application in fields such as nuclear, solar, and desalination. These projects normally follow government-to-government technical cooperation agreements, and involve exchange of personnel from private sector firms which provide equipment and technical services. As discussed in chapter 8, West Germany's success in medical equipment exports to the Middle East has been promoted by such agreements. In some instances, initial research and development pilot projects are first completed, and the ventures are then privately financed and sold to commercial enterprises.

While the new CDU-FPD government prefers to avoid direct subsidies, the BMFT maintains its more interventionist approach. In addition, the Ministry of Economic Cooperation (DMZ) handles a number of development assistance programs involving technology transfer, and financing agencies promote technical assistance to developing countries.

While all of these government activities are comparatively small-scale, they serve to support activities initiated by the private sector. There is, furthermore, a shared and growing perception in the Federal Republic that the economic interests of Germany and those of developing countries pursuing growth-oriented strategies are increasingly converging. The distinction between commercial opportunity and development assistance programs is thus not sharply defined. While government

programs are less extensive than those in France, for example, the fact that public and private policy makers alike link German economic growth prospects to trade and technology transfer to developing nations indicates the positive context for technology trade.

Not surprisingly, German private sector organizations are particularly active in promoting technology trade. Among them, the Association of German Chambers of Industry and Commerce (DIHT), in which all businesses are required by law to be members, is the most important. The organization favors promotion of free trade, has bilateral agreements with many Middle East countries, and actually performs many of the services normally assigned to commercial sections of embassies. In addition, the DIHT plays a strong role in vocational training; German firms draw on the local German training programs in various fields when they bid on technical assistance contracts in the Middle East.

Other organizations, such as the Federation of German Industries, provide a wide range of services to exporters worldwide and are comparatively well organized and financed. The Near and Middle East Association (*Nah und Mittlost Verein-NMV*) has been in existence since the 1930's and represents 80 percent of German firms doing business in the Middle East. The Association promoted the establishment of the Orient Institute in Hamburg, a think-tank funded by the state of Hamburg and private foundations carrying out scholarly analysis on legal, political, and economic developments in the Middle East. The Association has identified growing opportunities for small and medium-size German firms in the Middle East market.

In summary, the institutional resources which supplier countries have utilized in promoting technology trade with the Middle East differ widely. French state leadership is most striking, as is the linkage of domestic industrial policy to export promotion. In Japan, both public and private sectors actively participate in export policymaking, and considerable coordination between them is achieved

through a variety of semipublic organizations and advisory bodies. In Britain and West Germany there are a number of government agencies dealing with export promotion, but in both cases they play more a facilitating than a leading role. Private sector organizations involved in trade promotion in the Middle East are, however, comparatively stronger in West Germany, where technical training has been emphasized in technology trade, than in the United Kingdom. In France, Japan, and West Germany technology trade with developing nations is viewed as important to overall economic growth, while in France linkage to domestic industrial policy is particularly strong.

#### FINANCING TECHNOLOGY TRADE

Some have argued that government subsidies play a key role in influencing the export success of West European and Japanese firms. Broadly speaking, subsidies can be conferred through a wide variety of financial and other instruments used by governments to promote the growth of particular industries or sectors, including support for those engaging in exports and technology transfer. Such government assistance, it is often argued by critics, puts U.S. industries at an unfair advantage vis à vis their foreign competitors.

International trade agreements have helped to reduce direct trade barriers including tariffs during the post-World War II period. As supplier nations extend industrial policies, indirect assistance to domestic industries (through support for R&D, for example) has also grown.

The effects of indirect support, which help to build the technological or manpower infrastructure of industries, on export performance are much more difficult to assess than direct official export assistance. The focus of the discussion that follows is on the official and direct financial supports offered by supplier governments. However, it should be emphasized that domestic industrial policies supporting

advanced technology industries may also be important to the growth of these industries.<sup>29</sup> Generally speaking, direct official subsidies have been used in sales of large plants and expensive equipment in developing countries, when technologies and equipment offered by competing suppliers are similar and when the recipient nation needs help in financing the purchase.

For some of the oil-rich states of the Middle East, such as Saudi Arabia and Kuwait, the availability of export financing by supplier governments has not been a major consideration. With ample capital available in the 1970's, these nations could arrange their own financing. But other countries have faced capital constraints—Egypt, and even better resource-endowed nations such as Algeria, Iran, and Iraq, because of other factors such as limited oil exports and military expenditure requirements.

Export credit and risk insurance have become indispensable for the sale of equipment and services to most Third World countries, and all industrial countries have developed programs to meet these needs. Such financing is provided through government-chartered export banks and insurance companies as well as private banks, banking consortia and private insurance companies.

International arrangements supported by a large number of OECD countries have attempted to limit the national differences in export financing, as discussed in chapter 2. In 1976 an informal "consensus" on credit terms was reached by the OECD, and rules were formalized in the 1978 Arrangement on Guidelines for Officially Supported Export Credits, which specified floors under permitted interest rates and ceilings on maturities for most officially supported export credits of 2 years or

<sup>29</sup> OTA's study of *International Competitiveness in Electronics* (Washington, D.C.: U.S. Government Printing Office, 1983) concluded that domestic industrial policies have had the greatest influence among various types of policies over international competitiveness in that industry.

more.<sup>30</sup> Covered in separate agreements among OECD nations are aircraft and nuclear export credit financing rules. In addition, a General Agreement on Tariffs and Trade (GATT) code on subsidies was enacted in 1980 which allows countries to defend themselves against injurious competition from abroad in third country markets.

All nations also have institutions which insure against the risk of extending credit to foreign buyers; the Berne Union is set up to harmonize policies in this area and to exchange information on credit worthiness. These international agreements have been established fairly recently, but the OECD arrangement in particular was strengthened and extended in 1983. Therefore, while many of the newer agreements were not operational during the past decade, since 1982 the subsidy element in government financing has been substantially reduced. (See chapter 13, sections dealing with the U.S. Export-Import Bank. )

#### Insurance Programs in France

France has a number of government-run organizations involved in export financing. A 1978 report by the French Commissariats General du Plan attributes the growth of French exports in the Third World to the rapid expansion of export credits in the 1970's, about half of which went to developing countries." While this conclusion is disputed by many, the fact is that the French Government does offer somewhat more extensive financing services than many other supplier countries. These differ in degree rather than in kind. While some would point to declining French market shares in the Middle East as evidence that these programs have not been effective, others would argue that the decline might have been worse in the absence of them.

The Compagnie Francaise d'Assurance pour le Commerce Exterieur (COFACE) is a quasi-

public joint stock company which provides export insurance. COFACE has insured about 27 percent of exports in recent years against a wide variety of political and economic risks.<sup>32</sup> To qualify, goods must have no more than 10 percent foreign content (except for components manufactured in the European Community). The insurance covers 85 to 90 percent of the financed amount for supplier credits. Extensive coverage is available to exporters and banks in the form of short-term programs with repayment terms of less than 3 years. The total budgetary cost of the COFACE program in 1980 (including commercial, political and exchange rate insurance) was estimated at \$108 million. <sup>33</sup>

#### Insurance Programs in the United Kingdom

In Britain, export credit insurance is the principal responsibility of the Export Credits Guarantee Department (ECGD) under the Secretary of Trade. The percentage of British exports insured by the ECGD rose from 8 percent in 1947 to 33 percent in 1982, and foreign content rules are relatively liberal. About 75 percent of the insurance covers short-term transactions of less than 6 months; these transactions in 1980 totaled \$33.4 billion. Coverage is comparable to that offered by COFACE.

The ECGD has several special programs aimed to assist large capital projects: a cost-escalation scheme protects against cost increases for firms with capital goods contracts of more than 2 years; the Supplemental Extended Terms Guarantee provides help for exports of production engineering goods; contractor guarantees protect firms involved in overseas consortia or joint ventures.<sup>34</sup> France and the United Kingdom have offered perhaps the widest ranges of insurance and other ex-

<sup>30</sup>OECD, *The Export Credit Financing Systems of OECD Member Countries* (Paris: OECD, 1982), pp. 7-12.

<sup>31</sup>Commissariats Général du Plan, *Rapport du Groupe Charge d'Etudier l'Evolution des Economies du Tiers-Monde et l'Appareil Productif Francais* (Paris: CGP, 1978), p. 21.

<sup>32</sup>Lawrence G. Franko and Sherry Stephenson, *French Export Behavior in Third World Markets* (Washington, D. C.: Center for Strategic and International Studies, Significant Issue Series, 1980), p. 20.

<sup>33</sup>Export-Import Bank of the U. S., *Report to the U.S. Congress on Export Credit (competition and the Export-import Bank of the United States)*, October 1981, p. 44.

<sup>34</sup>ECGD Services (London: HMSO, 1982), pp. 9-10.

port financing programs (including exchange rate insurance and mixed credits) during the past decade.”

### Insurance Programs in Japan

In Japan, MITI's Export Insurance Division offers insurance for exports through a range of programs, some of which have been recently expanded. In 1981, coverage of pre-shipment risks for the hardware portion of large plant contracts was enlarged. Most of the insurance is offered in short-term programs, which covered a total of \$48 billion in 1980. Japan is probably the most frequent user of local cost support,<sup>36</sup> which is seen as an integral element of assistance to developing countries. The Export Insurance Division of MITI covered almost \$60 billion in total exports in 1980. The government also offers exchange rate insurance.

### Insurance Programs in West Germany

In West Germany, insurance is provided by a consortium authorized by the government. The two leading members of the consortium are Treuarbeit, a publicly held corporation that does not insure directly, and Hermes, a private insurance company. The Interministerial Committee for Export Guarantees sets guidelines for coverage and the Bundestag sets annual limits for total exposure (DM 150 billion in 1980). In granting cover, a distinction is made between business with private firms and transactions with foreign governments, with coverage for protracted default available in the latter case.

Hermes alone can make decisions about cover up to DM 2 million, and only after such insurance has been arranged can firms obtain financing through other financial institutions. Compared with the French and British insurance schemes, German coverage has been somewhat less comprehensive and slightly

<sup>36</sup>Export-Import Bank, *Report to the U.S. Congress*, op. cit., p. 5.

<sup>37</sup>Local cost support is credit or guarantee support for costs incurred in the purchasing country that are associated with the export transaction.

<sup>38</sup>Export-Import Bank, 1981, op. cit., pp. 46 and 102.

more costly, though the differences are not great. Like Japan, Germany offers considerable local cost support.

### Export Credits in France

Export credits, as opposed to insurance, are in France handled by the Banque de France, and Banque Francaise du Commerce Extérieur (BFCE), and commercial banks, most of which are now nationalized. France supports the most extensive officially subsidized export financing system of any of these nations. In 1981, it was estimated that French Government subsidies to long-term export finance totaled \$466 million (compared with \$382 million for the United Kingdom, \$203 million for the United States, \$79 million for Japan and zero for Germany),<sup>38</sup> (Table 111 in chapter 13 provides comparative information on credit subsidy and interest rates in nations under review here and in the United States.) France and the United Kingdom have been the countries with largest government subsidies for export financing, but in the latter case the subsidy element has been largely eliminated since 1982.

The BFCE has authority to provide financing in foreign currencies. In the case of medium-term financing (2-7 years), the BFCE first endorsed the loans, which are provided at preferential rates by the Banque de France.

In recent years, the value of new BFCE loans increased from \$10.6 billion in 1980 to \$11.7 billion in 1982. In addition, the size of France's mixed credit program grew considerably, by approximately 25-30 percent annually. (In 1980, the aggregate value of these credits was \$1.7 billion, according to the U.S. Export-Import Bank.)<sup>39</sup>

French tax policies deserve mention. Income earned abroad by French companies is not taxable, nor is 95 percent of dividends received by French firms from foreign subsidiaries. Companies may set up tax-deductible reserves

<sup>39</sup>[+] Export-Import Bank of the United States, *Report to the U.S. Congress, Export-Import Bank of the United States*, September 1983, pp. 5-8.

<sup>40</sup>Ibid., pp. 43 and 48.

to cover export credit risks, development and other promotional costs. Foreign losses are deductible from domestic income taxes even though foreign profits are not taxed. In 1983, the French Government also eased foreign exchange restrictions so as to boost exports by small firms.

#### Export Credits in the United Kingdom

The United Kingdom also offers comprehensive government programs supporting export finance. A new Projects and Exports Policy Division was established within the Department of Trade in 1980 to focus on exports to Third World markets. The ECGB uses refinancing arrangements with private bankers to ensure adequate funding at competitive rates. U.K. banks are thus able to provide export credits at OECD consensus terms, because the government pays the banks a direct subsidy to cover the gap between the credit and the normal bank lending rate. During 1980, the ECGB provided financing for \$4 billion in long-term financed exports and \$17.9 in medium-term financed exports.

#### Export Credits in Japan

The Export-Import Bank of Japan is the primary vehicle for government-supported export financing. As in West Germany, the subsidy element in Japanese export credits has been comparatively low. Owned by the government and overseen by the Ministry of Finance, the bank has channeled less than 10 percent of all its loans and guarantees to the West Asia region (which includes the Middle East), with the vast majority of investments in the petrochemical and chemical sectors.<sup>40</sup> Short-term credits are provided by commercial banks, and longer-term credits are refinanced by the Export-Import Bank at preferential rates in combination with some commercial financing.

Japan's Export-Import Bank is one of the largest banks of its kind, with total credit authorizations valued at \$7.35 billion in 1981.

<sup>40</sup>Nihon Yushutshunyu Ginko (The Export-Import Bank of Japan), Gyomu Hokokusho (Annual Business Report] fiscal year 1981, pp. 10, 17, 20.

The Bank administers long-term development loans, which are not considered export credits because they are not tied to procurement. These loans often are linked to imports of fuels or raw materials. In 1981, a mixed credit program was established to match programs in Europe. This program is administered by the Overseas Economic Cooperation Fund, a public corporation which provides loans to Japanese corporations and foreign governments for financing various development programs. In Japan, as in West European nations, official export credits are thus often awarded in conjunction with development assistance projects by the Overseas Economic Cooperation Fund.

A distinguishing feature of Japan's approach has been the designation of some overseas projects as "national projects, such as the Mitsui petrochemical project in Iran. In that case, the risk associated with Japan's largest overseas effort was spread among a group of firms in consortia financing. The number of firms was further expanded as the project fell on hard times. In addition, the government stepped in with additional loans and assistance. The core group of Mitsui firms suffered heavy financial losses due to project delays caused by the Iranian revolution and later damage during the Gulf war, which precluded resumption of construction work.

#### Export Credits in West Germany

German financing for exports comes primarily from the private sector, particularly commercial banks, and the subsidy element has been low. The willingness of commercial banks to extend export credits owes much to their close relations with corporations. As equity shareholders in export-oriented firms, the banks are sensitive to the importance of export financing. In addition, the KfW (Kreditanstalt für Wiederaufbau), a public agency with private sector representation on its Board of Directors, provides long-term financing to German exporters selling capital goods to developing countries. Because of a shortage of government funding, the KfW has increasingly gone to capital markets to finance large projects, with the result that the blended rate offered has been at or above the OECD rate.



Photo credit: *Atamco World Magazine*

The Japanese tanker *Sun River* is shown taking on the first shipment of liquefied petroleum gas (LPG), from one of the twin loading berths at the tip of the 10-kilometer-long trestle at the Ju'aymah Marine Export Terminal, Saudi Arabia

A second source of capital at preferential rates is the AKA (Ausfuhrkredit GmbH), a private commercial bank syndicate which has access to a rediscounting facility of the Deutsche Bundesbank and the KfW. one type of credit is available at preferential rates for medium-term supplier credits to developing countries, and this type of financing can be combined with other financing at market rates. In addition, the government offers mixed credits, which combine development assistance and commercial financing at a combined effective rate of about 8 percent.

In contrast to the situation in France, the private sector rather than the government has played a more important role in export financing. Because the German commercial banks work so closely with corporations in financing exports, there is less need for direct government action.

## Summary

The conclusion that can be drawn from a review of export financing in these supplier nations is that all of them have similar packages of policy instruments. While the subsidy element has been higher in French and British export credits during the past decade, since 1982 subsidies have been greatly reduced everywhere but in France. French, Japanese, and British financing and insurance programs are comparatively more extensive in coverage and funding. As shown in table 102, Japanese, French, and British official programs cover a much larger share of exports than do U.S. and West German programs. German commercial banks work closely with corporations, reducing the need for direct government assistance. All of the suppliers have expanded mixed credits, combining loans at market rates with development assistance funding. In many cases,

**Table 102.—Comparison of Official Export Support Programs, 1982**

	A (\$ billion)	B (\$ billion)	C (%)
France . . . . .	\$ 96.2	\$0.29367	30.6%
West Germany . . . . .	176.4	0.16461	9.4
Japan . . . . .	137.7	0.51862	37.7
United Kingdom . . . . .	97.2	0.39270	40.4
United States . . . . .	212.2	0.12149	5.7

## KEY

A Total Merchandise Exports in current \$U.S. billion

B Officially Supported Export Transactions, in current \$U.S. billion Includes total value of all exports supported by official long and short term loans insurance and guarantee authorizations for the year, as reported by supplier governments In the case of the United States fiscal year 1982 data are given, for other countries data are for calendar 1982

C B A

SOURCE Export Import Bank of the United States data provided to OTA in May 1984

programs include extra measures (such as local cost support and exchange rate insurance) to support exporters.

Analysis of technology transfers in chapters 5 through 9 indicates that in a few notable cases foreign government financing has strongly influenced the awards of contracts. In aircraft sales and telecommunications contracts, a few widely publicized cases have received public attention. The instances where export financing appears to have had the most significant effects are those involving sales of very costly equipment which is roughly comparable to that available from other suppliers, and particularly where foreign suppliers are public corporations or firms closely connected to government programs.

Even in those cases, however, other factors have influenced the outcome. Those factors include U.S. controls on exports as well as corporate strategies of some U.S. firms (including decisions to focus on domestic or export markets). The vast majority of technology trade transactions are not determined by foreign government financing, but rather by the price and quality of technology offered, the willingness of firms to provide after-sale services required for technology transfer, historical and political relations between buyers and sellers, and marketing prowess of private sector firms. Nevertheless, official export financing is an important support offered to firms doing business overseas, and it has at times been a critical factor in Middle East sales.

In the last analysis, the organizational resources of the government agencies involved, and the pattern of business-government relations may be as important as the dollar value of financing support from supplier governments. In these Western supplier nations, governments rarely block and usually facilitate, or in the case of France coordinate, export financing activities. Public and private sectors share a common view that exports to developing nations are increasingly important. The precise contribution of this comparatively supportive context is difficult to measure but nevertheless important. In few instances, however, have actions taken by governments alone determined the outcome of competition for contracts.

#### DEVELOPMENT ASSISTANCE AND TRAINING POLICIES

In comparison to other policies affecting technology trade with the Middle East, development assistance per se occupies a comparatively minor role. Because oil-exporting nations such as Saudi Arabia and Kuwait are themselves aid donors, they receive no development assistance from supplier governments. Other Middle East nations, including lower income oil-producing nations such as Egypt and Algeria, do receive development assistance. Egypt in 1981 received \$1.1 billion in economic assistance from the United States, or about 15 percent of that provided by the United States worldwide.

In addition to development assistance policies focusing on help for the poorer nations, supplier governments also participate-sometimes in conjunction with private sector firms—in technical assistance and training projects in the richer developing countries. Underlying both types of programs are considerations of foreign policy—the responsibility that industrialized nations have to assist developing countries, as well as the desire to foster political alliances with friendly nations.

In addition, but less often overtly emphasized, are considerations of commercial gain associated with all development assistance.

The supplier nations in West Europe and Japan have placed considerable emphasis on commercial considerations in their development assistance programs. This commercial perspective is reflected in the fact that the OECD Development Assistance Committee was studying in 1983 the adequacy of development assistance to export expansion and diversification.

### France

French development assistance still reflects the notion of *le besoin de rayonnement* (the inherent need to spread one's ideas or values to other parts of the globe): French programs stress education and training.<sup>41</sup> The Ministry of Cooperation, with 10,000 people, provides grants and indirect funding for technical cooperation. It shares responsibility with other agencies such as the Directorate-General for Cultural, Scientific and Technical Relations. While these programs are not particularly well coordinated or given high priority in Paris, they have ensured a considerable French presence overseas.

In 1981, French expenditure for bilateral technical cooperation exceeded that of any other nation, according to OECD statistics, including the United States; France also officially supported far more students and trainees than any other nation—more than 36,000 in comparison with about 9,000 for the United States in the same year.<sup>42</sup> (Many more foreign students, most of them financing their own educations, study in the United States than in France, however.)

By the mid-1970's, France sent abroad one-third to one-half of all technical personnel from developed countries working in developing nations. Many of these people work in education, some also assisting in research efforts. The French have long been aware that the relations established between French and developing-country technical personnel may lead to the choice of French products and equipment.

<sup>41</sup> Steven H. Arnold, *Implementing Development Assistance* (Boulder, CO: Westview, 1982), pp. 11 and 18.

<sup>42</sup> OECD, *Development Cooperation-1982*, op. cit., p. 240.

France has also been at the forefront in using mixed credits. In 1980, mixed credits, involving 3.5 percent interest rates and 20-year maturity periods on the aid portion of the loans, amounted to about 10 percent of the nation's total export credits, totalling \$1.7 billion.<sup>43</sup>

### The United Kingdom

In Britain technology transfer through education and training has been handled by the private sector, with some assistance from the government. Many large firms doing business in the Middle East, especially telecommunications firms, run training centers for students from abroad. In addition, the British Council teaches English-language skills abroad and operates a full range of programs in the Middle East. Nationalized industries such as British Electricity International offer specialized programs in the Middle East. This ad hoc approach has been made more necessary by cuts in development assistance under the Conservative government.

The British Minister of Overseas Development articulated a new emphasis on "mutual advantage" in development assistance when he stated: "We believe that it is right at the present time to give greater weight in the allocation of our aid to political, industrial and commercial considerations alongside our basic development objectives."<sup>44</sup> Reflecting this emphasis, the U.K. government announced a new mixed credits program in 1981 which was estimated to cover \$230 million to \$460 million of overseas business.<sup>45</sup> The tied share of Britain's aid has always been comparatively high; critics have argued that the result has been to foster high-technology and capital-intensive projects at the expense of others."

<sup>43</sup> Export-Import Bank of the U. S., *Report to the Congress*, 1981, op. cit., p. 43.

<sup>44</sup> Arnold, op. cit., p. 147.

<sup>45</sup> Export-Import Bank of the U. S., *Report to the Congress*, 1981, op. cit., p. 79.

<sup>46</sup> Select Committee on Overseas Development, *The Pattern of United Kingdom Aid to India* (First Report, Session, 1978-79, HMSO 1979), p. xxiv, cited by Arnold, p. 157.

## Japan

Japan's government economic cooperation programs, some of which are carried out in conjunction with private sector organizations, have up until the past decade been comparatively small-scale and oriented toward Asia. The amount of Japanese ODA flowing to the Middle East increased rapidly in the 1970's, reaching a peak of almost one-quarter of the total in 1978, when large shares went to Iran and Egypt.<sup>47</sup>

While the Japanese Government has pledged itself to expand Japan's ODA rapidly in the next few years so as to raise the percentage contribution of GNP to a level more on a par with other OECD nations, in 1981 and 1982 Japan's ODA fell in dollar value.<sup>48</sup> In 1983, the Government of Japan announced that its goal of boosting ODA was unattainable, due to budget deficits and other factors.

The Ministry of Foreign Affairs is the primary body responsible for official economic cooperation; the Overseas Economic Cooperation Fund (OECF) provides assistance to projects which may be politically important but not commercially viable, and the Japan International Cooperation Agency (JICA) runs training programs for people from developing countries both in Japan and abroad. The OECF and the JICA receive direction from parts of the government with different mandates, leading to problems in coordination.

Official policy statements emphasize technology transfer, along with financial assistance, as essential components of aid. Technology transfer to Middle East nations is viewed as a particularly important component of Japan's relations with these nations.<sup>49</sup> But de-

spite the rhetorical support for technology transfer, the number of Japanese technical experts in the Middle East supported by government programs remains comparatively small. In 1981, there were about 300 overseas volunteers (in JICA programs) in the Middle East, and about 3,000 people went as team members on expert survey visits to the region.<sup>50</sup> Even more important are the efforts of private companies in support of various technical assistance activities.

As mentioned earlier, Japan has recently greatly expanded its mixed-credit program; in fiscal year 1981 \$1.9 billion in concessional credits were to be funded by the OECF. In comparison to other OECD countries, Japan's aid has been more in the form of loans than grants.

## West Germany

The West German development assistance program is characterized by administrative separation between the policymaking agency (the Ministry of Economic Cooperation), and two implementing agencies: the GTZ (Deutsche Gesellschaft für Technische Zusammenarbeit) in charge of technical assistance and the KfW, which, as mentioned above, handles financing. Since the early postwar period, the German Government has relied on a host of independent organizations to carry out development assistance projects elsewhere handled by governments. One (DED) is responsible for training, another (DES) for arranging conferences and seminars, still another (DIE) for research and consultancy.

The German Development Co. (DEG) promotes cooperation between German and developing-country enterprises through equity investments and loans. DEG is a partner in a

<sup>47</sup>Japan International Cooperation Agency, *Chukinto nitai suru JICA Kyoryoku Jigyo no Gaiyo* (Tokyo: JICA, 1982), p. 3. During that year more than 10 percent of Japan's ODA went to the Middle East.

<sup>48</sup>*JEI Report*, No. 23B, June 17, 1983, p. 4.

<sup>49</sup>See Ministry of Foreign Affairs, *The Developing Countries and Japan, Japan's Economic Cooperation* (Tokyo: MFA, 1979), p. 20. One industry leader assessed technology transfer to the Middle East in the following way: "It is important for Japan to develop friendlier relations with such oil-producing countries as Saudi Arabia, the UAE, Iraq and Kuwait in the Middle East, regardless of its oil purchase from these countries. Economic

and technical cooperation is considered instrumental in cementing these relations. As oil-producing states have abundant capital available for development, it is necessary to step up technical cooperation based on technology transfer through such cooperation programs as formulation of economic and social development plans, export assignment and acceptance of trainees," Hiroshi Irisawa, "Technical Cooperation Toward Middle East Countries," *Digest of Japanese Industry and Technology*, No. 175, 1982, p. 12.

<sup>50</sup>*Japan International Cooperation Agency*, 1982, p. 27.

joint venture with Saudi Arabia, the purpose of which is to evaluate projects and bring corporate partners together. The GTZ has subcontracted 200 technical training projects to outside private consultants. A number of churches, political foundations, and private organizations also receive grants to carry out development programs.

One distinguishing feature of German development assistance is the comparatively strong emphasis placed on technical assistance: between 1976 and 1980 about one-third of the bilateral German development assistance went toward technical assistance, a level second only to that of France.<sup>51</sup> According to OECD data, during 1980 the level of German "technical cooperation expenditures" (\$990 million) for example, exceeded those of the United States (\$724 million).<sup>52</sup> In the 2 years following, the level of U.S. assistance of this type was greater, but Germany still ranked third after France and the U.S. in its bilateral disbursements.

As mentioned earlier, West German technical assistance has been particularly prominent in some of Middle East nations, including those rich in oil but needing technology transfers. West Germany also supports independently through government funds a large number of students and trainees, numbering almost 22,000 in 1982. In addition, Germany ranks second only to the United States in the value of private voluntary contributions for development cooperation.

The level of untied bilateral aid is higher in West Germany than in most other supplier nations. Many of the government-sponsored projects fall somewhere between commercial promotion and development assistance. Mixed credits have been utilized, though less frequently than in some other countries; the strength of German financial institutions such as the KfW and the private AKA reduce the need for mixed credits.

<sup>51</sup>Arnold, p. 49.

<sup>52</sup>OECD, *Development Cooperation*, 1982, p. 240. In 1982, France ranked first, the United States second, and West Germany third in expenditures for technical cooperation, according to OECD data. See *ibid.*, p. 204.

Development assistance is carried out by a variety of organizations in these supplier nations. Technical assistance receives considerable emphasis in French and German programs, while Japanese policy statements indicate that government officials view this as a priority area. The development assistance policies of these nations all have a strong commercial flavor.

Mixed credits is but one indication; involvement by German private organizations, some of which promote joint ventures in the Middle East, is another. It is not an exaggeration to say that all of these nations view commercial gain as concomitant with development assistance. Generally speaking, West European and Japanese policy makers have not been reluctant to consciously emphasize the commercial side of development assistance.

### **MULTILATERAL POLICY FORMATION: THE EUROPEAN COMMUNITY AND THE EURO-ARAB DIALOG**

While the multilateral dimensions of policies affecting technology transfer to the Middle East are clearly less salient than the national policies discussed earlier, they are worthy of consideration. All supplier nations provide development assistance through multilateral agencies such as the United Nations, but the relative share of multilateral assistance in the development assistance of these nations has fallen in recent years from 31 percent in 1977 to 23 percent of official development assistance in 1981.<sup>53</sup>

Through a variety of other organizations such as OECD, the International Energy Agency, and the International Monetary Fund, supplier governments attempt to coordinate their efforts, some involving technology transfer. However, OECD has been in-

<sup>53</sup>OECD, *Development Cooperation*, *idid.*, p. 72. In 1982, multilateral contributions rose to 28% of ODA, but this was viewed as a temporary phenomenon, which reflected a bunching of payments to IDA. See OECD, *Development Cooperation*, 1983, pp. 97-98.

volved primarily in studies of development issues rather than implementation of programs. There are currently few coordinated efforts by OECD nations to provide assistance to Middle Eastern countries. Assistance provided to Lebanon has been one of these.

While such multilateral efforts have been important, more specialized regional programs involving these nations are particularly worth consideration, not only because the results of ongoing efforts such as the Euro-Arab dialog illustrate some of the problems associated with multilateral approaches, but also because these programs have at times been viewed as running at cross-purposes to those of the United States. In addition to bilateral policies, West European nations have used the institutions of the European Community to manage their relations with the Arab world. European leaders have been stimulated by the prospect of linking Western technology to Arab capital in development efforts. Arab countries have looked to Europe not only as model of economic integration, but also for allies in pursuit of resolution of Middle East conflicts.

### Background to Multilateral European Programs

Despite the fact that the ingredients of a significant political and economic bargain have been apparently available, the history of the Euro-Arab dialog over the last decade reveals a persisting problem in defining terms acceptable to both sides—the European Community and the Arab League. There are several reasons for this difficulty. First, the large number of participants has made it difficult to reach agreement. Discussions have been delayed by the inability of Arabs in particular, but also Europeans, to agree among themselves. Some states have found bilateral deals more attractive than multilateral arrangements.

A second problem has been the European desire to stress economic issues in contrast to the Arab view that political concessions

should precede economic agreement.<sup>54</sup> A third constraint has been the role played by outside states, particularly the United States. In the early 1970's American leaders viewed European overtures to oil-producing states as undermining the common economic interests of supplier states and impeding U.S. efforts to promote a peace settlement.<sup>55</sup> Despite slow progress, the Euro-Arab dialog is important as an example of a multilateral attempt to coordinate policy in technology trade and transfer—one in which the United States has not participated.

European Community (EC) interest in cooperating with the Middle East predates the oil crisis of 1973-74 and should be placed in the context of relations with former colonies and the Third World in general. In the late 1960's the EC began a series of trade-related initiatives with the "ACP countries" in Africa, the Caribbean and the Pacific which resulted in a preferential trade package finally agreed on at Rome in 1975. At the same time, there was growing interest in complementary accords with Arab and other countries in the East and South Mediterranean rim.<sup>56</sup>

<sup>54</sup>On the Arab view, see Nijmeddin Dajani, "The Euro-Arab Dialogue: The Arab Viewpoint," in *Euro-Arab Cooperation*, E. J. Volcker (ed.) (Leyden: A. W. Sijthoff, 1976), ch. 13 and Dieter Bielenstein, *Europe Future in the Arab View* (Sam-bracken: Verlag Greitenback Publishers, 1981). For the European view, see John P. Richardson, "Europe in the Middle East: Shaping a Political Role," *SAIS Review*, winter 1981-82, pp. 107-17; Udo Steinback, "Western Europe and EEC Policies Towards Mediterranean and Middle East Countries" Colin Legum, *Middle East Contemporary Survey*, vol. 12, 1977-78 (New York: Holmes & Meier, 1979), pp. 40-48; Stephen J. Artner, "The Middle East: A Chance for Europe?" *International Affairs*, London, vol. 56, summer, 1980, pp. 420-442.

<sup>55</sup>See D. J. Allen, "The Euro-Arab Dialogue," *Journal of Common Market Studies*, vol. XVI (June 1978), pp. 323-342; Adam Garfinkle, "America and Europe in the Middle East: A New Coordination," *Orbis*, vol. 25, No. 3, fall 1981; Alan R. Taylor, "The Euro-Arab Dialogue: Quest for an Interregional Partnership," *Middle East Journal*, vol. 32, No. 4, 1978, p. 443.

<sup>56</sup>See H. A. H. Gadel Hak, *The Mediterranean Policy of the European Community* (Doctoral Dissertation: University of Amsterdam, 1978). See also Samy Afify Hatem, *The Possibilities of Economic Cooperation and Integration Between the European Community and the Arab League* (Munich: Florentz, 1981).

The October war and the oil embargo of 1973 provided a stimulus to the dialog. In November 1973, the EC issued the Brussels Declaration urging bilateral cooperation agreements, and stating European opposition to Israeli occupation of territories held since 1967 and support for the rights of Palestinians in a Middle East peace settlement. A month later the Europeans announced their support for "negotiations with oil-producing countries on comprehensive arrangements comprising cooperation on a wide scale for the economic and industrial development of these countries, industrial investments and stable energy supplies to the member countries at reasonable prices."<sup>57</sup> Two sets of negotiations followed, one concerning bilateral cooperation agreements and the other the Euro-Arab dialog concerning issues of common concern to both sides.

### Bilateral Cooperation Agreements

Identical bilateral cooperation agreements have been concluded between the EC and Israel as well as 11 of the 20 Arab League states. These agreements provide preferential trade treatment permitting entry of Arab manufactured goods into European markets unhindered by tariffs. (However, it is important to note that the few industrial products produced by Arab states, including textiles and petrochemicals, are not covered by these agreements.)

In addition, the agreements promote financial and technical assistance. While the amounts of funding are relatively low, they carry weight in the sense that they provide a framework and are usually used in conjunction with other investment funds. A much wider range of cooperation—in science, technology, environment, sales promotion and marketing, industrial management, and private investment—is anticipated.

These agreements provide a context for ongoing cooperation. Some Europeans expect that such agreements will be established with

the wealthy Gulf states, perhaps via the Gulf Cooperation Council, as well. The bilateral character of the agreements has allowed the Europeans as a group to maintain good relations with individual states even when relations between the regions have deteriorated or cracks emerged in the pan-Arab movement. European cooperation with Egypt, for example, did not terminate with the nation ouster from the Arab League because of its participation in the Camp David accords. These bilateral cooperation agreements have been important in setting the stage for private sector involvement in Middle East nations, since they signify official government support for commercial interactions.

### The Euro-Arab Dialog

The second and more political negotiations of the Euro-Arab dialog have been characterized by a tension between the Arab desire to focus on political issues and the European determination to separate politics from economics. The dialog was launched in July 1974 to discuss negotiating procedures. However, work was delayed because of two issues: the European decision to conclude a cooperation agreement with Israel, and Arab insistence on Palestinian representation in their delegation. The former issue remained a source of irritation, while the latter was resolved by the "Dublin formula," which ruled that delegations should be homogeneous rather than serving as representatives of particular states or groups. Palestinians could therefore participate without raising the representation question.

Since the first deliberative session held in Cairo in 1975, technology-related issues have received attention. Working committees were set up to handle a variety of issues, including scientific and technology cooperation. The meeting produced a joint memorandum which recognized the dialog as a "product of joint political will that emerged at the highest level with a view to establishing a special relationship between the two groups." More specifically, it called for "the development of the Arab world in its entirety and of lessening the

<sup>57</sup>Quoted in Taylor, *op. cit.*, p. 431

technological gap separating Arab and European countries.<sup>158</sup>

The progress of the dialog between 1975 and 1978 was not dramatic, but some important projects were initiated which relate to technology trade. The working committee on industrialization proposed creation of Euro-Arab resource and information centers, and a study of programs for education and training in standardization and quality control. In addition, a subcommittee dealing with petrochemicals proposed market studies in the Arab world and Europe, but the Europeans were less enthusiastic than their Arab counterparts about this proposal. In late 1983, moreover, a draft investment convention was under discussion at a technical meeting held in Tunis.

The working committee on scientific and technological cooperation identified a number of areas for study, including the feasibility of an Arab water desalination and water resources center, an Arab polytechnic institute, and a study of the scientific infrastructure for oceanography in the Arab world. Finally, members from both the industrialization and technological cooperation committees proposed the establishment of a Euro-Arab center for technology transfer to be located in the Arab world.

The work of the dialog was suspended following the signing of the Camp David accords in 1979. As a show of their displeasure with Egypt, the Arabs suspended that nation from the Arab League and moved the headquarters of the organization from Cairo to Tunis. The bureaucratic disarray caused by the ouster of Egyptian officials and the loss of Arab League records was probably just as damaging to negotiations as the decision to suspend discussions. These delays caused by political events thus much more negatively affected the Euro-Arab Dialog than the bilateral cooperation efforts.

For the last 4 years, leaders on both sides have sought to renew the dialog. In June 1980,

<sup>58</sup>Taylor, *op. cit.*, *The European Community and the Arab World*, p. 29.

the Europeans took the initiative in issuing a declaration calling for relaunching of the dialog. An economic task force was organized to secure agreement on issues such as the Euro-Arab technology transfer center prior to a high-level ministerial meeting scheduled for the summer of 1981. That meeting, however, never occurred. Arab opposition to European participation in the Sinai peacekeeping force, and later the war in Lebanon strained relations within the Arab nations. By late summer 1982, the Arab League proposed resumption of the dialog. The European response was uncertain in the midst of American efforts to mediate between Israel and Lebanon.

In late 1983, the fifth session of the General Commission of the Euro-Arab Dialog was convened. While no statement was issued at the end of the meeting, it was significant that high level political discussions were resumed for the first time in 4 years.

Many EC officials are skeptical that the Euro-Arab dialog has a viable future. The stalemate of the period following 1979 highlights the fact that the dialog has been strongly affected by political developments. By linking economic and political issues in the framework of the dialog, it has been difficult to pursue cooperation at the technical or economic levels without resolution of political problems. In the last analysis, it is probably true that politics will never be far removed from these discussions if negotiations require a large group of countries to coordinate their positions. This may explain why European nations acting independently have been more successful in pursuing economic and technical cooperation with individual Middle East nations.

The Euro-Arab dialog is nevertheless likely to remain a feature of relations between the two regions for some time to come. The common interests identified a decade ago have changed, but in some ways become more important. The Europeans are less dependent on Arab petroleum in a period of excess supply and falling prices, but they have become increasingly involved in Arab markets in order to sustain export levels during a time of reces-

sion in the West. The Arabs still look to Europe for a somewhat different political perspective from that of the United States concerning the Middle East, and Europe will become more and more important as a market for Middle East products such as petrochemicals. The multinational character of the discussion reveals the perceived common West European interest in building bridges to the Arab world.

Technical issues concerning industrialization and trade may occupy a more central place in the dialog during the years to come. On the one hand, Arab nations have long been interested in focusing attention in the dialog on commercial cooperation in petrochemicals and refining. Simply put, the Arab nations wanted outlet guarantees for their petrochemical production, most of which will come onstream in the late 1980's. While cautious, the Europeans supported a market study of a dozen basic petrochemical products which was complete prior to the suspension of the dialog in 1979.

Working groups have continued discussions on petrochemical trade issues. However, European industrialists remain skeptical of the whole process and there are indications of possible protectionist responses when Arab petrochemicals hit European markets. The EC position has been that the dialog could be used to stave off such potential trade frictions with the Middle East, but it is not clear that industry can be persuaded. Arab nations maintain great interest in resuming such talks. If and when the dialog is resumed wholeheartedly, such economic issues may be a central focus of concern.

## POLICY VARIATION AND THE FUTURE OF WESTERN TECHNOLOGY TRADE

There is considerable variation in the approaches various supplier governments have taken to policies affecting technology trade with the Middle East. While none of these nations have developed clearly articulated and coherent technology trade policies, all of them have an array of supportive policies. Never-

theless, the strongly state-led approach of France contrasts sharply with the lower-profile and more indirect supports offered by the government of the Federal Republic.

A second feature, which distinguishes European and Japanese policies from those of United States discussed in chapter 13, is the absence of controls on exports of advanced civilian technologies and equipment to developing nations generally, or the Middle East specifically. Outside the Coordinating Committee (CoCom), the multilateral controls on exports to communist nations, these nations have few official disincentives for nonmilitary exports. Japan's liberalized foreign exchange law, for example, requires only that investors notify the Bank of Japan when they make investments in the Middle East, unless the enterprise involves banking, fishing, or military production. Approval of plant exports is normally automatic if contracts are signed.<sup>59</sup>

Similarly, all German exports must be approved by the Federal Office of Commerce in Frankfurt-Eschborn, but few denials are made except for items on the CoCom list. All of these nations have special regulations on nuclear exports, but as discussed in chapter 9, there has been considerable variation in implementation. Nor do these nations have antiboycott policies similar to those of the United States.<sup>60</sup> Their comparatively vigorous trade promotion efforts and the absence of controls set the policies of these supplier countries in contrast to those of the United States.

The different policy approaches certainly reflect historic patterns of business-government relations in these nations, as well as variations in propensity of nations to play a great-power diplomatic role. Reflecting these differences, these nations have each developed expertise in particular types of technology trade. The

<sup>59</sup>See "Japan's Plant Export Activities," *JEI Report*, No. 32A, Aug. 26, 1983, p. 3; *Look Japan*, Jan. 10, 1980, pp. 12-13.

<sup>60</sup>In 1979, U.K. Energy Secretary Tony Berm issued a statement effectively harming sales of North Sea oil to Israel. This policy was challenged in court on the grounds that a 1975 agreement between the EEC and Israel prohibited any new restrictions on trade with Israel. See *Financial Times*, Dec. 3, 1983, p. 3.

French, for example, have through their stated approach succeeded in putting together large "package contracts" involving many French firms, including public enterprises. This approach has encouraged French participation in large public works contracts.

Japan has emphasized plant exports, while West Germany exports capital equipment and training; in both cases, private sector firms play particularly important roles in technology trade and historical interrelationships of economic institutions (corporate groupings and close business-government relations in Japan, and the interaction of financial and corporate institutions in the FRG) have facilitated trade.

The British approach is distinguished by a clear separation of public and private institutions, and an absence of large consortia bidding that is more common among firms from nations where banks and corporations work more closely (Japan and West Germany).

The conclusion that must be drawn from this analysis is that there is no one national approach which is clearly superior. All of these nations remain important competitors in Middle East technology trade today and will continue to be so in the years ahead. Among the Western suppliers, French and British market shares declined slightly during the last decade, while only Japan decidedly increased its share.

There is no evidence to support the argument that government policies consistently determine patterns of technology trade. In some instances, such as the Japanese Government's support for large "national projects" or French Government-led negotiations for large-scale contracts, governments have certainly helped to foster specific projects, but these cases are the exceptions rather than the rule.

On the other hand, all of these nations have developed policies supporting technology trade which are assets to exporting firms. The dollar value of direct export subsidies is, in

this regard, perhaps less important than the organizational resources which governments have at their disposal for putting buyers and sellers in contact, for coordinating public-private sector activities in technology trade, for combining commercial and "philanthropic" aspects of development assistance.

Firms have generally been the major actors in technology trade: the strengths and weaknesses of particular firms and industries generally are more critical in winning a sale than the actions of government policymakers. However, in some cases these actors are one and the same (e.g., nationalized telecommunications firms).

With the exception of Britain, all of these countries have during the past decade allowed economic and energy concerns to rise to the fore in their policies toward the Middle East. Their ability to put together large consortia "packages" has been an asset; in the decade ahead the expertise of smaller and more specialized technology exporters may become more important in less rapidly growing Middle East markets. Thus, the newly industrializing countries as well as smaller firms in West Europe may expand their market shares in specialized niches. West German firms appear particularly well placed to take advantage of a growing demand for specialized technical assistance. Japanese firms, particularly the corporate groups associated with trading companies, are also in a good position to expand exports in a number of areas such as telecommunications equipment.

Governments play important roles in setting the overall foreign policy context within which technology trade occurs. The fact that historical and colonial ties are still reflected in technology trade relations indicates the importance of government policies at the highest level. In few instances have specific trade promotional or financing programs solely determined the competitive success of firms, but they have provided significant support for exporting firms. The environment of cooperative

business-government relations characteristic of some of these nations, combined with the comparative absence of controls, and the general receptivity to coupling commercial inter-

ests with assistance and politics set the policies of other Western suppliers in contrast to those of the United States.

## 11: SOVIET BLOC SUPPLIER COUNTRIES

As a group, the Soviet bloc countries, including the U.S.S.R. and Eastern Europe, have not been particularly successful in expanding their share of commercial exports to the Middle East region. In contrast to the Western supplier nations which are important competitors with U.S. firms and organizations in Middle East markets, the role of the Soviet bloc countries—particularly the Soviet Union—is particularly important to military and strategic issues in U.S. policy.

The remainder of this chapter identifies major trends in Soviet bloc economic interactions with the Middle East, highlights policies affecting technology transfer to the region, explains why these nations have played a comparatively limited role in civilian technology trade with the region, and looks ahead to future prospects.

As in other areas of research on the U. S. S. R., it is difficult to assemble reliable data on Soviet bloc trade and policies. What is clear is that during the last decade, Soviet interactions with the Middle East have included considerable military assistance, while East European interactions have been concentrated more in commercial trade. Training, however, has been a key element in technology trade relations with the Middle East, both for the U.S.S.R. and Eastern Europe, and in both the military and civilian spheres.

There is little doubt that the ability of Soviet bloc countries to compete with Western suppliers in commercial technology trade remains limited, and will probably remain so during the next decade. However, there are indications that Soviet bloc policies towards encouraging technology trade have been strengthened in recent years, and some signs

that Middle East countries may wish for a variety of reasons to expand economic relations with these countries. Therefore, despite the comparatively small role that these countries play in commercial technology trade with the Middle East, they represent another group of supplier countries whose actions are of importance to U.S. policies.

### TRENDS IN SOVIET BLOC ECONOMIC INTERACTIONS WITH THE MIDDLE EAST

Military assistance has undoubtedly been a more important component of Soviet economic interaction with the Middle East than economic assistance and commercial trade. In contrast to East European military aid, which has been quite limited, Soviet military assistance remains high relative both to Soviet military aid to other parts of the world and to military aid from other suppliers. Between 1956 and 1979 the U.S.S.R. committed close to \$35 billion in military aid to the Middle East and North Africa, or about three-fourths of all Soviet military aid to non-Communist developing countries worldwide.<sup>6\*</sup> In 1976-80 alone, Soviet arms transfers to the Middle East (including Libya and Algeria) were valued at \$19.8 billion." During the same period, U.S. arms transfers to the Middle East, including Israel, were valued at \$14.2 billion (table 103).

<sup>6\*</sup>Central Intelligence Agency. Washington, D.C., "Communist Aid Activities in Non-Communist Less Developed Countries, 1979 and 1954-79, Research Paper, 1980. This does not include additional military agreements totaling almost \$3 billion with North Africa.

<sup>6\*</sup>United States Arms Control and Disarmament Agency. *World Military Expenditures and Arms Transfers 1971-80*, ACDA Publication 115, March 1983, pp. 117-119, Total Soviet arms transfers to developing nations not including the Warsaw Pact during the same period were \$26.2 billion (in current dollars).

**Table 103.—Soviet, U. S., and French Military Arms Transfers to the Middle East, 1976-80 (million U.S. dollars)**

Supplier recipient	Total	United States	U.S.S.R.	France
Africa . . . . .	21,500	825	11,300	2,400
Algeria . . . . .	2,300	N	1,800	N
Libya . . . . .	8,600	N	5,500	410
Middle East . . . . .	38,600	14,200	12,500	3,500
Egypt . . . . .	1,900	430	20	600
Iran . . . . .	8,300	6,200	625	200
Iraq . . . . .	7,800	N	5,000	950
Kuwait . . . . .	800	390	50	130
Saudi Arabia . . . . .	4,700	2,000	N	700
Syria . . . . .	6,600	N	5,400	290
Israel, . . . . .	4,300	4,300	N	N
Jordan . . . . .	1,000	725	N	280

N Indicates either none or negligible

SOURCE *World Military Expenditures and Arms Transfers, 1972-80*, ACDA, March 1983 pp 117-120 The United States and France are the two largest Western suppliers of arms to the Middle East

While the lion's share of Soviet military assistance to developing countries has consistently been directed to the Middle East, this assistance has been focused on a limited number of countries: Egypt until the early 1970's, and currently Syria, Iraq, Libya and to a lesser extent Algeria and Iran. In contrast to the pattern of Soviet economic relations which are heavily weighted toward military assistance, East European military assistance has been more limited and commercial trade relatively more important.

Although most economic interaction with the Middle East has been in the military arena, Soviet economic assistance to Middle East countries has not been insignificant. During the last 25 years, Soviet military assistance to the Middle East and North Africa has been twice to three times as large as economic assistance to these countries; this economic assistance, estimated at about \$11 billion, 1954-79, was nonetheless substantial, and comprised about 60 percent of the total extended by the Soviet Union to non-Communist developing countries worldwide.<sup>63</sup> As with military assistance, East European economic assistance has been much smaller than that of the Soviet Union, and the recipients have included roughly the same group of countries.

<sup>63</sup>CIA *Communist Aid Activities* ..., op. cit., pp. 13, 14, 18-21, 24, and 28.

In contrast to the decade of the 1960's, when Soviet bloc commercial trade with the Middle East grew to a level comparable to that of many individual Western countries, during the 1970's the Soviet bloc share of exports to the Middle East declined markedly. In 1970, Soviet exports to the Middle East were roughly comparable in value to those of West Germany, and exceeded those of Japan, France, and the United Kingdom. During the 1970's, moreover, Soviet bloc exports to the Middle East continued to rise. Indeed, Eastern Europe found in OPEC its fastest-growing foreign trade, 1970-78; and although Soviet bloc exports to developing countries made up only about 3 percent of total foreign trade in 1978, the OPEC countries accounted for about 40 percent of all East European trade with developing countries. More than 70 percent of Hungary's industrial exports, for example, have gone to the Middle East in recent years.<sup>64</sup>

This growth, however, was outpaced by a growth of Middle East trade with the West, and during the 1970's the Soviet bloc share of total trade with the Middle East became very small. Table 104 shows Soviet exports to

<sup>64</sup>See Ronald G. Oeschler and John A. Martens, "Eastern European Trade With OPEC: A Solution to Emerging Energy Problems?" in U.S. Congress, Joint Economic Committee, *East European Economic Assessment* (Washington, D. C.: 1981), p. 514. See also *Middle East Economic Digest*, Special on Hungary in the Middle East, May 18, 1984, p. 55.

**Table 104.—Middle East Imports From Selected Western Countries and the U. S. S. R., 1970 and 1978**  
(millions U.S. dollars)

		Egypt	Iran	Algeria	Iraq	Saudi Arabia	Kuwait	Libya	Syria
United States	1970	77.0	3260	61.1	22.2	140.4	61.6	1078	111
	1978	1,131.8	3,6782	3733	316.2	4,295.4	725.5	4228	1337
U.S.S.R.	1970	362.9	187,6	69,4	65.9	6.0	108	143	464
	1978	2169	636.1	129.8	990.3	11.9	538	76.1	1929
Japan	1970	12,4	178.8	20.2	15.9	838	944	31.4	16.1
	1978	400,3	2,691,1	729,3	951.5	3,254.3	774.1	3537	88.2
France	1970	63,5	67,3	5624	35.1	29.2	32,5	424	186
	1978	553.8	889.1	1,530.6	502.4	8750	2102	5361	2714
West Germany	1970	122,3	3216	99.0	19.2	650	422	458	234
	1978	6745	3,3807	1,275.2	802.0	2,078.8	3469	8219	262,8
Italy	1970	648	82.5	93,6	15,4	34.6	259	1336	20,9
	1978	407,9	1,068.6	949.2	323.5	1,4668	2879	1,306.5	2376
United Kingdom	1970	44,4	154.9	40,2	55.4	781	701	55,4	142
	1978	3938	1,428.7	231.1	4152	1,5053	636.9	4109	110,8

SOURCES: Data for the United States, Japan and France *U.N. Supplement to World Trade Annual Trade of Industrial Countries With the Developing Countries and Eastern Europe* (New York: Walker & Co., 1979). Data for the U.S.S.R. from the Central Intelligence Agency computerized data compiled from official Soviet foreign trade handbooks for each respective year.

the Middle East as compared to those of selected Western nations in the 1970's. Whereas the total volume of Soviet and East European annual exports to the Middle East almost quadrupled in 1970-78, the volume of annual exports from the West grew almost twelve-fold. By 1978, the U.S.S.R. accounted for only 5 percent of the Middle East market.

Decline in the Soviet bloc's share of foreign trade with the Middle East countries was particularly steep not only in Egypt, but in Iraq, Syria, and Algeria. Iraq is the only country examined by OTA where imports from the Soviet Union have exceeded those of any one major Western supplier in recent years. But even here total exports from the U.S.S.R. were far exceeded by the combined total of exports from the West. (In 1978, Soviet exports to Iraq were estimated at \$603 million, as opposed to \$4.6 billion from the six major industrial countries.)" Trade with Saudi Arabia and Kuwait remains quite limited; trade with Syria, Algeria, and Iran (which remains East Europe's largest OPEC trading partner) has been larger but still far below the level of trade with Western countries.

<sup>65</sup>Data for U.S.S.R. from CIA, Project Trader (computerized printouts compiled from official Soviet foreign trade handbooks. Data for industrialized countries from *UN Supplement to World Trade Annual: Trade of Industrial Countries With the Developing Countries and Eastern Europe* (New York: Walker & Co., 1979). It is unclear what proportion of Soviet exports may have been military related.

Only a very small portion of Soviet bloc commercial exports to the Middle East have been technology-intensive products in the sectors examined by OTA. For the past decade, Soviet bloc exports to the Middle East have consisted mainly of primary products such as food, intermediate goods (chemicals, steel, cement, glass, textiles), services (including construction, training and medical services), and for the Soviet Union a growing portion of machinery and equipment. In all five technology sectors examined by OTA, imports from the West have far exceeded those from the Soviet bloc in the Middle East.<sup>66</sup>

In the five sectors selected by OTA, there is evidence that Soviet bloc countries have exported comparatively small volumes in the following subcategories: airplanes and helicopters, chemical technology including fertilizer plants, aerial communications systems, and medical construction services. The Soviet Union has comparatively strict control on exports of nuclear equipment, but has assisted in nuclear programs or planning over the years in Iraq, Libya, Syria, and Egypt.

<sup>66</sup>Data do not permit conclusions about the degree to which Soviet exports are in technology-intensive sectors. Nearly half of total Soviet exports to Iraq in 1978, for example, were in machinery and equipment — a relatively technology-intensive export category. However, it is impossible to identify the composition of these exports, except to note that aerial communications facilities, geological survey equipment, and oil field equipment were included.

While overall exports in advanced-technology sectors examined by OTA are therefore quite low in comparison to those of the Western suppliers, Soviet bloc countries have managed to win contracts in some specialized areas: Czech participation in design of an airport in Iraq<sup>67</sup>; Romanian participation in petrochemical joint ventures in Iran<sup>68</sup>; Hungary's Medipex, along with West German and French companies, in a licensing agreement with Egyptian public sector pharmaceutical companies; the Hungarian telecommunications firm Budavox in a Libyan telephone cable network project.<sup>69</sup> In specialized areas, East European firms have developed considerable strength in advanced technologies—subsectors of aerospace being an example.<sup>70</sup>

The one area of civilian technology transfer where the Soviet bloc countries have maintained a strong presence is training. The number of Soviet bloc "economic technicians" serving in the Middle East and North Africa has far exceeded the number designated as "military technicians," the former numbering about 70,000 and the latter about 11,000 in 1981.<sup>71</sup> Of the total of economic technicians about half came from East European countries. Most of these technicians are located in the same group of countries with relatively strong economic interactions with the Soviet bloc—Libya, Iraq, Algeria, and Syria.

<sup>67</sup>See Vladimir Broz, "Technical and Personnel Assistance in the Industrialization of Developing Countries," "Projects for Other Countries," and other information taken from scanning the Czechoslovak journal *Polytechna*. See also "Czechoslovak-Iranian Cooperation in Petrochemistry," *Czechoslovakia's Economic Digest*, September 1982, p. 5.

<sup>68</sup>Orah Cooper, "Soviet Economic Aid to the Third World," *Soviet Economy in a New Perspective*, compendium of papers submitted to the Joint Economic Committee, U.S. Congress, Washington, D. C., 1976, p. 295.

<sup>69</sup>Information taken from contract data listed in the *Middle East Economic Digest: Contract Data* for 1977-1981. See also "Patents for Hungarian Chemical Products," *Hungaro Press: Economic Information*, 1982, No. 20, pp. 176-177. For examples of other joint ventures with Hungary and West Germany in the Middle East, see "Reaching Third Markets Through Sicontract Co., Ltd.," *Hungaro Press: Economic Information*, 1982, No. 24, pp. 5-6.

<sup>70</sup>"Czechs Gear for East Europe Sales," *Aviation Week and Space Technology*, June 11, 1979, p. 282.

<sup>71</sup>"Soviet and East European Aid to the Third World, 1981," U.S. Department of State, February 1983, pp. 2, 20. These figures include numbers serving in Algeria and Libya.

In addition, Soviet bloc countries educate many Middle Eastern students in technical fields in their own domestic schools. While the number of Middle Eastern students studying in the Soviet bloc is far less than those studying in the United States, they appear to be roughly comparable<sup>72</sup> to the numbers studying in individual major Western supplier nations.

In 1981, more than 23,000 students from the Middle East and North Africa were enrolled in Soviet bloc academic institutions, about 57 percent of whom were in the U.S.S.R.<sup>73</sup> Soviet bloc training of Middle Eastern students, both in the Middle East and in the Soviet bloc, thus remains central in Soviet interaction with Middle East countries.

To summarize, Soviet bloc economic interactions with the Middle East are strongly concentrated in a few countries. Interactions of the Soviet Union have been oriented toward the military sphere. For Eastern Europe, the Middle East appears more important as a market for commercial trade. Despite the fact that these countries have captured only a small share of civilian exports to the Middle East, these sales remain proportionally significant in Soviet bloc total trade with developing countries worldwide.

## SOVIET BLOC POLICIES AFFECTING TECHNOLOGY TRADE

Soviet bloc policies regarding technology trade with the Middle East clearly reflect official state goals in the larger political sphere.

<sup>72</sup>Available U.N. data, however, include all students from Asia as well as from the Middle East. According to these data, in 1978 almost 22,000 students from Asia and the Middle East were studying in the U.S.S.R. The overall number of students from the Middle East and Asia was slightly more than in France (about 20,000), and almost the same number as in West Germany. The number studying in the United States, however, was almost seven times greater, at 147,280.

<sup>73</sup>U.S. Department of State, "Soviet and East European Aid. . ." op. cit., pp. 22-23. France ranks above the Soviet Union, and second to the United States in total enrollments of foreign students from all nations. See Institute of International Education, *Open Doors: 1981-1982, 1983*, p. 5. Enrollments in 1978 were 263,940 in the United States; 108,286 in France; and 62,942 in the U.S.S.R.

While it is accurate to describe the policymaking systems of the Soviet Union and Eastern Europe as comparatively centralized in official state institutions, foreign trade policymaking is a diverse and complex process, with competing interests and objectives evident at almost every stage.

This, in turn, has affected changes in policies affecting the extent and nature of Soviet bloc technology transfer to the Middle East. For the most part, Soviet policies have traditionally been shaped by political concerns, but economic objectives have apparently been gaining importance in the decisionmaking process. Individual East European states, on the other hand, tend to formulate policies which are generally complementary to but more commercially oriented than those of the U.S.S.R. Before discussing differences in policy objectives and actual policies, it is useful to first discuss the context in which technology transfer policies are made.

### Institutions and Objectives

An examination of the institutions involved in Soviet trade and foreign policymaking reveals a striking variety of actors and considerable overlap in responsibility.<sup>74</sup> The overall framework for Soviet foreign and trade policymaking lies in the U.S.S.R. planning system. This system generates a series of plans designed to coordinate all economic activity in the U. S. S. R., including foreign trade.

Altogether, five plans are most critical for foreign trade, including: the export and import plans, plans for the the delivery of exports and imports between foreign trade organizations and the domestic economy, the plan for the delivery of equipment and materials for projects built abroad with Soviet technical participation (the "foreign aid plan"), the balance-of-payments plan, and the plan for economic in-

tegration with other Council for Mutual Economic Assistance (CMEA)<sup>75</sup> countries.

These plans, which are generally published only in very abbreviated form, govern economic interactions with foreign countries and with other CMEA members. A network of domestic Soviet and CMEA agencies are involved in their preparation and implementation, in a process which begins at the top of the Soviet governmental and party hierarchy. These plans are then reviewed and expanded by officials farther down the hierarchy, and finally coordinated again at the top, where final decisions are made.

In foreign trade policymaking, the Communist Party leadership and the Council of Ministers are the key actors, operating on information from the State Planning Commission, Gosplan, and the foreign trade and aid ministries. The Presidium of the Council of Ministers has two trade-related commissions to perform these tasks, and six main central agencies under the Council of Ministers play important roles in foreign trade planning.

Of the six agencies under the Council of Ministers, three have general planning duties: the State Planning Committee (Gosplan), the State Committee for Material and Technical Supply (Gossnab), and the State Committee for Science and Technology. As the main planning organ of the U.S.S.R., Gosplan's input is probably the most important; its role is mainly to coordinate the planning process for all of the other agencies.

Gosplan develops the methodological framework, assists in cost-benefit analysis used in foreign trade decisionmaking, and sets the initial plan targets which each ministry must use in compiling draft plans. Ultimately, therefore, Gosplan is responsible for allocating the most important products and resources, and for uniting the individual agency plans into one unified plan.

<sup>74</sup>For a discussion of the evolution of foreign trade organizations and foreign trade policymaking in the U.S.S.R. see Glen Alden Smith, *Soviet Foreign Trade* (New York: Praeger, 1973), pp. 47-194; William Nelson Turpin, *Soviet Foreign Trade* (Lexington, Mass.: Lexington Books, 1977); and Stephen Gardner, *Soviet Foreign Trade* (Boston: Kluwer-Nijhoff Publishing, 1983).

<sup>75</sup> Council for Mutual Economic Assistance countries include Bulgaria, Cuba, Czechoslovakia, East Germany, Hungary, Mongolia, Poland, Romania, the U. S. S. R., and Vietnam.

The State Committee for Material Technical Supply, or Gossnab, is responsible for allocating a broad range of commodities and for distributing all producers' goods. In terms of exports, Gossnab plays an important role in coordinating the supply of equipment for projects built abroad under the sponsorship of the State Committee for Foreign Economic Relations (GKES), the Soviet aid-giving body.

Finally, the State Committee for Science and Technology (SCST) formulates policies regarding research and development (R&D), and the introduction of new technologies. It is also responsible for buying and selling patents, as well as many of the international aspects of science and technology. The SCST negotiates and implements intergovernmental and private agreements on cooperation in science and technology and technology exchange with other countries through its organization Vneshtekhnika.

Also involved in foreign trade decisionmaking are three financial agencies under the Council of Ministers: the Ministry of Finance, the State Bank (Gosbank), and the State Price Committee. The Ministry of Finance monitors the effects of foreign trade on the state budget and develops the balance-of-payments plan. Gosbank is responsible for managing the system of foreign exchange control, for setting the exchange rate of the ruble and for the performance of the international banking service through Vneshtorgbank, its Bank for Foreign Trade, and through its interest in a number of banks such as the Moscow Narodny Bank of London. The State Price Committee participates in export pricing (as well as setting domestic prices on imported goods) and in debates on cost-benefit analysis of Soviet foreign trade.

In addition to the above planning institutions are a number of agencies which actually coordinate and carry out policies, including the Ministry of Foreign Trade and the State Committee for Foreign Economic Relations (GKES). Both of these institutions have some planning responsibilities, but the former also has exclusive right to sign contracts with for-

eigners and coordinates the agencies actually carrying out foreign trade. The latter concludes agreements with developing countries for economic and technical cooperation, administers foreign aid, and approves plant exports, including nuclear facilities.

In 1979, the U.S.S.R. established the Research Institute of Economic and Technical Cooperation under the GKES to improve the implementation of aid projects and to be responsible for the marketing and after-sales service of Soviet machinery and equipment provided under the aid program. There are also several individual ministries, enterprises and agencies which produce products and equipment for export—some of which are empowered to transact business directly with foreign countries.

Each of the above implementing organizations has associated with it a number of Foreign Trade Organizations (FTOs) which are so varied in their duties and structure that one observer has noted, ". . . the only thing they have in common is that they are all authorized to sign commercial contracts with foreign parties."<sup>76</sup> Of the 64 FTOs under the Ministry of Foreign Trade, most import or export a specific group of products; three are authorized to carry out border trade with particular countries, of which one, Vostokintorg, deals with countries in Asia and the East. In addition to the 11 FTOs subordinate to the GKES, there are seven others dealing in foreign trade under other ministries and organizations.

On paper, the division of responsibility appears clear, but in practice the lines between these ministries and FTO's are overlapping and vague. A given commodity, for example, may be exported by a particular FTO under the Ministry of Foreign Trade if it is sold conventionally, or by an FTO under GKES if it is sold under a governmental credit agreement. Licenses for technology transfer may be traded by Litsenzintorg, an FTO under the Ministry of Foreign Trade, or Vneshtekhnika, under the SCST, or by other FTOs depending

<sup>76</sup>Stephen Gardner, *Soviet Foreign Trade*, op. cit.

on the type of equipment sale associated with the license.

Other ministries, such as the Ministry of Foreign Affairs, not directly responsible for trade affect it, nevertheless, through their definition of overall relations with particular countries, including scientific and cultural co-operation. The Academy of Sciences, through its research institutes and laboratories in the Soviet Union and through its liaison with foreign academies of science, is involved in exchange of scientific information.

While Soviet trade with the Middle East is undoubtedly shaped by a variety of economic, political and other concerns, political objectives have traditionally been most central. Foreign trade in general is considered to be less important to the U.S.S.R. than to Western countries, and trade has generally comprised a relatively small part of GNP—less than 8 percent in 1975. "Where more extensive foreign trade has developed, however, the objectives have tended to be largely political in nature.

This was particularly true in the 1960's: Soviet leaders saw in their construction of the Aswan Dam, for example, an opportunity to promote political ties with Egypt. Premier Nikita Khrushchev himself noted: "By building the dam we would be winning the priceless prize of the Egyptian people's trust and gratitude. And not just the trust of the Egyptian people . . . but of all the other underdeveloped countries . . . Furthermore, we knew that strengthening the Arab countries meant weakening the camp of our enemies."<sup>78</sup>

Experts debate the precise political aims of the Soviet Union in the Middle East, but these goals can be generally described as increasing Soviet influence in the region and, as a corollary, diminishing that of the West. Whether

This compares to about 13.4 percent for the United States in the same year. See Robert Donaldson, "The Second World, the Third World and the New International Economic Order," *The Soviet Union in the Third World* (Boulder, Colo: Westview Press, 1981), p.364.

<sup>78</sup>Quoted in Stephen Gardener, *op. cit.*, p.28; taken from Nikita Khrushchev, *Khrushchev Remembers* (Boston: Little Brown, 1970).

the motivation is external expansion or protection of borders, and whether the means are primarily military or less direct methods, trade is viewed as an instrument of overall foreign policy.

In recent years, however, economic considerations have risen in importance, illustrated by the declining share of economic assistance in Soviet interactions with the Middle East, the Soviet shift to expansion of hard-currency exports, the increased stringency of terms of trade, changes in Soviet choices of aid recipients, greater Soviet marketing efforts in the Middle East, and growing emphasis on "mutual economic benefit" in Soviet trade relations with developing countries as a whole. 'g

Economic goals have included creating and sustaining markets for Soviet goods while simultaneously gaining access to raw materials, fuel and consumer goods, displacing Western markets, and encouraging long-term economic relations with the U.S.S.R. Thus, while Soviet interactions with the Middle East remain characterized by a preponderance of military assistance, commercial considerations have increasingly come to the fore.

Within this general set of economic and political objectives, however, substantial debate has been documented in more specific policy areas which also affect technology transfer to the Middle East. While it is often difficult for Western observers to identify the extent of rivalries and debates, or to assess their effect on specific decisions in the U.S.S.R., as is the case in any large bureaucracy, individual and organizational interests vary.

<sup>79</sup>In the 1950's and 1960's, settlement of payments was generally in nonconvertible currency. In contrast, in the 1970's about 75 percent of the U.S.S.R.'s trading partners were conducting their trade or settling outstanding balances with the U.S.S.R. in convertible currency. This was particularly the case for the oil-producing nations (Algeria, Iraq, and Libya) trading with the U.S.S.R. See Robert H. Donaldson, "The Second World, the Third World and the New International Economic Order," in *The Soviet Union in the Third World*, Robert H. Donaldson (ed.) (Boulder, Colo: Westview Press, 1981), pp. 361-371.

To illustrate another point: in 1974, 86 percent of Soviet aid commitments went to Morocco and Turkey, neither socialist nor strongly associated with anti-Western positions.

In terms of overall foreign policy in the Middle East, debates among Soviet policymakers have been documented concerning, for example, whether to support the Arab armies in 1967 or, several years later, whether to accord the PLO diplomatic status in Moscow.<sup>80</sup>

The immediate aftermath of the Iranian revolution in 1979 saw published debates in the Soviet press over how the new Islamic regime should be regarded in Soviet foreign policy. On one side were those who argued that communism must by definition be antagonistic toward religion, and thus argued that relations with the new Islamic state could not be justified on ideological grounds. On the other hand were those who said that the essence of the Islamic revolution had been anti-imperialist and anti-Western, and thus that Islam could be considered a positive force under certain conditions; proponents of this view believed that enhanced relations with Khomeini's Iran could be beneficial, and argued for a more ideologically flexible foreign policy toward the new regime.<sup>81</sup>

Debates among Soviet leaders have been documented concerning, for example, economic issues, such as the centralization of foreign trade planning and supplements for export manufacturers. Although there is little information on debates concerning trade with the Middle East, several Gosplan and Ministry leaders have reportedly viewed the high level of centralization in the Ministry of Foreign Trade as a barrier to trade expansion and an

obstacle to enhanced prestige of other ministries and organizations.

Industrial producers have reportedly called for more contact with the world market if Soviet exports are to be competitive. Disagreements concerning export price supplements have also been documented between the Ministry of Trade, which supports the position that supplements are sufficient to cover additional costs demanded by export production, and other Soviet officials who argue that the supplements should be modified or increased.<sup>82</sup>

These debates underscore an important point in assessing Soviet technology transfer to the Middle East: despite the apparent uniformity of goals in Soviet foreign policy and foreign trade, political and economic objectives are sometimes subject to substantial debate and modification. These debates indicate that the economic concerns have become more important in Soviet trade with the Middle East, although trade continues to take place against the background of Soviet pursuit of broad political objectives.

In contrast to the Soviet Union, and especially in the 1970's, East European policy aims have generally been more economic than political in nature. The East European countries are by no means a homogeneous group, and each of them has different policies toward developing countries. In contrast to East Germany, which has most actively pursued a policy consistent with that of the Soviet Union, Romania, for example, has developed a more autonomous policy vis a vis the developing countries.<sup>83</sup>

Nonetheless, East European countries are heavily dependent on foreign trade, and their economies are dependent on energy imports (primarily from the Soviet Union at present) and on hard-currency requirements for imports from the West. East European countries have thus been more interested in building markets for their industrial and agricultural

<sup>80</sup>Ostensibly as a result of these debates, for example, Mr. Patolichev, Chairman of the Moscow Gorkom and a Central Committee member, was reassigned to become Ambassador to Denmark, and other Soviet leaders were similarly reassigned to other jobs and duties. See Karen Dawisha, *Soviet Foreign Policy Toward Egypt* (New York: St. Martin's Press, 1979).

<sup>81</sup>See Martha Olcott, "Soviet Islam and World Revolution," *World Politics*, July 1982, pp. 490-1 and 502-4. For some examples of part of these debates see E. M. Primakov, "Islam i protsessy obshchestvennogo razvitiia stran zarubezhnoga vostoka" (Islam and the Process of Social Development in the Countries of the Foreign East); *Voprosy filosofii* (Questions of Philosophy), No. 8, 1980, pp. 60-63; and G. Kerimov, "Pod zelenym znamenem Islama" (Under the Green Flag of Islam) *Kazakhstanskaya Pravda* (Kazakhstan Pravda), December 1980, p. 3; and M. T. Stepaniants, "Musul'manskoe vozrozhdenchestvo" (Muslim Revivalism), *Narody Azii i Afriki* (Peoples of Asia and Africa No. 3, 1983, pp. 20-29.

<sup>82</sup>S. Gardner, op. cit., p. 28.

<sup>83</sup>Michael Radu, *Eastern Europe and the Third World* (New York: Praeger, 1981), pp. 305, 307.

equipment exports. They have also established long-term agreements for supply of petroleum and raw materials from developing countries.

Some observers have emphasized East European energy requirements as an important factor in their dealings with Middle East countries, but it would appear that the Soviet Union may be able to cover most of their projected expanding energy requirements, albeit at higher prices than have been charged in the past to these countries for Soviet oil.<sup>84</sup> However, for individual East European states, such as Romania, oil imports from the Middle East are important.

#### THE RECORD OF SOVIET TECHNOLOGY TRANSFER POLICIES

During the past 30 years, Soviet trade policies with developing countries have undergone a shift toward more emphasis on economic considerations. Under Khrushchev, Soviet relations with developing countries were distinguished by big and showy projects, which were heavily subsidized but achieved uneven results. During the late 1950's and early 1960's, Moscow used concessionary financing (in the form of discounts from list prices and reduced interest rates estimated to average 2.5 percent with a 12-year repayment period).

By the mid-1960's, however, the disappointing results of many of these projects—delays, defaults and requests for postponements in repayments of Soviet debts, dissatisfaction with projects—as well as domestic economic reforms, generated a reevaluation in policy. With the fall of Khrushchev in the mid-1960's, a more financially conservative policy emerged which resulted in elimination of unallocated umbrella credits,<sup>85</sup> shorter repayment terms and higher interest rates, more emphasis on

feasibility studies, and more attention, at least in stated policy, to the needs of the developing countries.

The trade policies of East European countries were also revised in tandem with those of the Soviet Union. In the 1960's, East European terms of aid and trade with developing countries reflected the concessionary flavor typical of Soviet policies. As a Polish trade official commented, “. . . to compete, the Communist countries, especially the smaller ones, have to provide the sweetener of credit. Without credit, the developing countries would buy from the West. This is important to Poland, since we now have to worry about securing markets for our own domestic industry. Our heavy industrial sector is overbuilt, and we are unable to sell all we produce within Poland or even to other Communist countries.”<sup>86</sup>

Beginning in the late 1960's, the East European countries, strongly dependent on foreign trade, began to view aid to and trade with developing countries in more clearly economic terms. Many of these nations acknowledged their reduced capability to provide large credits; they shortened payment terms and eliminated subsidies.<sup>87</sup>

In the 1970's, therefore, Soviet and East European terms of trade became more similar to those offered by Western countries. Today, for example, both the U.S.S.R. and East European countries generally charge world market prices. Nevertheless, Soviet bloc countries continue to employ different vehicles, including payment in local currencies, tied aid and barter trade, in an attempt to expand their market shares in the developing world.

Barter trade, used here to include “counter-trade, “buy-backs” and “compensation agreements, is an important feature of Soviet bloc trade. An early example was the agreement between Romania and Iran, which included Romanian export of a tractor plant in return for crude oil shipments from Iran.

<sup>84</sup>*Technology and Soviet Energy: Availability* (Washington, D.C.: U.S. Congress, Office of Technology Assessment, OTA-1S(-153,1981), ch.10, “The Soviet Bloc and World Energy Markets.”

<sup>85</sup>“Unallocated umbrella credits” are untied credit, -i.e., credit lines which are not allocated to any specific project, but under which projects would be established once the credit had been given.

<sup>86</sup>Quoted in Marshall Goldman, *Soviet Foreign Aid* (New York: Praeger, 1967), p. 186.

<sup>87</sup>Michael Radu, op. cit., pp. 94, 171-173. and 333-343.

Such agreements begun under the Shah continue today.<sup>87</sup> Similarly, Poland is building 20 major industrial facilities in Iraq, employing 2,500 workers, and will in turn be supplied with oil.<sup>88</sup>

In addition to barter trade, joint ventures and specialization increasingly characterize trade between East European and developing countries. In October 1982, a working group was formed within the CMEA to promote joint marketing of turnkey projects in third countries in order to reduce duplication of efforts by East European countries and improve their ability to offer more comprehensive packages for development projects.<sup>89</sup> These examples illustrate the growing commercial orientation of foreign trade policies of Soviet bloc countries.

During the 1970's, several East European countries also made administrative and organizational shifts designed to increase trade through promotion of market forces and participation of private interests. Perhaps the most flexible system of foreign trade emerged in Hungary. Changes have included allowing large Hungarian manufacturing firms to trade directly with foreign firms and companies, and introducing an element of competition among FTOs and in export financing. While foreign trade is still a Hungarian state monopoly under the Foreign Trade Ministry, more than 150 companies now have the right to trade directly with foreign partners—bypassing the FTOs. Manufacturing firms that do trade through FTOs now have the freedom to shop around among the more than 40 FTOs. In addition, a number of Hungarian companies have established joint ventures or foreign offices, such as one established to promote trade with the Gulf States.<sup>90</sup>

It would appear that, in official policy rhetoric at least, technology transfer has become

<sup>87</sup>“Romania Barter with Third World Partners,” *South*, April 1982, p. 22. See also Pompiliu Verzariu, *Countertrade Practices in East Europe, the Soviet Union and China* (Washington, D. C.: J. S. Department of Commerce, April 1980).

<sup>88</sup>Michael Radu, op. cit., p. 311.

<sup>89</sup>“East European Contracts: Comecon Pines West,” *Financial Times*, Nov. 29, 1982.

<sup>90</sup>Information on Hungarian trade reorganization comes primarily from the *Financial Times*, May 10, 1983, pp. 1-IV.

increasingly emphasized in these overall foreign trade policies, but in very general terms. One Soviet writer—L. Zevin, of the U.S.S.R. Academy of Sciences—has written that scientific and technical relations are now regarded as a distinct and increasingly important category of Soviet foreign policy making.<sup>92</sup>

In official statements, two themes stand out: that technology transfer requires a comprehensive reordering of the recipient's social and economic infrastructure in order to promote full utilization, and that a global restructuring along the lines of the New International Economic Order is necessary.

With regard to the first point, Soviet emphasis on comprehensive technology transfer, adapted to local conditions and fostering nationwide economic development, is contrasted with the approach taken by Western countries, which is characterized as fragmented and leading to the continuing dependence of recipients. Manpower training is stressed as important for the growth of scientific and technological potential in the recipient country and the development of production. Intergovernmental agreements on science, technology and cultural cooperation are viewed as the “most suitable organizational and legal framework” for technology transfers.<sup>93</sup> With regard to the

<sup>92</sup>L. Zevin, “An Integrated Approach to Technology Transfer: Soviet Cooperation With Developing Countries,” *Impact of Science on Society*, vol. 28, No. 2, Moscow: April-June 1978, pp. 183-191. Several other articles in the Soviet press have dealt with this theme. See, for example, P. Khoinik, “Slozhnye problemy torgovliirazvitiia” (Complex Problems of Trade and Development), *Mirovaia Ekonomika i Mezhdunarodnye Otnosheniia* (M. E. M.O.) (World Economics and International Relations) May 1982, pp. 40-50; I. Egorov, “Vneshneekonomicheskaiia strategiiia razvivaiushchikhsia gosudarstv” (The Foreign-Economic Strategy of Developing Governments), *M. E. M.O.*, May 1982, pp. 154-55; I. D'iakova, “Razvivaiushchiesia Strany Azii—Eksportery Tekhnologii” (Developing Countries of Asia—Exporters of Technology), *Azia i Afrika Segodnia* (Asia and Africa Today), No. 12, 1981, pp. 35-36; and A. Tkachenko, “Malye kompanii: Ekspansiiia v razvivaiushchiesia strany” (Small Companies: Expansion to Developing Countries), *Azia i Afrika Segodnia*, No. 7, 1982, pp. 33-35.

<sup>93</sup>*Ibid.*, p. 187. See also “Razvitiie otnoshenii sotsialisticheskikh stran s pazvivaiushchiesia stranami v oblasti peredachitekhologii” (Development of Relations of the Socialist Countries with Developing Countries in the Sphere of Technology Transfer), *Vneshnaia Torgovlia* (Foreign Trade), vol. 3, 1983, pp. 25-31.

second theme, Moscow has supported the concept of an international code governing technology transfer, in order to “eliminate the economic barriers created by translational corporations to the social and economic progress of developing governments.”<sup>94</sup>

**Discussions of technology transfer** in the East European literature echo these themes. According to one East German scholar, technology transfer should be a component of the development plans of recipient countries, and socialist countries are particularly suited to transfer to technology because of their central planning and long-term strategies, and because they are prepared to export “labor-consuming” technologies.<sup>95</sup> Among the East European countries, Romania has been the most vocal advocate of a New International Economic Order,

There is evidence to suggest that Soviet bloc countries are now emphasizing technology transfer through a variety of channels such as sale of patents and licenses, consultant services in the field of economic planning and management, education and training, and building of research and design institutes. In contrast to the pattern of earlier years, where technology transfers from the Soviet bloc were associated primarily with equipment deliveries in conjunction with large-scale projects, there is a broader perspective on international technology transfer today.<sup>96</sup>

Among the varied channels of technology transfer currently considered as appropriate, stress on manpower training represents a continuation of past trends. Technical cooperation at the individual level is promoted through scientific conferences where representatives from the U.S.S.R. meet those from developing nations, through joint research projects

and exchange of scientific publications. A variety of mechanisms have been used, such as on-the-job training in Soviet projects, Soviet personnel teaching in local schools, and scholarships for study in the Soviet bloc.

In all of these training programs, stress is laid on “mass training” of developing-country personnel in sectors most critical to economic development through group study methods. This emphasis on training in Soviet programs may be interpreted as intended to further economic and political aims by propagating Soviet ideology among local populations, and to ensure absorption of technologies exported, or as a method of tying operation of facilities over the long term to Soviet equipment and methods.

To summarize, Soviet bloc countries have developed a general approach which lays considerable stress on technology transfer as a part of foreign policy. For the Soviet Union, technology transfer is in rhetoric at least viewed as an instrument for furthering political aims of building alliances with developing nations. Training has been and continues to be a central feature of this approach. (Soviet policies dealing with nuclear technology exports, which have been comparatively stringent in years past, are discussed more fully in ch. 9.)

The strongly political orientation of Soviet bloc policies affecting technology transfer is clear, but East European countries have placed more emphasis on commercial aspects—and these considerations have recently come more to the fore in Soviet policy as well. Nevertheless, the striking fact is that, despite strong official support for technology transfer, these nations have not been very successful in commercial technology trade.

## EXPLANATION OF SOVIET BLOC PERFORMANCE

The pattern of limited Soviet bloc involvement in economic interaction with the Middle East requires explanation. A number of factors act to limit the extent of Soviet bloc ex-

<sup>94</sup>See V. A. Ml'kevish, “S. Sh. A-- Razviviaushchiesia strany: peredacha tekhnologii” (The USA and Developing Countries: Technology Transfer), *Vneshnaia Torgovlia*, vol. 3, 1983, pp. 46-17 for a review of a book by R. I. Zimenkov on American Technology Transfer.

<sup>95</sup>Jerzy Kleer and Lech Zacher, “Technology Transfer From the CMEA Countries to the Third World,” research report prepared for the Austrian Institute for Economic Research, No. 56, November 1979, p. 3.

<sup>96</sup>Zevin, “An Integrated Approach,” *op. cit.*, pp. 187-188.

ports, but other factors—albeit weaker in total effect—suggest that there is a potential for expansion of technology trade in the years ahead.

Perhaps the most obvious explanation for the limited role that Soviet bloc exports play in the Middle East market is the fact that Soviet civilian products are generally perceived to be inferior in quality of technology. During the last decade, many oil-producing nations of the Middle East have been in a position to purchase the best equipment available. The view that Soviet technology is inferior has been articulated by Middle East leaders themselves. Saddam Hussein, leader of Iraq, stated in 1982: "Take technology and expertise. Do these exist in the Soviet Union or in America? I will answer you. The technology we require exists in the United States, or in Europe and Japan."<sup>97</sup>

To be sure, the Soviets do export some advanced technology in sectors such as oil field equipment, hydropower, aerial communications and geological survey equipment—particularly military-related equipment. Indeed, they are considered to be among the most competitive suppliers of power equipment and desert irrigation in the world. However, in most of the sectors examined by OTA, Middle East nations have purchased primarily Western technology, although Soviet-made 440 MWe nuclear reactors may be exported to the Middle East in the future, as discussed in chapter 9.

Concerns about the quality of equipment and sophistication of technology extend to East European-made exports as well as Soviet. In specialized areas such as Hungarian exports of buses and pharmaceuticals, East European firms have carved out niches in foreign markets. But in many product sectors, it appears that East European products are on a par with those from other developing

countries.<sup>98</sup> The East Europeans themselves have noted that their level of manufacturing sophistication is in many cases not noticeably higher than that of many of the developing countries. Nevertheless, the fact that Middle East markets make up anywhere from one-quarter to two-thirds of many East European countries total exports to developing nations (although a minor share of total exports) indicates that these exports are at least significant for Soviet bloc countries.

The fact that a large amount of Eastern Europe's commercial exports are in military-related equipment, and that these exports are normally compatible with Soviet-made equipment, illustrates the linkage of East Europe's commercial trade to Soviet policies. Where the recipient is a country politically allied with the Soviet Union, the East Europeans may reap commercial gains—particularly in comparatively less technologically sophisticated conventional arms sales.<sup>99</sup> Similarly, the continuing growth of East European agricultural exports to Middle East nations during the last decade while finished manufactures exports declined in terms of share, corroborates statements that Soviet bloc technology is in many sectors generally not on a par with that of Western countries.<sup>100</sup>

Another factor inhibiting Soviet bloc trade with the Middle East is the rigidity in their trade and administrative systems. While Soviet literature points to long experience with planning as a key asset in technology transfer, as noted above, the fact is that in many instances bureaucratic red tape and overlapping responsibilities have resulted in delayed shipments and inability to change product lines in response to shifts in export market demand.

An interrelated problem is the tendency of East European countries to depend on trade with communist countries. This stress on the

<sup>97</sup>Quoted in K. Dawisha, "The U.S.S.R. and the Middle East: Superpower in Eclipse?" *Foreign Affairs*, winter 1982-83, p. 444. Similarly, in the same text, Syria's Minister of Information is reported to have stated that Soviet military machinery and equipment used by Syria in the war in Lebanon was inferior in quality to U. S. weaponry.

<sup>98</sup>K. Z. Poznanski, "New Dimension in International Trade: East-South Competition in the West," unpublished paper, Department of Economics, Cornell University, December 1982.

<sup>99</sup>U.S. Department of State, *Conventional Arms Transfers in the Third World*, Special Report No. 102, August 1982, p. 8.

<sup>100</sup>Oeschler and Martens, *op. cit.*, p. 531.

home market has resulted in weakness in worldwide marketing and a lack of flexibility in responding to changing conditions in the marketplace.<sup>101</sup> The comparative underdevelopment of Soviet bloc institutions carrying out trade with developing countries is perhaps the root cause of this inability to market and change production in line with shifts in demand abroad.

Finally, East European writers have also noted the comparative lack of historical economic interaction with the Middle East as a factor limiting their commercial interactions. In their view, since Western firms already dominate Middle East markets, East European firms must expend considerable efforts to gain a presence. Because most CMEA trade is carried on among socialist bloc countries, as noted above, this absence of historical ties with the Middle East is reinforced.

For the Soviet Union, however, the picture is somewhat different. As a major exporter to the Middle East during the 1960's, and with numerous personnel in the region, the Soviet Union has a longer and deeper history of relations. However, as the expulsion of Soviet advisors from Egypt illustrates, in some cases good will has not resulted.

Other factors act to stimulate increasing economic interaction with the Middle East, but to date these factors have been less salient than those mentioned above. To a certain extent, Middle East countries which previously purchased equipment from the Soviet bloc may find it necessary to continue purchases of spare parts. While requirements for spare parts present a stimulus for trade with the Soviet bloc, it must also be noted that countries such as Egypt have succeeded in producing their own parts at the Helwan (Egypt) factory for use in Soviet-built civilian and commercial

aircraft. Using reverse engineering where design drawings are not available, the Egyptians have received high ratings for their organization, management and engineering quality at Helwan. Even in the case of military equipment, nations are often able to find suppliers in third countries.<sup>102</sup> Nevertheless, under normal conditions recipient countries may prefer to go to the original supplier for spare parts.

A second factor with the potential to stimulate trade is the cheapness of Soviet bloc goods, and the willingness of these supplier nations to engage in barter trade. During a period of reduced revenues from oil production, Middle East countries may find trade with Eastern bloc nations more attractive, particularly given the requirements of nations such as Romania for oil imports which might be provided in exchange for Soviet bloc goods. Similarly, for good economic reasons, Middle East nations may naturally diversify suppliers in order to gain better bargaining leverage. The economic benefits of diversification of suppliers are, however, not unlimited. By relying on too many suppliers, the costs of spare parts and difficulty in ensuring compatibility of systems may increase.

Finally, Middle East countries may wish to expand relations with the Soviet bloc for political reasons. While on the one hand the Soviet invasion of Afghanistan undoubtedly diminished Soviet standing with many Middle East nations, the war in Lebanon and the inability of the United States to mediate a lasting peace in the region which resolves the Palestinian question may have heightened impatience with U.S. leadership.

Debates about the need to include the Soviet Union in a Middle East peace settlement are accentuated by the rejection of the Israeli-Lebanese agreement. The fact that the Brezhnev peace plan was more congruent with the

<sup>101</sup>Kleer and Zacher, *op. cit.*, p. 14. These rigidities are reportedly less apparent in arms sales. One report notes: "The speed with which weapons, once ordered, can be delivered is an important factor in the Third World arms trade. As a consequence of the industrial capacity created to support the huge Soviet conventional force modernization program, Moscow has important advantages over all other arms-exporting nations . . ." See U.S. Department of State, *op. cit.*, p. 8.

<sup>102</sup>When Iraq was embargoed by the United States, it reportedly received spare parts from Israel, and Soviet systems were obtained from Libya, Syria, and North Korea. Iraq has received Soviet parts from Egypt. See, for example, "International Report," *Defense Electronics*, (October 1982, p. 19, cited by Stephanie Neuman in "Third World Defense Industries," paper prepared for U.S. State Department, INR, May 1984.

Fez Plan proposed by the Arabs indicates a potential receptivity to Soviet positions. In July 1984 Egypt announced that formal relations with the Soviet Union would be restored. The participation of Saudi Foreign Minister Prince Saud in a seven-member Arab delegation to Moscow, and King Fahd's message to then Premier Yuri Andropov both marked unusual Saudi overtures toward the Soviet Union in 1983.<sup>103</sup> Egypt also signed a trade protocol with the U.S.S.R. and Iraq an economic and technical cooperation protocol in 1983. While there is some dispute concerning the significance of these developments, increased openness toward diplomatic relations with the U.S.S.R. could well have an impact on trade relations.

Interpretations of these interactions between Middle East countries and the Soviet Union differ. On the one hand, such overtures may be viewed as a means of applying pressure on the United States to modify its policies in the region, specifically as a sign of disappointment with U.S. peacemaking. On the other hand, some observers argue that for Middle East countries which have established relations with the United States, the opening of relations with the U.S.S.R. merely establishes formal interactions with the other superpower—a fact of normal diplomacy for most nations in the world. Neither interpretation clarifies implications for technology trade, but the latter would suggest less dramatic changes in interaction than the former.

#### THE FUTURE OF SOVIET BLOC ECONOMIC INTERACTION

Judging by the volume of Soviet bloc exports to the Middle East, the performance of these nations in commercial technology trade—particularly in the sectors examined by OTA—has been weak. The declining share of

Soviet bloc commercial exports as compared to those of Western suppliers indicates that these nations have achieved only minimal success in civilian technology trade with the Middle East.

Considering the rather modest levels of expenditure in terms of aid disbursements to the Middle East, it could be argued that Soviet bloc countries nevertheless have benefited from economic interaction with the Middle East. Deliveries of crude oil and natural gas from Iran and Iraq have contributed to meeting Soviet bloc energy requirements, and there has been a net flow of hard currency to the U.S.S.R. from the Middle East.

While Middle East countries have often been dissatisfied with Soviet bloc development projects, the Soviet Union has gained recognition from a few strikingly visible projects such as the Aswan Dam in Egypt and the Euphrates Dam in Syria. The effects of training are more difficult to judge, but these include at the least hard currency earnings and presumably in some cases expanded influence on opinions and decisions.<sup>104</sup>

Thus, the argument can be made that for a rather modest investment considerable gain has accrued for the Soviet Union in particular from trade with some Middle East countries, even though Soviet influence, however defined, may remain limited.

Will Soviet bloc countries become more important suppliers of technology to the Middle East in the decade ahead? During the last decade, Middle East countries including even traditional trading partners of the Soviet bloc have increasingly turned to the West in technology trade. More recently, however, a few moderate Arab states have indicated a willingness to consider expanded political ties with the Soviet Union.

As discussed above, political as well as economic factors may stimulate a modest but limited expansion in trade with the Soviet bloc.

<sup>103</sup>See, for example, "Ukaz sees Need for Soviet MidEast Role" in *Foreign Broadcast Information Service (FBIS) Daily Report, Middle East*, Jan. 20, 1983, p. C. 1; "As-siyasah Interviews Crown Prince Abdallah, in *FBIS Daily Report: Middle East*, Mar. 23, 1983, p. C. 1; and "Ghali on Tabah, Relations With Soviet Union," *FBIS Daily Report: Middle East*, Mar. 25, 1983, pp. D. 1-D. 3.

<sup>104</sup>CIA, "Communist Aid Activities . . ." p. 9. By 1979, hard currency earnings from exports of technical services exceeded \$100 million annually for the U.S.S.R.

There is, however, little indication that these countries will become significant suppliers across the board in technology trade, or in all the sectors examined by OTA. Middle East countries will probably continue to acquire advanced technology primarily from the West, unless the political and economic context

changes dramatically. In specialized areas, East European and Soviet suppliers may expand sales in the region, but these countries will in all likelihood continue to play a limited and secondary role in civilian technology trade.

### III: CONCLUSION: TRADE AND POLITICS IN SUPPLIER COUNTRY POLICIES

This examination of approaches to technology transfer taken by non-U. S. suppliers in the West and in the Soviet bloc reveals a unifying theme: those supplier countries which have exercised or aspired to exercise a leading political role in Middle East politics have in most cases placed less stress on commercial promotion as a matter of public policy than the other suppliers. This is certainly the case for Great Britain (a former great power in the region) and the Soviet Union. Both nations export civilian technology to the Middle East, but they have not in the last decade captured rapidly expanding shares of the Middle East market.

This is not to suggest that playing a leading political role necessarily requires de-emphasis on economic issues. Among the Western suppliers, the French Government has woven political and economic policies most closely together in an active state-led approach to the Middle East. While this combination has not resulted in a rapid expansion of French civilian technology trade, some see it as perhaps important in preventing a more precipitous decline in French share that might have otherwise occurred. Nor is it the case that countries playing leading political roles gain no economic benefits. All of the nations playing a role in high-level politics nevertheless derive economic benefits from significant arms sales in the region. In addition, strong political alliances between suppliers and recipients have in many cases coincided with strong trading relationships,

Some countries opting for a lower-profile diplomatic and political role—including Japan and West Germany in the West and East European nations such as Romania and Hungary—rapidly increased their exports to Middle East markets in the 1970's.<sup>105</sup> By eschewing a high-profile diplomatic role, these countries have in some cases concentrated their interactions with Middle East nations in the economic sphere. All of them—particularly Japan and Romania—import some oil from OPEC. These nations are also secondary but significant members of their respective Western and Eastern political alliances.

The extent to which politics set a context for supplier-recipient technology trade relations is illustrated by table 101, which indicates the concentration of economic interactions of the supplier nations with a comparatively limited group of Middle East nations, in contrast to comparatively wide-ranging trade relations of nations such as Japan and West Germany.

Among the supplier nations in both the East and the West, those that have allowed economic interests to come more to the fore in their foreign policies have developed technology trade relations with a wide spectrum of Middle East nations. However, it would be a mistake to conclude that these nations com-

<sup>105</sup>Between 1974 and 1978 Romanian exports to OPEC nations increased annually 35.5 percent, and Hungarian 32.7 percent. See Oechsler and Martens, p. 522.

pletely shun political roles. West Europeans have argued that, by engaging in trade with Middle East nations not closely associated with the West, they keep the door open for communication and interaction, thus performing a role complementary to that of the United States. Periodic frictions with the alliance leader, as were noted during the past decade in U.S.-European discussions of energy policies, have sometimes ensued.

Nor would it be accurate to conclude that simply by renouncing a high-profile political role a nation necessarily will reap commercial rewards or that governments, particularly in the West, through public policies strongly determine the competitive positions of nations' firms in foreign markets. As observed in part I, there is little evidence that any one approach to technology transfer is clearly superior.

The interplay of politics and economics in technology trade is complex. Economic gains and losses of different types are associated with various political sources. By bringing economics to the fore in foreign policy and by developing policies which support technology trade initiatives taken primarily by the private sector, many supplier governments have set a positive context for economic interaction with Middle East nations. Governments thus play important, but not determining, roles in affecting the pattern of technology trade by establishing the broad political context of relations (including military and development assistance programs in Middle East nations), and then by supporting (or impeding) specific technology trade initiatives taken primarily by the private sector.