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CHAPTER IV

**The Foreign Policy  
Implications of East-West  
Trade and Technology  
Transfer**

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# The Foreign Policy Implications of East-West Trade and Technology Transfer

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One of the basic issues of technology transfer to the Soviet Union concerns the opportunities for and utility of using trade to achieve political objectives of U.S. foreign policy. Such efforts are distinct from controls on trade designed to restrict the transfer of military-relevant equipment and technologies. The question of the political uses of trade has generated considerable controversy and at least three major schools of thought. They divide according to whether they view trade as, in fact, usable for achieving the political objectives of U.S. foreign policy toward the Communist world and, if so, whether the strategy should be one of using trade to build a constraining web of interdependence within an overall framework of "detente" or as leverage to obtain specific policy concessions in the context of superpower conflict.

The following analysis sets forth the logical assumptions and policy implications of three different perspectives on the political utility of trade. These perspectives are not intended to reproduce the views of any particular individual. Nor does the analysis seek to capture all the manifold detail and nuance of the policy debate on this question. Finally, there is no effort to pass judgment concerning the relative merits of the different perspectives and the policy recommendations that flow from them. It is hoped, however, that an identification of the major ways of viewing the question and the logical assumptions and implications of those perspectives will help clarify what has become a highly complex and emotional debate.

## PERSPECTIVE I

### THESIS

The first perspective rests on a judgment that, for good or ill, trade is not an effective instrument to achieve political objectives. This is the official view of the Soviet Union and is held by a number of America's allies, who contend that history has shown that efforts to obtain political concessions from the nonmarket economies through policies of economic pressure or inducement will be unsuccessful. Consequently, countries like

Japan and France have largely decoupled trading policy from other aspects of their foreign policy toward the Communist countries. Each trade and credit transaction is judged on its economic merits alone. What distinguishes this perspective from the two that follow is the belief that attempts to extract a political price for trade—however desirable the objective—will be ineffective and counterproductive in practice. The logic and implication of this approach is discussed in considerable detail in the chapters reviewing

European and Japanese trade policies (see chapters VIII and IX).

## **CRITIQUE**

In the most general terms, this perspective has the advantage of allowing economic transactions to provide economic benefits unfettered by extraneous requirements. The vexing policy dilemmas that inevitably follow any attempt to attach political conditions to trade are thereby avoided.

On the other hand, any opportunities to use trade to further other, noneconomic, State interests are forgone. Moreover, there is an important asymmetry in economic transactions between pluralist and centralized economic systems. The former tends to

judge the merits of each transaction in macroeconomic terms, i.e., whether it is to the advantage of the particular corporation(s) involved. The latter judges the same transaction in macroeconomic terms—its net benefit to the economic system (i.e., the State) as a whole. A particular business deal may well be to the net advantage of a specific American company, but to the net disadvantage of the United States relative to the U.S.S.R. Finally, for a nonsuperpower with relatively circumscribed interests vis-a-vis the U. S. S. R., any effort to use trade as a means of altering Soviet policy may make little sense. But for the United States, whose interests engage those of the U.S.S.R. along a very wide front, trade controls may be one instrument among many in an ongoing and unavoidable effort to influence Soviet policy.

## **PERSPECTIVE II**

### **THESIS**

The second perspective rests on four propositions:

1. trade can and often does have political consequences and utility;
2. a stable cooperative relationship between the United States and the U.S.S.R. is achievable and the United States has no real choice but to try to build such a relationship;
3. trade tends to have a moderating effect on international relationships due in part to the interdependencies it fosters; and
4. the Soviet need for Western imports of technology provides one of the most effective means for inducing moderation in Soviet policy.

These propositions tend to be associated, in turn, with a series of assumptions and observations about the Soviet Union. First, there are powerful forces tending toward a lessening of the ideological fervor and revolutionary commitment of the regime. Among them are the gradual emergence of a consumer economy; the transformation over time of

the ideology from revolutionary guide to ritual incantation; the aging of the Soviet leadership and Soviet society generally; the status of the U.S.S.R. as a “have” nation relative to most of the less developed countries of Afro-Asia; recognition of the dangers of pursuing a radical foreign policy in the nuclear era; the potential for a complementary economic relationship involving the exchange of Soviet raw materials for Western capital and technology; and the existence of several areas of common interest with the West, including arms control and such areas of common concern as the prevention of nuclear proliferation and the protection of the global environment.

Second, the Soviet Union is viewed as being in the early stages of a deepening systemic crisis manifested initially by economic stagnation and a failure to close the gap relative to the West in the civilian applications of science and technology. The U.S.S.R. is burdened with a chronic shortage of hard currency resulting from a seeming inability to develop a range of manufactured products that are competitive on world markets—this despite the advantages of a rich

and varied resource base and a very large pool of trained scientific and technical manpower. These shortcomings are rooted in the inappropriateness of a rigidly authoritarian political and social structure for a complex, advanced industrial economy. The Soviet system does not permit and foster the flows of information, the innovation, the experimentation, and the general flexibility and adaptability such an economy requires. As a consequence, the Soviet economy has been unable with its own resources to provide for the broad modernization of Soviet life. The problem is greatly exacerbated by the heavy burden of military expenditures.

In this situation the Soviet regime has three broad options: 1) maintain or even tighten political-ideological controls in the name of Marxist orthodoxy, but at the price of economic inferiority vis-a-vis the West, 2) ease controls to stimulate economic growth, but at the risk of changing the political character of the system, and 3) retain controls, but try to escape the economic consequences by obtaining needed technological and managerial innovations and know-how from the West. A similar situation and set of choices confront the Soviet-occupied nations of Eastern Europe.

A third assumption posits the existence of conflicting views within the Soviet leadership concerning whether to adopt a general posture of negotiation or confrontation vis-a-vis the West. This division assumes particular importance given the imminent passing of the aged Brezhnev leadership and the uncertainty concerning the identity and policies of his successor. In short, the near future may witness a policy decision of historic dimensions by the Soviet Government regarding its relations with the West.

Based on these propositions and assumptions, proponents of Perspective II have advocated a broad U.S. strategy for dealing with the U.S.S.R.—an approach identified with the term “detente.” The basic idea is to take advantage of the Soviet need for Western technology and capital and of other opportunities for interchange (e.g., tourism,

cultural and scholarly exchanges, sports, etc. ) to build what Henry Kissinger called “a web of constructive relationships. ” This should have a number of beneficial effects:

1. It should give Moscow a greater stake in the existing world order and the attendant “disciplines of international life” by integrating the Soviet economy into the international economic system.
2. It should strengthen the Soviet consumer economy as a claimant on Soviet resources and as a generally moderating factor in national policymaking.
3. It should strengthen the hand of moderates in the Soviet leadership by demonstrating the opportunities for useful cooperation with the West.
4. It should provide increased opportunities for the penetration of Soviet society with Western products, culture, and perspectives, i.e., the greater number of peaceful interactions the U.S.S.R. has with the non-Communist world, the more likely that it will become responsive to Western canons of international and domestic behavior.
5. It should, with time, make Soviet policies and behavior increasingly susceptible to foreign pressures.

For example, scientists who have participated in exchange programs with Soviet counterparts argue that these contacts have been effective in achieving a better integration of Soviet scientists with the world scientific community. This has made it much more difficult for the Soviet Government to repress individuals without attracting world attention to the fact. It has allowed Westerners an opportunity to assist scientists officially denied the opportunity to receive literature in their fields or to communicate with other scientists working in related fields.

## CRITIQUE

There is no agreed systematic formulation of the detente perspective that can be used

to evaluate the concept. In large part the viability of detente as a strategy will depend on what is expected of it. It can be viewed as a comprehensive framework for integrating and managing the strategic, political, and economic dimensions of relations between the United States and the Soviet Union. Alternatively, it may simply be viewed as a series of specific agreements between the superpowers designed to ease tensions and build a network of mutually beneficial interactions, particularly in the economic area. The criteria for evaluating detente and the judgment reached concerning its viability as a strategy will clearly vary according to the definition used.

For the critics of detente, the key question is to what extent detente has served to restrain Soviet actions. In the economic sphere the value of U.S. exports to the U.S.S.R. rose from \$105.5 million in 1969 to \$546.7 million (1972), \$1.2 billion (1974), \$1.6 billion (1977), and \$2.2 billion (1978). Although trade is still very low relative to the total Soviet economy and compared to other industrial nations (see chapters III and X), there has been a clear growth in Soviet involvement in international commerce. As Helmut Sonnenfeldt notes:

Trade with the outside world has long been used to fill gaps that the Soviet economy itself could not fill. But the volume and diversity of this trade have steadily increased in recent years; the methods have evolved from barter or straight cash deals to more complex commercial arrangements, including considerable reliance on foreign credits. These latter have now risen to some \$40 billion for the Soviet bloc COMECON countries as a whole; Soviet hard-currency indebtedness is in the neighborhood of ten billion dollars. A substantial volume of economic activity in the U.S.S.R. and other Eastern countries must now be devoted to earning hard currency to finance imports and to service mounting indebtedness.<sup>1</sup>

<sup>1</sup>Marshall D. Shulman, Special Adviser to the Secretary of State on Soviet Affairs, testimony before the Subcommittee on Europe and the Middle East of the Committee on International Relations, House of Representatives, Sept. 26, 1978. Committee print, p. 164.

Other forms of interaction, e.g., scholarly exchanges and tourism, have shown a similar pattern of growth. However, the political implications of these trends are uncertain. It is difficult to demonstrate that Soviet international behavior in the 1969-79 decade has been significantly more considerate of Western interests than it was in the preceding decades. The same is true of the hypothesis concerning the moderating effect of international transactions on domestic Soviet policies. In the short term, the characteristic reaction of the Soviet internal security apparatus is to tighten controls during periods of international relaxation.

The most explicit agreement between the two superpowers concerning the political content of detente was embodied in the declarations of basic principles signed at the 1972 Moscow summit conference and the 1975 Helsinki Conference on Security and Cooperation in Europe. The intent was to develop a broad code of conduct "rules of the game" to which the United States and U.S.S.R. agree to adhere in their interactions. Such codes are designed to impose restraints on the scope of acceptable behavior and thereby manage the competitive aspects of U.S.-Soviet relations. From the U.S. perspective, however, there are serious grounds for questioning whether subsequent Soviet policy, notably concerning Africa and the human rights of political dissidents within the U. S. S. R., has been faithful to these agreements. Other events to which critics point as evidence of the failure of detente to exert restraint on Moscow include Soviet aid to Arab forces during the Yom Kippur War, Soviet approval of North Vietnam's disregard of the Paris Accord, Soviet support for the Portuguese Communist Party's attempted *putsch*, and most importantly, the dramatic buildup of Soviet military capabilities.

Not surprisingly, Soviet spokesmen have taken pains to disabuse proponents of Perspective II of their belief that the U.S.S.R. can, in effect, be co-opted through trade or other economic arrangements. For example,

D. Gvishiani, a Deputy Chairman of the Soviet State Committee of Science and Technology, has objected strongly to the proposition that joint production arrangements are a way to overcome political or ideological differences:

We have different socio-economic systems and different ideologies—that is an existing reality to be reckoned with. Ideological differences between us exist and will continue to exist and we should not count on eliminating them by way of developing industrial cooperation or by some other way.<sup>z</sup>

In addition to ambiguities concerning the scope of detente and doubts concerning the lessons of history, it is not always clear how detente relates to efforts to exert pressure on Moscow. There is a theoretical tension be-

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<sup>z</sup>D. Gvishiani, statement at 8th "Dartmouth Conference" held in Tbilisi, Republic of Georgia, 1974. Cited in National Academy of Sciences, *Review of the U. S./U.S.S.R., Agreement on Cooperation in the Fields of Science and Technology*, 1977, p. 34.

tween the notion of building a web of cooperative interaction and using those same transactions to coerce Soviet policy. This is particularly true if pressure is exerted before such transactions have become well-established. Thus, the opportunities for using detente to leverage Soviet policy will tend to be greater after the relationship has matured when, paradoxically, such pressures may become unnecessary.

Finally, criticism of detente focuses on the role of science and technology in U.S.-Soviet relations. Proponents of detente argue that these are the most promising areas and instruments for achieving cooperative solutions to common problems. Critics contend that the Soviet leadership views science and technology as the key determinants of national power in the modern era and hence a decisive arena of competition between East and West. By facilitating the transfer of scientific and technological knowledge to the U. S. S. R., detente plays into the hands of Soviet global ambitions.

## PERSPECTIVE III

### THESIS

The third major school of thought accepts the basic proposition that transfers of technology can have political consequences, but is profoundly skeptical about the linkage between simple economic interaction and policy moderation. It argues that the Soviet Union's behavior has not visibly moderated since it began to import Western technology on a substantial scale and that history is full of examples of wars and confrontations between major trading partners. Proponents of this view contend that the Soviet-U.S. relationship is, and will remain indefinitely, one of conflict. The Soviet Union needs imports of technology to compensate for the rigidities, low productivity, and lack of innovation in its economy, and, consequently, Western

transfers of technology may have the net effect of strengthening an adversary. This is particularly true if such imports are financed by credits at low rates; they then amount to a kind of foreign aid. Such assistance to the Soviets is only justified if we receive something in return in the form of more congenial Soviet policies.

Any real hope for a long-term easing of the confrontation between the U.S.S.R. and the West will require basic changes in the policies of the Soviet Government—changes that will not come voluntarily and can be induced only by outside pressure. Moscow's need for Western technology and the credits to pay for it offer one of the best, if not the best, instruments available to exert such pressure. For example, Senator Stevenson,

in arguing for amendments to the Export-Import Bank Act of 1974 that would significantly curtail the extension of U.S. official credits and guarantees to the Soviet Union (see chapter VII), contended that:

Credits and the withholding of credits can at times serve useful political purposes . . . . The \$300 million limitation of credits to the Soviet Union for the next year will permit a tighter rein on Eximbank activities. Major project review by the Congress, whether it involves loans, guarantees, or insurance, would force a more careful assessment of the overall implications of Exim credit assistance and provide the Congress with a tool for exercising appropriate influence. The evolution of detente, peace in the Middle East, SALT, and human rights in the Soviet Union will all influence future Congressional decisions as to whether a particular large project should be financed or the availability of credits continued.<sup>3</sup>

Adherents of Perspective III agree with the proponents of Perspective II that the U.S.S.R. faces a deep-seated economic and political dilemma, but they are far less sanguine that the forces and trends shaping the Soviet system are pressing toward a moderation of Soviet policies. They see the regime as determined to avoid such an outcome and as using the importation of Western technology and capital as a key element in that effort. Perspective III agrees with Perspective II that divisions almost certainly exist within the senior Soviet leadership concerning policy toward the West and that it is in the interest of the West to strengthen the hand of those in the leadership that favor a more moderate, cooperative posture. Where Perspectives II and III diverge is on the best tactics for achieving such an outcome. Proponents of detente Perspective II argue that the overt use of trade pressures to alter unfavorable Soviet policies will tend to strengthen the hand of the Soviet hardliners whereas proponents of Perspective III main-

tain that Soviet hardliners are strengthened whenever the United States fails to vigorously defend its interests.

There is a variant of Perspective III that carries the assumption of the adversary nature of U.S.-Soviet relations to its logical conclusion. It is argued that if the Soviet Union is considered to be a direct and relatively immediate threat to Western security, the United States and its allies should respond with an embargo on all trade and capital flows that could strengthen Soviet capabilities. The objective here is not to leverage Soviet policy, but to limit Soviet power. Thus the U.S. embargo against Nazi Germany was not intended to modify Hitler's policies, but to deny that regime needed resources. To be effective such a strategy would require close cooperation among the major Western exporters to the U.S.S.R. Consequently, the feasibility of this approach hinges on calculations concerning the possibility of a hardening of attitudes toward the U.S.S.R.—born of disillusionment with detente—among the Coordinating Committee for Multilateral Export Controls (CoCom) governments. At the present time such a shift is not evident. Consequently, the predominant tendency with Perspective III is to look to trade as a lever on Soviet policy.

## CRITIQUE

There are very few high-technology products that the Soviet Union wants to import in which the United States has an effective monopoly by virtue of the fact that the U.S.S.R. has no adequate alternative suppliers. It is generally agreed that the major plausible exceptions are computers and certain types of advanced oil- and gas-drilling equipment (see below). Wheat may also be in this category, but as a primary product export, it falls outside the purview of this report. When the United States does not enjoy a monopoly, leverage is feasible only if a coordinated approach can be negotiated among all the major suppliers. At present,

<sup>3</sup>Helmut Sonnenfeldt, "Russia, America, and Detente," *Foreign Affairs*, vol. 56, No. 2, January 1978, p. 286.



the other major exporters of technology to the East (West Germany, Great Britain, France and Japan) are generally opposed to the use of trade to achieve political leverage (see chapter IX), although a change in domestic political alignments might change that situation. Even with stronger coordinated actions, controls over trade in technologies tend to be effective for a relatively short period due to the emergence of alternate suppliers or the domestic development of the controlled technology in the embargoed State. The latter point is particularly applicable in the case of a large, advanced, and diversified economy like that of the U.S.S.R.

There can be no doubt that the Soviet Union's need for certain imported technologies is considerable and that the priority assigned to those imports is high. They are required to overcome serious bottlenecks in an economy that is showing unmistakable signs of stagnation. In all probability the need for technology imports from the West will increase over the foreseeable future. Nevertheless, it remains true that the U.S.S.R. can probably develop and produce domestically any technology that it wants badly enough and cannot obtain from abroad, although the opportunity costs for other sectors of the economy may be considerable as the required resources are diverted and committed. The consequences of forgoing imports are likely to appear most directly in the civilian economy, since it can be assumed that a concentrated effort has been made to avoid reliance on imported technologies in the military sector.

While the consequences of affecting the civilian Soviet economy are difficult to assess, there is little evidence that the regime need fear domestic political unrest as a consequence of such costs. The drive for economic advance probably comes less from a need to respond to public desires for increased living standards than from the regime's own ambition to match the economic and technological achievements of the West. Consequently, under present circumstances

it is unlikely that the importation of any particular technology will be viewed as sufficiently critical to justify altering policies that derive from the Soviet Union's basic objectives concerning national security, international influence, and preservation of the domestic political system and the dominant role of the Party. An important caveat may be necessary with regard to Eastern Europe. Events in recent years suggest strongly that domestic economic conditions can give rise to serious political unrest in at least some of the Eastern European countries.

The calculation of the cost of acquiescing to U.S. trade pressures is presumably affected, perhaps decisively, by the manner in which leverage is exerted. Critics of attempts to compel changes in Soviet policy by use of legislative sanctions argue that such public ultimatums inevitably raise the price of compliance to prohibitive levels by making national pride the overriding issue. They contend that quiet diplomacy outside the public spotlight is more likely to achieve results. A related argument questions whether it is advisable or even legitimate for the United States to demand changes in Soviet domestic policies—those being within the sovereign jurisdiction of the Soviet State.

Defenders of the legislative approach respond that proponents of quiet diplomacy have had ample opportunity to test that approach without notable success. As for domestic jurisdiction, it is contended that international practice has clearly established that such matters as human rights and emigration are the proper concern of the international community. Moreover, a long-term cooperative relationship between East and West will become possible only if some of the more totalitarian characteristics of the Soviet regime are substantially modified. Thus, Soviet domestic policy becomes an appropriate litmus test of the regime's intentions in its relations with the West.

To date, efforts to use technology transfer for political leverage on the U.S.S.R. have

focused on the issue of the right of Soviet Jews to emigrate and to a lesser extent on the treatment of political dissidents in the U.S.S.R. and on Soviet activities in Africa, particularly the use of Cuban troops in that continent's conflicts. It is extremely difficult to rank order the policy priorities of the Soviet Union or any other State. Nevertheless, it seems clear that at least in the two instances of Soviet policy regarding domestic political dissent and foreign policy toward Africa, the cost of acquiescing to U.S. pressure would be high from a Soviet perspective. At stake in Africa is Moscow's claim to the rank of a great power with global interests on a par with the United States. It is most unlikely that any imported technology would be of such value to the Soviet Union that it would, in effect, back away from its claim to global great power status to obtain it. The same is true for the handling of political dissidence where what is ultimately at stake is the basic authoritarian structure and ideological identity of the political system. It would take powerful pressures indeed to induce the Soviet leadership to undertake so profound a change—one that would in a real sense constitute a political revolution. This is not to say that no effective pressure can be brought to bear by the West in support of such objectives. It is to suggest that to accomplish the desired results, trade leverage would almost certainly have to be supplemented by other pressures and inducements in a coordinated allied strategy. Emigration policy, while also of considerable importance to the Soviet regime, probably ranks somewhat lower on the scale of priorities and is, therefore, presumably more susceptible to Western pressure. Whether enough leverage can be exerted through the trade sector to significantly alter emigration policies is a question that

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<sup>4</sup>A distinction must be made between "dissidence," and "dissidents." Whereas the prerogative to suppress dissidence as a political phenomenon is a vital interest to the Soviet Government, that same Government has shown some flexibility in its handling of individual dissidents, including allowing or compelling a number of the most prominent to emigrate.

has been put to an empirical test by the Jackson-Vanik amendment discussed below.

It is important to note that attempts to exercise leverage, even when successful, can have unanticipated and sometimes costly side effects. Marshall Shulman, Special Advisory to the Secretary of State on Soviet Affairs, has contended in congressional testimony that U.S. pressure on the U.S.S.R. concerning human rights, to which the administration is deeply committed, may adversely affect the prospect of achieving agreement with the Soviet Union in other areas:

It is true . . . that when we make an issue of human rights, and particularly, we speak of individual dissidents, who are being arrested, harassed, or tried, that is a factor of [sic] the political deterioration of the relationship, it affects other aspects, and perhaps it affects the degree of cooperation we can achieve in other matters.<sup>5</sup>

Another adverse side effect of imposing political conditions on trade may be to damage the competitive position of American exporters in world markets by jeopardizing the reputation of the United States as a reliable supplier.

Even if leverage is exerted successfully, the Soviet Government may vow "never again, and make extraordinary efforts to avoid any subsequent need for Western technology, thereby diminishing the prospects for successful leverage in the future. If the attempt to exert leverage fails, Soviet policy will not be adjusted to U.S. requirements and, consequently, the technology will not be transferred. In this event, the Soviets may again take steps to minimize future dependence while the United States incurs economic and possibly political costs from the embargo. Soviet officials have tried to give credibility to this argument by vigorously contesting the morality and utility of Western efforts to use trade as a lever on Soviet policy.

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<sup>5</sup>Adlai E. Stevenson III, "Views on Eximbank Credits to the U. S. S.R.," in *U.S. Financing of East-West Trade*, ed. by Paul Marer, International Development Research Center, Indiana University, Bloomington, Ind., 1975, pp. 253-4.

The most visible recent attempt to utilize a leverage strategy is the Jackson-Vanik amendment to the Trade Act of 1974 (Public Law 93-618), which explicitly links U.S. tariff policies and export credits to the willingness of other nations to allow free emigration of those desiring to leave. An unstated target of the amendment is Jewish emigration from the Soviet Union. The Jackson-Vanik amendment must be differentiated in one crucial respect from the use of technology

exports for leverage as described above. The amendment is sweeping in its scope; by focusing on Export-Import Bank credits and most-favored nation (MFN) status it puts at risk the entire spectrum of trade between the Soviet bloc and the United States, not just the export of a particular technology or family of technologies. Consequently, the amendment represents a more forceful instrument than the manipulation of technology exports alone.

## EMIGRATION POLICY

The question of the advisability of focusing leverage on Soviet emigration policy as opposed to other Soviet policy targets has been much discussed. In support of the former choice, the following arguments can be made:

1. For the Soviet Government emigration policy is important, but not so important as to render it immune to external pressures.
2. It is a relatively discrete policy, subject to monitoring by outside observers.
3. Emigration is not an academic question; it involves real costs to the U.S.S.R. in terms of the loss of valuable human resources and in terms of political symbolism as significant numbers of persons overtly and successfully reject the Soviet system.
4. Conversely, the decision by many of the emigres to come to the United States provides this country with a steady infusion of talent.
5. Support for freedom of emigration is a tangible manifestation of U.S. concern for human rights.

The two principal contrary arguments are:

1. Emigration is a domestic policy and therefore an inappropriate target for leverage.
2. Soviet foreign policy would be a more appropriate target both under international law and in terms of the potential benefits to the U.S. national interest.

In attempting to assess the impact of this legislation it must be remembered that U.S. attitudes are not the only factors influencing Soviet emigration policy. Additional considerations include the reaction of other non-Russian ethnic minority groups in the U. S. S. R., the advantage to Moscow in some instances of permitting or even compelling particularly troublesome individuals to leave, the strenuous objections of the Soviet Union's Arab allies to the continued flow of Soviet Jews to Israel, and the costs in terms of political symbolism and the loss of human resources noted above.

The first year of significant Jewish emigration from the U.S.S.R. was 1965, when 1,500 were granted exit permits. The number rose dramatically in 1971 to more than 14,000, and again in 1972 (31,500) and 1972 (almost 35,000). The number fell sharply to 20,700 in 1974 and to 13,300 in 1975. The Jackson-Vanik and Stevenson amendments became law in December 1974. Through 1976 and 1977 the outflow remained at low levels (14,300 and 16,700 respectively) before beginning a marked upturn in 1978 to nearly 30,000 with a projected increase to perhaps 50,000 this year (1979)—the highest total ever.

These numbers have been interpreted in a variety of ways. How they are interpreted speaks directly to the utility of Jackson-Vanik and by implication, the utility of leverage more generally. Two principal schools

of thought can be identified. The first begins with the proposition that fluctuations in the number of emigrants reflect in large part deliberate Government policy, i.e., the Soviet regime can and does turn the emigration spigot on and off to serve its own domestic and foreign policy objectives. Instruments available for this purpose include:

1. interfering with the delivery by Soviet mail of the formal "invitations" from Israel to potential emigres;<sup>6</sup>
2. making the application process prolonged and difficult,
3. intimidating potential applicants with harsh reprisals; and
4. manipulating, as necessary, the rejection rate of applications.

From this perspective the rise in emigration in the early 1970's can be attributed to Moscow's desire to forestall Jackson-Vanik by adopting a relatively liberal policy on emigration. However, the actual passage of the amendment then put the Soviet Government under public pressure, which it defied by sharply reducing the number of exit permits. The recent upturn is seen as an effort to breathe new life into detente, and perhaps more specifically to win Senate approval of the SALT II agreement and forestall a further warming of U.S.-China relations.

Even among those who agree on this basic interpretation of recent events, the question is still open as to the impact of the amendment. Some argue that the amendment (both as a threat and then as an accomplished fact) had the net effect of forcing Moscow to permit more emigration than it would have otherwise tolerated—although the impact was delayed. Others contend that the amendment served a useful purpose as long as it was only a threat, but that its actual passage was counterproductive as indicated by the sharp fall in emigration following its enactment into law. Still others feel that it is as yet too early to reach a conclusion about the consequences of the legislation. Jewish

<sup>6</sup>Soviet law requires that any Soviet citizen desiring to emigrate must receive a written invitation from relatives in another country.

groups and Soviet specialists in this country are divided on the issue, but Jewish activists in the Soviet Union apparently favor the first interpretation.<sup>7</sup>

An alternative school of thought accepts the proposition that the sudden increases in emigration in 1965 and 1971 were a consequence of a liberalization of Soviet Government policy—due in part to the perception that such an action would facilitate U.S. support of detente. Since 1971, however, fluctuations in the level of emigration are attributed not to Soviet policy but to attitudes within the Soviet Jewish community concerning the desirability of emigrating.<sup>8</sup> That is, the number of actual emigres monthly and annually correlates closely with the number of applications submitted for exit visas. In support of this argument are the following contentions based on limited (and unconfirmed) informal surveys done within the Soviet Jewish community:

- Although the Government could in theory regulate the number of invitations delivered to Soviet citizens from Israel, it has not done so. Inquiries within the Soviet Jewish community indicate that all invitations that are requested are eventually received.
- A comparison of the number of invitations sent and the number of persons actually emigrating is not meaningful because: 1) it is common for an individual to solicit and receive more than one invitation and 2) many of those who solicit and receive invitations choose to defer or forgo application for an actual exit permit.
- The percentage of applications for emigration permits that are denied has re-

<sup>7</sup>Some supporters of the amendment feel that a larger principle is at stake: human rights (of which the treatment of Soviet Jews is a major example). Proponents argue that U.S. policy should insist that the principle remain central to the overall U.S.-U.S.S.R. relationship, and the importance of doing so transcends the question of the utility of economic leverage, i.e., the principle embodied in Jackson-Vanik should be upheld even at the risk of a counterproductive effect in terms of the amount of actual emigration.

<sup>8</sup>See Igor Birman, "Jewish Emigration from the U. S. S. R.," unpublished manuscript.

mained relatively low (probably less than 5 percent) and stable throughout the period.

- There is no evidence to attribute the 1974-75 decline in emigration to any effort by the Government to make the process of emigration more burdensome. In fact, after the Helsinki accords, the fee required for emigration was reduced and the procedures involved became increasingly routine making entry into the process psychologically easier for a potential emigrant.
- Although emigration to Israel fell off sharply from 1974 through 1977, this was not true of Soviet Jewish emigration to the United States, which increased throughout the period. Several possible explanations are suggested. The 1973 Middle East war indicated that Israel could be a dangerous place to live. Also, it became increasingly clear that the capacity of Israel's economy to absorb intellectual and professional emigres was quite limited. Emigration to the United States grew only slowly from 1971 because it constituted a leap into the comparative unknown and because many of the first emigrants reported difficulty in finding employment during the recession of the early 1970's. However, the number began to grow as conditions in the United States became better known— particularly the fact that there was a demand for doctors, scientists, and other professionals—and as a core emigre community became established that could assist new arrivals.

As far as the Jackson-Vanik amendment is concerned, the implication of this line of argument is that the legislation has had no significant impact on the level—up or down—of Soviet Jewish emigration.

There is a cautious middle position between the two extremes of asserting that fluctuations in Jewish emigration are due either entirely or not at all to Soviet Government manipulation. It is based on the proposition that a variety of factors probably affect the level of emigration, including both Soviet Government actions and attitudes within the Jewish community. If this is correct, the observed fluctuations in Soviet emigration cannot be used to support or rebut arguments concerning the utility of the Jackson-Vanik amendment.

At this time it is not possible to reach any definitive conclusion as to which of the perspectives on Jackson-Vanik is more accurate. A key to doing so would be to obtain official data concerning the number of applicants for exit visas to enable comparison with the number of exit permits actually granted. The latter number is known but the former is kept classified by the Soviet Government.

The State Department seems to be of two minds on the question of whether or not the fluctuations in the level of emigration reflect a deliberate policy on the part of the U.S.S.R. Mr. Shulman has noted, however, that most of the recent increase seems to have come from new applicants.

It is noteworthy that two Communist governments, Romania and Hungary, have successfully appealed for annual waivers of the ban on MFN and Government credits under the 1974 Trade Act. Both have assured the United States that their citizens are being accorded the right to emigrate and both have had their performance in this regard judged adequate by the administration and Congress. Whether either case has implications for U.S.-Soviet relations on this issue is speculative.

## CHINA

Although policy questions regarding technology transfer have focused overwhelmingly on sales to the U. S. S. R., during the 1950's and 1960's similar issues arose in the context of U.S. and allied relations with China. Like the U. S. S. R., the PRC was viewed as an adversary State that posed a serious threat to U.S. security interests. Consequently, a U.S. trade embargo was imposed against the Mainland regime. With the end of the Vietnam War and the Nixon Administration's opening to China, official perceptions changed. China was viewed less as a threat and more as a potential weight in the balance of power against the U.S.S.R. Perspectives on technology transfer to China hinge heavily on which view of China is adopted. If Beijing is seen essentially as an adversary, then the issues surrounding sales of technology are similar to those involving transfers to the U.S.S.R.—although the specific technologies involved and the volume of transactions will differ significantly. Proponents of Perspective I on trade leverage have no difficulty applying it to China. Perspective II also has its China analogue, but whereas restrictions on transfers to the Soviet Union are usually advocated as a way to exert leverage on Soviet policy, controls on transfers to China would more likely be justified as forestalling the growth of Chinese power. The major potential exception might be an effort to influence Beijing's policy toward Taiwan. Perspective III would be rationalized and applied much as in the case of the Soviet Union, but with a different technological content because of China's much lower level of economic and technological development. If Beijing is viewed as

more of a threat to the U.S.S.R. than the West, then questions of technology transfer to China are posed largely in terms of their implications for U.S.-Soviet relations. Three broad policy options emerge in this circumstance:

1. Technology can be sold to China in an essentially uncontrolled manner with a view to strengthening Beijing vis-a-vis Moscow. Such a policy will almost inevitably antagonize the Soviets.
2. Sales to China can be controlled and regulated with a view to either pressuring or reassuring the U.S.S.R. Whether or not this approach successfully influences Moscow, it will have the effect of making U.S. policy regarding exports to China a hostage to U.S.-Soviet relations. Beijing is unlikely to view such an arrangement with enthusiasm.
3. U.S. trade policy can be made identical toward the two Communist powers. The advantage of apparent impartiality will be purchased at the price of forswearing any effort to use trade as an instrument for exploiting the Sino-Soviet rivalry to American advantage. Also, it is not clear that such an approach will be truly evenhanded because the same U.S. policy may have quite different consequences for Moscow and Beijing. On the other hand, any effort to manipulate the Sino-Soviet rivalry would be a hazardous and delicate enterprise and there is serious question whether trade control is a sufficiently refined instrument or whether the information needed to use it effectively is available.

## COMPARISON OF PERSPECTIVES

In the debate over U.S. trade policy toward the East, proponents of Perspectives II and III share the belief that trade can be used to achieve desirable changes in

Soviet domestic and foreign policy. They differ as to the most effective tactics for achieving the agreed end. They also tend to differ in their assumptions concerning the nature

of the Soviet Union and U.S.-Soviet relations.

In terms of assumptions, proponents of Perspectives II and III see the basic character of U.S.-Soviet relations in somewhat different terms. Proponents of Perspective II tend to emphasize the areas of common interest and the potential for a stable cooperative relationship. Adherents of Perspective III are more impressed with the ingrained conflict between the two superpowers rooted in sharp differences in ideology, social and political systems, and foreign policy objectives and interests. A closely related assumption concerns the ease and extent to which the Soviet regime modifies its perceptions and policies in response to the actions of other countries. Perspective II tends to view the Soviets as capable of substantially moderating their approach to international relations if the actions of others, notably the United States, consistently suggest that it is in the Soviet Union's interest to do so. Perspective III is based on a more mechanistic model of Soviet policymaking. Seeing it as responsive to internal imperatives and largely unaffected by U.S. actions except to the extent those actions bring power to bear sufficient to compel Soviet policy to take them tactically into account. An analogous assumption relates to the conditions of long-term coexistence between the two countries. Perspective II sees detente becoming the basis for a long-term stable relationship as the Soviet system evolves in a moderate direction, i.e., the Soviet system is seen as dynamic and malleable over time. Proponents of Perspective III disagree and see the only real hope for coexistence in either of two strategies:

1. confronting the U.S.S.R. with durable countervailing power structures that force long-term restraint on Soviet policy or
2. depriving the U.S.S.R. of the economic benefits of detente in the hope of forcing the emerging Soviet economic crisis to a point of systemic transformation.

Although not necessarily following logically from the two perspectives, there tend to be contrasting judgments concerning the potential value to the U.S. economy of trade with the U.S.S.R. and Eastern Europe. Perspective II places a comparatively high value on such trade, citing the chronically adverse U.S. balance of payments, concern about a new recession, and the sales by European and Japanese firms to the Soviet Union. Perhaps more important, proponents of this perspective see a basic complementarity between the Soviet and American economies that should permit the large-scale exchange of Soviet raw materials for American capital and technology. Adherents of Perspective III are more impressed by the lack of hard currency available to the Soviet bloc for purchases in the West and the seeming inability of those countries to develop the product exports that could be used to earn such currency. Moreover, the Soviet bloc may soon be an importer rather than an exporter of the raw material most needed in the West—oil.

In terms of policy strategies and instruments, Perspective II tends to emphasize integration of the Soviet economy with the West through a range of trade opportunities and other economic inducements. Negative sanctions would be used reluctantly, particularly in the short term, because they would jeopardize the process of weaving the fabric of interdependence. In contrast, Perspective III stresses the utility of negative sanctions with a lesser emphasis on positive inducements for influencing Soviet policy in the present and near future. Perspective II tends to adopt a limitationist view of American power and to be skeptical of the extent to which the United States is capable of coercing Soviet policy. At the root of the tactical differences between the two perspectives is a sharply differing judgment concerning the consequences that will follow from a policy of facilitating economic transactions with the Soviet bloc. Whereas Per-

spective II sees the eventual outcome as a kind of benign subversion of the Soviet system, Perspective III argues the opposite—that Western credits and technology will provide the Soviet Union with the means of escaping the systemic crisis that currently

confronts it. Without that timely infusion of external resources, the Soviet regime may be compelled to seriously consider a basic alteration of the economic and political structure of the U.S.S.R.

## **CASES**

One means of assessing the utility of export controls as instruments of political leverage is to examine the most plausible candidate technologies in some detail. It is generally agreed that the two technologies with the most promise for this purpose are advanced oil- and gas-drilling equipment and computers.

The purpose of the following analysis is to assess the costs that export controls on the technology in question would impose on the Soviet economy. This is a necessary, but not sufficient, condition for any effort to predict the Soviet policy response to such controls. Costs are a function of such factors as the availability of alternative Western suppliers, the extent of the U.S. lead over the Soviet technology, the importance or value of the technology to the Soviet economy, the Soviet capability to develop the technology with domestic resources and the time required to do so, the inherent susceptibility of the technology to export controls, and the probable course that future innovation will take and what that implies for the other factors mentioned above. Clearly, these factors will weigh differently depending on the technology in question. Consequently, conclusions relevant to export policy must be based on a case-by-case analysis of the technologies to be controlled.

### **OIL AND GAS EQUIPMENT**

There are a number of considerations that suggest oil- and gas-drilling technologies could be an effective source of political leverage. The United States retains a monopoly position in the West on a few items of petro-

leum equipment that the U.S.S.R. needs: electric centrifugal submersible pumps, high-pressure blowout preventers, and sub-sea blowout preventer systems. Because the U.S.S.R. has already purchased most of the important oil production equipment it needs through the mid-1980's (submersible pumps, a drill-bit plant, and gas lift equipment) the impact of a U.S. embargo on oil equipment would be negligible in the short term. However, although the longer term impact on production cannot be estimated with certainty, the effect on the Soviet Union of a complete cutoff of Western equipment and technology would be serious. There are several reasons for this. First, according to the Central Intelligence Agency (CIA) estimates, the Soviet oil industry is at a critical point in its development; i.e., production is likely to peak within the next few years. Output is now declining in all of the major oil-producing regions except West Siberia, and production gains there promise to be much more difficult to achieve now that the giant Samotlor oilfield is reaching its peak. Development of the smaller West Siberian fields is lagging. These are more remote and costly to develop and are proving to be less productive than other fields. This situation is exacerbated by the fact that previous Soviet extraction policies appear to have been shortsighted, stressing maximum current production at the expense of conservation and exploration.

There is reason to believe that the Soviet domestic oil equipment industry will have difficulty in meeting new demands; it lacks the physical capacity and technology to simultaneously sustain production, meet vast



new drilling requirements in West Siberia, intensify exploration in remote areas, and accelerate offshore production. If it is to reverse current production projections and achieve productivity gains, the U.S.S.R. must convert from turbo to rotary drilling. This will require the import, not only of additional bit technology, but also of most of the associated drilling equipment—kelly bushings, drill pipe, drill collars, and tool joints. In these areas, therefore, Western equipment could ease critical constraints on oil development. This is especially important for the Soviet Union in view of the fact that oil accounts for approximately half of all Soviet hard-currency exports, and there is already a maximum emphasis on nonpetroleum energy sources with limited opportunities for additional energy conservation.

There are, however, reasons to question how much leverage the United States could in practice obtain by threatening to withhold exports of oil production equipment. Although U.S. firms presently dominate the world market in the kinds of equipment discussed above, their position could be seriously eroded in the next 2 or 3 years if the U.S. Government embargoes petroleum equipment and technology to the Soviet Union. Soviet oil production would be affected and Soviet development costs would rise, but substitutes for U.S. equipment would ultimately appear, and the substitution of equipment from other Western manufacturers would mitigate the impact of U.S. denials. Moreover, a likely effect of withholding exports will be to constrain Soviet oil production. It is at least debatable whether this outcome is desirable from the U.S. standpoint since it may hasten the emergence of the Soviet Union as an oil importer thereby putting more pressure on what is already a tight international supply situation.

## COMPUTERS

Another logical candidate for exerting leverage is the computer industry. As the discussion in chapter X indicates, despite

rapid progress in recent years, the Soviet Union still lags well behind the United States in such areas of computer technology as very large-scale integration, high-density magnetic disks and the precision manufacturing techniques required to produce them. Transfer of any of the more advanced computers and peripheral technologies will help the Soviet Union upgrade its own capability to produce and utilize computers—a capability that is a critical aspect of efforts to reverse the lagging productivity of the Soviet economy. Moreover, any such computer technology will have military capabilities, whatever the initial intended use. The latter point assumes particular significance given the difficulty of devising effective controls against the diversion of exported computer technologies to military use. Monitoring systems are not foolproof and sanctions involving the termination of maintenance services or actually reclaiming the equipment would have limited effectiveness in the one case and almost no credibility in the other. A computer can be modified (“lobotomized”) to reduce its capabilities as a prerequisite for export to the U.S.S.R. However, such a procedure is expensive and clearly reduces the attractiveness of the sale to the purchaser. Ironically, the computer that was scheduled for sale to the Soviet news agency TASS had been altered in this way before the transaction was canceled to express U.S. displeasure over the treatment of Soviet dissidents.

While the potential value of U.S. computers to the Soviet Union would argue for the utility of that technology for political leverage, the existence of alternative non-Communist suppliers argues against it. Japan, in particular, has rapidly emerged as a potentially serious challenger to American supremacy in this field. As previously noted, Tokyo has resisted any efforts to attach political conditions to trade with the Communist countries.

Besides the size of the technological gap, the value of computers for the Soviet Union, and the availability of alternate suppliers, the potential for U.S. political leverage will be affected by the direction of technological

innovation in the industry. For example, two areas that are currently attracting attention are mathematical modelling and new architectural configurations of the hardware and innovative ways of knitting hardware and software together in patterns and networks for specialized problem-solving. On a conceptual level each is essentially a task of applied mathematics—one of the strong suits of Soviet science. They are also types of innovation that will disseminate relatively easily through the scientific literature and the technological marketplace. Advances in mathematical programming allow certain types of calculations to be performed with less powerful computers. This suggests that export controls on computer hardware may have a declining utility. It is not to say that the Soviet Union will readily close the current gap in computer technology. There are, for example, very difficult institutional problems involved in networking that may be particularly troublesome for the Soviets.

These considerations, plus the growing capacity of the Soviet Union to acquire, imitate, and absorb Western technology, strongly suggest that the potential for political leverage inherent in computers is modest and probably declining. However, these considerations may be at least partly offset by the high level of technological sophistication required to actually produce and use software for managing the most advanced systems and by the recent tendency of computer companies to protect software as a proprietary corporate technology, something they have not done in the past. This, in turn, may be undermined by pressures to standardize software throughout the industry given the huge costs of developing and implementing advanced systems.

## CONCLUSIONS

This complex situation does not easily lend itself to firm conclusions about the utility of export controls for political leverage. It does seem clear that the technological advantage in oil- and gas-extraction equipment and computers enjoyed by the United States relative to the Soviet Union will continue and that Moscow will place a high value on opportunities to obtain advanced technologies that will help bridge that gap. This should create some leverage potential for U.S. policy. That potential is circumscribed, however, by the emergence of alternate non-Communist suppliers and the increasing rapidity with which technological innovations in all fields disseminate internationally. It maybe further limited in the case of oil-drilling technologies by doubts about the desirability of constraining Soviet petroleum output. In any case, U.S. policy must be formulated under the assumption that, at best, American technology can maintain a few years' lead over that of the Soviet Union and any opportunities for leverage will have to be exercised within that context.

On the basis of the above analysis it is not possible to state conclusively whether either technology can be used to generate enough leverage to move Soviet policy. In short, there is no "magic" technology as far as political leverage is concerned. Given the complexities involved it is very difficult to calculate with any precision the costs that could be imposed on the Soviet Union by denial of any particular technology. This element of unpredictability is exacerbated by the inherent limitations on our ability to predict the behavior of the Soviet decisionmaking apparatus and the reactions of Soviet policymakers in any specific situation.