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Steven D. Overly

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Steven D. Overly*

I. Introduction

Over the past decade the regulation of exports of critical technologies has become an extremely controversial topic for discussion.

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* M.P.A. 1982, Pennsylvania State University; J.D. 1982, Stetson University College of Law; LL.M. in International and Comparative Law 1984, Georgetown University Law Center. Mr. Overly currently is a law clerk to Judge Robert J. Yock of the United States Claims Court. He was formerly an attorney with the United States Department of Commerce.

1 "Critical" may be defined as a form of proprietary knowledge sufficiently esoteric to be known to only a few persons. M. MOUNTAIN, Technology Exports and National Security 22, 26, in ISSUES IN EAST-WEST COMMERCIAL RELATIONS—A COMPENDIUM OF PAPERS SUBMITTED TO THE JOINT ECONOMIC COMMITTEE, CONGRESS OF THE UNITED STATES (U.S. Gov't Printing Off. 1979). In the context of national security, it is technology that the Soviets do not yet have and that we do not want them to acquire. Id.

2 The Export Administration Act of 1979, Pub. L. No. 96-72, 93 Stat. 503 (codified at 50 U.S.C. app. §§ 2401-2420 (Supp. V 1981)), defines technology as "the information and know-how that can be used to design, produce, manufacture, utilize, or reconstruct goods, including computer software and technical data, but not the goods themselves." 50 U.S.C. app. § 2415(4). Basically, technology is "the application of science to the manufacture of products and services. It is the specific know-how required to define a product that fulfills a need, to design the product, and to manufacture it. The product is the end result of this technology, but it is not technology." M. MOUNTAIN, supra note 1, at 25 (quoting J. Fred Bucy, Chairman, Defense Science Board Task Force on Export of U.S. Technology).

The Defense Department has defined "critical technology" as: classified and unclassified nuclear and non-nuclear unpublished technical data, whose acquisition by a potential adversary could make a significant contribution, which would prove detrimental to the national security of the United States, to the military potential of such country—irrespective of whether such technology is acquired directly from the United States or indirectly through another recipient, or whether the declared intended end-use by the recipient is a military or nonmilitary use.


An export of technology occurs not only when there is a shipment of technology out of the United States, but also when technology is imparted to a foreign entity or individual.
among members of the federal government, the international business community, and the legal profession. Historically, governments have used export restrictions to protect both national security and foreign policy interests. Prior to 1949 the United States had enforced export controls only during times of war. With the enactment of the Export Control Act of 1949, however, Congress initiated regulation of all United States exports. Over the next thirty-five years, Congress enacted a variety of export controls designed to protect national security while promoting exports of United States commodities.

by means of oral exchanges of information or through the provision of services, training, or visual inspection. 15 C.F.R. § 379.1(b) (1983).


4 The term “national security” has been defined by the Defense Department as a “condition provided by: (a) a military or defense advantage over any foreign nation or group of nations, or (b) a favorable foreign relations position, or (c) a defense posture capable of successfully resisting hostile or destructive action from within or without, overt or covert.” M. MOUNTAIN, supra note 1, at 23 (citing The Joint Chiefs of Staff, Pub. 1, The Department of Defense Dictionary of Military and Associated Terms (U.S. Gov’t Printing Off. 1974)).

5 Ch. 11, 63 Stat. 7 (codified as amended at 50 U.S.C. app. §§ 2021-2032 (1964) (expired 1969)).


The third type of export controls allows the President to exercise broad authority over U.S. exports during times of national emergency. See Trading with the Enemy Act of 1917,
Beginning in 1974 the legislative and the executive branches undertook a comprehensive review of United States export regulations, focusing on the inherent conflict between protecting national security and promoting exports. Concern over export controls arose after the executive branch denied or delayed a significant number of export license applications for the export of United States commodities to such countries as South Africa, Libya, and the Union of Soviet Socialist Republics, while acting in the name of national security or foreign policy.

As a result, both Congress and the business community became increasingly frustrated by the executive branch’s interpretation and implementation of the Export Administration Act of 1969. This frustration culminated in the adoption of a new philosophical approach—promoting the exportation of “noncritical” United States technologies, while insuring the protection of national security. During 1983 and 1984 Congress considered proposed legislation that would significantly alter the Export Administration Act of 1979. The proposals present some of the most drastic changes for United States export policy in the last fifteen years. As of the writing of

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7 In 1974 the Defense Department established a task force to study the effects of export restrictions on U.S. commodities. The task force’s recommendations, commonly referred to as the “Bucy Report” (for the task force chairman J. Fred Bucy of Texas Instruments), advocated U.S. regulation of exports based on “technology,” rather than end products, and is published as “Defense Science Board Task Force on Export of U.S. Technology-A D.O.D. Perspective 34 (1976), reprinted in Dresser Industries, supra note 2, at 33-89 [hereinafter cited as Bucy Report]. This recommendation was later adopted expressly by Congress in the EAA of 1979, supra note 2. 125 CONG. REC. H87713-15 (daily ed. Sept. 29, 1979). The Bucy Report recommended strict control over the three types of exports that were believed to be the most effective means for exporting American technology: (a) arrays of design and manufacturing information, including detailed instructions on both the design and manufacturing process; (b) “Keystone” manufacturing, inspection, or automatic test equipment; and (c) products accompanied by sophisticated operation, application, or maintenance information. Bucy Report, at 3. Further, it recommended that the Defense Department develop a list of “critical technologies” to use in regulating exports. Id. at 28, 30.


9 Id.


this article, however, Congress remains hopelessly deadlocked over the national security provisions of these amendments.

The purposes of this article are threefold. First, it briefly reviews the historical evolution of the critical technologies approach to export regulation. Second, it compares the provisions of the Export Administration Act of 1979 to the current legislative proposals, with particular emphasis on the licensing of United States exports, the designation of critical technologies, and the enforcement of statutory sanctions for violation of United States export restrictions. Finally, it briefly reviews two recent examples of the inherent problem of promoting United States exports while protecting national security.

II. Evolution of the Critical Technologies Approach to Export Regulation

Prior to 1949 the United States had restricted its use of export controls, with only a few very limited exceptions, to times of war and of national emergency. Following World War II, however, Congress passed the Export Control Act of 1949 (Export Control Act) in response to the cold war between the United States and the Soviet Union. This Act authorized the President to prohibit or curtail the exportation from the United States of any articles, materials, or supplies, including technical data, as deemed necessary to safeguard domestic supplies, promote foreign policy, and protect national security. The President delegated this new authority to the Office

50 U.S.C. app. § 3(a).

In a prominent 1967 study of export regulations, Berman & Garson concluded:

Probably no single piece of legislation gives more power to the President to control American commerce. Subject to only the vaguest standards of "for-
of Export Control of the Commerce Department.\textsuperscript{14}

Problems developed, however, with the executive branch's zealous implementation of this new export regulatory authority.\textsuperscript{15} The most serious problem was the creation of a virtual embargo on the export of all United States military and industrial commodities, and of a substantial number of consumer goods, to communist countries.\textsuperscript{16} The underlying rationale was to deny our "communist adversaries" anything that might enhance either their economic or their military potential.\textsuperscript{17}

In addition to the restrictions placed on the export of United States commodities by the Export Control Act, the United States entered into multilateral export restriction agreements beginning in 1949. The United States recognized that unilateral export restrictions would prevent neither the export of strategic commodities from other developed countries to communist countries, nor the transshipment of United States strategic commodities to communist countries.\textsuperscript{18}

As a result, in 1949 the United States and six of its allies informally joined together to form the Coordinating Committee on Export Controls (COCOM).\textsuperscript{19} COCOM is responsible for coordinating the efforts of member countries to prevent the export of any strategic commodities to communist countries.\textsuperscript{20} In 1951 Congress enacted the Mutual Defense Assistance Act,\textsuperscript{21} commonly referred to as
the "Battle Act," which had the dual purpose of institutionalizing United States participation in COCOM and of authorizing restrictions on United States foreign assistance to those countries exporting commodities designated by the State Department as strategic commodities.

COCOM currently regulates the exportation of specific commodities through the operation of three embargo lists: the International Atomic Energy List, the International Munitions List, and the International List. While the International Atomic Energy List and the International Munitions List regulate the export of commodities and technologies directly applicable to military end-use, the International List regulates exports of dual-use commodities and technologies. These are exports that have both military and nonmilitary applications and that are not regulated by the other two embargo lists.

In recent years, Congress repeatedly has criticized COCOM's effectiveness. This criticism has been directed primarily at the failure of COCOM member countries to enact the necessary domestic legislation for implementing the COCOM export controls. In its 1979 report, the House Committee on Foreign Affairs declared that it continued "to find instances of circumvention of COCOM that have been detrimental to both United States [national] security and export competitiveness." In 1962 Congress passed the Export Control Amendments Act, which requires the President to deny an export license for any commodity that "makes a significant contribution to the military or eco-

by virtue of § 2404(i) of the EAA of 1979, which authorizes the President to negotiate with COCOM for the purpose of reaching an agreement to reduce the scope of COCOM export controls to a level acceptable to and enforceable by all COCOM members.

The Battle Act specifically proscribed exports to "any nation or combination of nations threatening the security of the United States, including the Union of Soviet Socialist Republics and all countries under its domination." Pub. L. No. 82-213, 65 Stat. 645 (superseded 1979).

The State Department was required under the Battle Act to designate those strategically significant commodities that were to be subject to strict export regulation. See Department of State, Mutual Defense Assistance Control Act of 1951 (Battle Act) Reports (1952-1979).


Id.


nomic potential of any nation [where such commodity] would prove detrimental to the national security and welfare of the United States." Export restrictions on both commercial and military commodities were justified, for the most part, on the premise that the development of the Soviet Union's industrial base would adversely affect United States national security.

By 1969, however, gradual moderation of the United States philosophy against trade with the Soviet Bloc resulted in the Commerce Department's loosening of export controls on the sale of United States commodities to communist countries. As a result, Congress replaced the Export Control Act with the Export Administration Act of 1969 (EAA of 1969). The EAA of 1969 established the new philosophy of encouraging trade with all nations, including communist countries. Unlike previous years under the Export Control Act, Congress assumed a more active role in overseeing the executive branch's implementation of the EAA of 1969. In this regard, Congress sought to terminate the executive branch's erratic enforcement of the Export Control Act, which had proven both detrimental to United States business and ineffective in preventing exports of strategic commodities.

Over the next ten years the United States continued to relax its export controls on exports to communist countries. Primarily, this

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30 Berman & Garson, supra note 3, at 801.
35 At least four factors can be attributed directly to the continued moderation of export controls on trade with the Soviet Bloc:
   (1) the economic recovery of Western Europe and the strengthened Western European security in relation to the communist countries;
   (2) growth in the economic strength of Eastern Europe and its confidence in its security vis-a-vis the West;
   (3) a shattering of the appearance and reality of world unity among the communist countries; and
   (4) a decline in the rigid ideological assumption held by both East and West concerning each other, coupled with corresponding adjustments of conduct.
new philosophy resulted from recognition that national security could be threatened by both communist and noncommunist countries. In balancing the growing needs of United States business against those of national security, the United States Government recognized that sweeping prohibitions on the export of United States commodities were not justified even if the importing country was communist.

In 1977 Congress broadened the general coverage of the EAA of 1969, placing greater emphasis on the identification of particular commodities and technologies likely to contribute to foreign threats to national security. Prior to this legislation, the Commerce Department had been restricted in its efforts to regulate exports of United States commodities and technologies to those exports subject to United States jurisdiction. Under the new amendments, however, the Commerce Department was authorized to exercise control over foreign-origin goods and technologies exported by United States-owned or United States-controlled companies abroad, regardless of origin, and over foreign-produced products of United States technologies.

The amendments also reflected a significant increase in the flexibility of United States export policy. Export licenses no longer were to be granted or denied on the basis of whether the final destination of the exports was a communist or noncommunist country. After


37 Id.
38 Export Administration Act Amendments of 1977, supra note 6.
39 EAA Overview, supra note 13, at 1. Prior to 1977 the EAA of 1969 authorized the Commerce Department to regulate four general types of export transactions:
(a) exports of commodities and technical data from the United States;
(b) reexports of U.S. origin commodities and technical data from one foreign country to another;
(c) exports and reexports from a foreign country of foreign products containing U.S. origin parts and components; and
(d) exports and reexports from a foreign country of foreign products based on U.S. origin technical data. Id.
40 Id. Under this amendment, the Commerce Department could control the export of all goods and technology "subject to the jurisdiction of the United States or exported by any person subject to the jurisdiction of the United States." EAA of 1979, supra note 6, § 2405(a)(1). See also S. REP. No. 466, 95th Cong., 1st Sess. 6, reprinted in 1977 U.S. CODE CONG. & AD. NEWS 4540, 4545. Traditionally, the United States has imposed export controls on three types of foreign exports: (1) reexports of U.S. origin goods or technology by a foreign country, 15 C.F.R. §§ 374.1-374.9 (1983); (2) exports of foreign origin goods that include U.S. origin parts or components, Id. § 376.12; and (3) exports of foreign origin goods that are the products of U.S. origin technology. Id. § 379.8.
41 EAA Overview, supra note 13, at 3. See EAA of 1979, supra note 6, § 2404(b). In accordance with § 2404(b), the Commerce Department maintains different levels of export
1977 several factors were to be considered in reaching export licensing decisions, including the destination country’s present and potential relationship to the United States.42

Following enactment of the EAA of 1969 and its subsequent amendments, the overall volume of United States exports to the Soviet Bloc increased dramatically.43 This reflected not only an increase in the total volume of United States exports but also, and more significantly, a substantial increase in United States exports of high technology products.44 While viewed quite favorably by the United States business community, this increase in exports of high technology products was a major cause of concern for critics of the EAA of 1969.45 These critics were concerned that the United States was supplying the Soviet Bloc countries with military know-how that could allow the Soviet Union to gain strategic parity with the United States and its Western allies.46

In 1979 Congress replaced the EAA of 1969 with the Export Administration Act of 1979 (EAA of 1979),47 incorporating the “critical technology” approach originally advocated in the final report of the Defense Science Board Task Force on the Export of United States Technology.48 In the EAA of 1979, Congress stated that:

the administration of export controls imposed for national security purposes gives special emphasis to the need to control exports of technology (and goods which contribute significantly to the transfer of such technology) which could make a significant contribution to the military potential of any country or combination of countries which could be detrimental to the national security of the United States based upon “country groups” to which exports are controlled for national security purposes. See 15 C.F.R. pt. 370, Supp. No. 1 (1983).

42 EAA of 1969, supra note 6, § 2403(b)(2).
44 See Transfer of Technology to the Soviet Bloc: Hearing Before the Permanent Subcomm. on Investigations of the Senate Comm. on Governmental Affairs, 96th Cong., 2d Sess. 61 (1980).
47 EAA of 1979, supra note 6.
The purpose behind the EAA of 1979 was to provide the President with authority to control United States exports, while ensuring that the exercise of such authority imposed export controls only when necessary. Further, the EAA of 1979 continued to allow the President to restrict United States exports to safeguard national security, promote foreign policy, and protect the domestic economy from being drained of scarce materials and from the inflationary impact of foreign demand. Imposition of such export controls, however, was allowed only after full consideration of their impact on the United States economy. The EAA of 1979 was administered through the issuance of export licenses by the Office of Export Administration of the Commerce Department, as was the Export Control Act and the EAA of 1969.

49 EAA of 1979, supra note 6, § 2401(8). The national security standard of the EAA of 1979, however, was actually little different from that contained in the EAA of 1969. The only significant change was an increased scrutiny over exports of technology. S. REP. No. 169, 96th Cong., 1st Sess. 4 (1979).


51 EAA of 1979, supra note 6, § 2402(2). The Commerce Department has defined the applicability of these three types of controls in the following manner:

1. National security controls are instituted to provide control of exports making a significant contribution to the military potential of countries to the detriment of the United States, such as strategic commodities and technical data to the U.S.S.R., other Warsaw Pact countries, Laos, and the People’s Republic of China.

2. Foreign policy controls are instituted to significantly further United States foreign policy or fulfill its declared international obligations, such as restrictions on exports to the Republic of South Africa, and Namibia, which are maintained in part to further U.S. policy and in part to support United Nations Security Council Resolutions. Controls may be in effect for both security and foreign policy reasons, such as controls on North Korea, Vietnam, Kampuchea, and Cuba.

3. Short supply controls are used to protect the domestic economy from excessive drain of scarce materials and to reduce inflation induced by export demand.

52 EAA of 1979, supra note 6, § 2402(2).

53 45 Fed. Reg. 64,226 (1980); 45 Fed. Reg. 29,783 (1980). See also 15 C.F.R. §§ 370-373 (1983). Prior to the EAA of 1979 all exports of goods and technical data required the issuance of either a general license or a validated license by the Office of Export Administration. Id. § 370.3(a). A general license is a broad authorization that does not require the filing of an application or the issuance of a license document. Id. § 371.1. On the other hand, a validated license is a formal document issued by the Office of Export Administration, after written application by the prospective exporter, which authorizes a particular export within the specific confines of the license document. Id. § 372.1(a).

Under the EAA of 1979, however, a third type of export license, a qualified general license, was authorized for issuance. See 50 U.S.C. app. § 2403(a)(2). For a full discussion of licensing under the EAA of 1979, see infra notes 60-118 and accompanying text. In addition to the Office of Export Administration, several other government agencies ad-
On September 30, 1983, the provisions of the EAA of 1979 expired. Under the authority conferred by the International Emergency Economic Powers Act, President Reagan declared a national emergency and reimposed the provisions of the EAA of 1979 on all United States exports. While the specific amending and reauthorizing export legislation was proposed in both houses of Congress in June of 1983, Congress has yet to enact the necessary legislation. The Conference Committee indicated that its members were deadlocked over the national security provisions of the proposals, among other issues.

While the House proposal would allow unrestricted exports to COCOM countries, the Senate proposal would refrain from opening unrestricted trade with COCOM countries. The House would continue to vest the enforcement responsibility for the EAA of 1979 in the Commerce Department, but the Senate, as a result of its dissatisfaction with the Commerce Department's prior enforcement efforts, would place the enforcement authority in the Commissioner of the Customs Service of the Treasury Department.

III. Comparison of the Export Administration Act of 1979 to the Proposed Export Administration Amendments of 1983

A. Export Licensing of United States Commodities

In amending the EAA of 1979, Congress was concerned particularly with complaints from United States business about the lengthy delays inherent in pre-1979 export license application decisions.

minister export controls under statutory authority. For a complete listing of agencies involved in the export regulation process and the commodities regulated by those agencies, see 15 C.F.R. § 370.10 (1983).

54 EAA of 1979, supra note 6, § 2419.
56 H.R. 3231, supra note 10, § 106(b). Specifically, the proposed modification would read:

No authority or permission to export may be required under this section before goods or technology are exported in the case of exports to a country which maintains export controls on such goods or technology cooperatively with the United States, except that the Secretary may require an export license for the export of such goods or technology to such end users as the Secretary may specify by regulation. The Secretary may also by regulation require any person exporting any such goods or technology otherwise subject to export controls under this section to notify the Department of Commerce of those exports.

Id.
58 H.R. 3231, supra note 10, § 103(2).
60 House Report, supra note 26, at 20-21. In this Report, the House Committee on Foreign Affairs stated that the problem of excessive delays in the processing of export license applications has several problems:

[O]ne is the inherent complexity of many licensing decisions. Another is the differing perspectives of the various agencies involved in the process, pro-
As a result, Congress authorized three primary types of export licenses under the EAA of 1979 for issuance by the Commerce Department:

(1) a validated license, authorizing a specific export, issued pursuant to an application by the exporter;
(2) a qualified general license, authorizing multiple exports, issued pursuant to an application by the exporter; and
(3) a general license, authorizing exports, without application by the exporter.61

Although the pending legislative proposals would modify the types of licenses available to exporters,62 substantively they represent only minor changes to the EAA of 1979. Primarily, the changes will require that exporters apply for the new license that is most applicable to their proposed export transaction.

In the EAA of 1979, Congress expressed dissatisfaction with the Commerce Department’s policy of requiring the submission of a “large volume of validated export license applications” and encouraged the Department to require only a qualified general license, rather than a validated license, for the export of goods or technologies that are restricted by a multilateral agreement not requiring the prior approval of the other parties to the agreement.63

The current legislative proposals continue to emphasize that the Commerce Department is to refrain from requiring a large number of validated license applications.64 The Senate version, however, which refrains from opening unrestricted trade with treaty countries (for example, COCOM members), would expressly allow the Commerce Department to require a validated license for any goods or technologies on the militarily critical technologies list (MCTL).65

Under the EAA of 1979, Congress also limited the Commerce Department’s ability to require a validated license for the export of

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61 EAA of 1979, supra note 6, § 2403(a). In addition to the three enumerated licenses, the EAA of 1979 also authorized “such other licenses as may assist in the effective and efficient implementation of this Act.” Id.

62 S. Rep. No. 170, supra note 11, § 25 (providing for a validated license, a validated license authorizing multiple exports, and a general license); H.R. 3231, supra note 10, § 3(1) (providing for a validated license, a validated license authorizing multiple exports, and a general license).

63 EAA of 1979, supra note 6, § 2404(e)(1), (3).

64 S. Rep. No. 170, supra note 11, § 26; H.R. 3231, supra note 10, § 106(d).

goods and technology, consistent with United States national security, to three specific instances:

(A) the export of such goods or technology is restricted pursuant to a multilateral agreement, formal or informal, to which the United States is a party and, under the terms of such multilateral agreement, such export requires the specific approval of the parties to such multilateral agreement;

(B) with respect to such goods or technology, other nations do not possess capabilities comparable to those possessed by the United States; or

(C) the United States is seeking the agreement of other suppliers to apply comparable controls to such goods or technology and, in the judgment of the Secretary [of Commerce], United States export controls on such goods or technology, by means of such license, are necessary pending the conclusion of such agreement.\(^6\)

These three criteria have been retained intact in both of the current legislative proposals.\(^7\)

The particular export license needed for a specific export, to a particular destination, is determined by reference to the commodity control list (CCL) maintained by the Commerce Department.\(^8\) The CCL divides goods and technologies into export categories and specifies the country group level of control.\(^9\) Currently, there are seven country groups into which all of the world’s countries have been divided, with the exception of Canada which is not included in any country group level.\(^10\) Under the CCL, countries are separated into two categories: communist countries and countries to which exports are restricted by virtue of foreign policy controls.\(^11\)

Since the Soviet Union’s invasion of Afghanistan, the Commerce Department has tightened significantly its export licensing policy with regard to communist countries.\(^12\) As for the free world coun-

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\(^6\) EAA of 1979, supra note 6, § 2404(e)(2).
\(^7\) See also EAA Overview, supra note 13, at 4. Prior to the Soviet Union's invasion of Afghanistan, the country group policy was the same for all countries to which exports are restricted for national security reasons, except that a near total embargo was, and is, maintained on exports to North Korea, Vietnam, Kampuchea, and Cuba. Exports generally were allowed to the Soviet Union, other Warsaw Pact countries, and the People’s Republic of China, provided the proposed export could not adversely affect U.S. national security.

Following the invasion of Afghanistan, export license applications for export to the Soviet Union, Estonia, Latvia, and Lithuania of commodities requiring COCOM approval
tries (except Canada), the Commerce Department has followed a policy of granting export licenses where there are no foreign policy or short supply export controls and where there is no risk of transshipment of the particular commodities to any controlled destination to which the Department would not otherwise approve an export license.\textsuperscript{73} To safeguard against transshipment, the importer must obtain authorization from the Commerce Department to re-export, from one country to another, any United States-origin goods or technologies for which a validated license would be required to make a direct export from the United States to the new proposed destination.\textsuperscript{74}

Prior to the EAA of 1979, the Secretary of Commerce was charged with monitoring the foreign availability of commodities and technologies on the CCL. In practice the earlier legislation was interpreted as requiring only an ad hoc review of the availability of CCL items in foreign markets, usually in response to a particular export license application.\textsuperscript{75} Under the EAA of 1979, however, Congress required the Secretary of Commerce to review continuously the foreign availability of commodities and technologies included on the CCL.\textsuperscript{76} The Senate has proposed that the Secretary of Commerce review the CCL annually, rather than every three years\textsuperscript{77} and, as part of such review, determine the foreign availability of CCL items for multilateral export controls and annually for unilateral export controls.\textsuperscript{78} The Commerce Department is prohibited from requiring a validated license for the export of CCL items upon determining, on the basis of "reliable evidence," that such items are available from foreign sources.\textsuperscript{79}

generally were denied. Further, export license applications for export to other Warsaw Pact countries, Albania, Laos, and the Mongolian People's Republic were considered on the basis of their potential for diversion to military use in those countries and in the Soviet Union. \textit{Id.} at 3.

\textsuperscript{73} EAA Overview, supra note 13, at 4.
\textsuperscript{74} Id. at 4-5.
\textsuperscript{75} Murphy & Downey, supra note 8, at 803.
\textsuperscript{76} EAA of 1979, supra note 6, § 2404(f)(1).
\textsuperscript{77} EAA of 1979, supra note 6, § 2404(c)(3).
\textsuperscript{78} S. REP. No. 170, supra note 11, § 7.
\textsuperscript{79} EAA of 1979, supra note 6, § 2404(f)(1). Further, the EAA of 1979 specifically provided:

Upon written request by representatives of a substantial segment of any industry which produces any goods or technology subject to export controls under this section or being considered for such controls because of their significance to the national security of the United States, the Secretary of Commerce shall appoint a technical advisory committee for any such goods or technology which the Secretary determines are difficult to evaluate because of questions concerning technical matters, worldwide availability, and actual utilization of production and technology, or licensing procedures.

\textit{Id.} § 2404(h)(1). In enacting the above provision, Congress expressed its opinion that industry representatives would have both first-hand knowledge of foreign availability and the incentive to document its existence.
The President has the authority, however, to require the issuance of a validated license for the export of the particular commodity, foreign availability notwithstanding, if it is determined that such a license is necessary to protect national security. If the President decides to require the issuance of a validated license, the Secretary of Commerce must publish a statement of the basis for the decision and of its estimated economic effect.

The EAA of 1979 also introduced the concept of "indexing," which requires the removal of particular commodities or technologies from the CCL upon a finding that their export no longer represents a possible threat to United States national security. Originally, Congress had envisioned a system of automatic removal of commodities and technologies from the CCL as they attained obsolescence. Prior to enacting the EAA of 1979, however, Congress recognized that a universal indexing technique was not a viable possibility because of the number of commodities and technologies on the CCL, each with differing degrees of performance levels. Therefore, the EAA of 1979 merely introduced the indexing concept and invited the Commerce Department to adopt indexing procedures "where appropriate." The current proposals would allow the Commerce Department to implement indexing procedures, but neither version requires it.

The only statutorily recognized basis for not processing a license application is that the application is improperly completed or additional information is required. In such case, the Commerce Department has ten days to make an initial determination as to the proper completion of the application, the sufficiency of licensing information, the need to refer the application to another department or agency, and the need to submit the application for multilateral review. In processing these export license applications, the Commerce Department is required, if possible, to make a determination on the export application without referring the application to any

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81 Id.
82 EAA of 1979, supra note 6, § 2404(g).
84 Id.
85 S. Rep. No. 170, supra note 11, §§ 27, 46; H.R. 3231, supra note 10, § 106(e). The Senate's proposed annual review of the CCL, however, would appear to accomplish the same goals originally expressed for "indexing," in that an annual review will require the Commerce Department frequently to address the continued need for the inclusion of specific items on the CCL. S. Rep. No. 170, supra note 11, §§ 7, 11, 26-27. See H.R. Rep. No. 482, supra note 83, at 9-10, 52-53.
86 EAA of 1979, supra note 6, § 2409(b)(3).
87 Id. § 2409(b).
other governmental department or agency.\textsuperscript{88}

If the application is improperly completed or additional information is required, the Commerce Department is to "return the application without action."\textsuperscript{89} If a properly completed application has been submitted that does not need to be referred to another department or agency, the Commerce Department must issue the license or deny the application within ninety days of its submission.\textsuperscript{90} The proposed legislative changes would require that the Department issue the license or deny the application within sixty days, rather than ninety days.\textsuperscript{91}

If the Commerce Department determines that referral of the application to another department or agency is required, it must refer the application within thirty days of its submission.\textsuperscript{92} The Senate proposal would reduce this time limit to twenty days.\textsuperscript{93} The reviewing department or agency must then issue its recommendations within thirty days of referral or request an optional thirty-day extension.\textsuperscript{94} The Senate would reduce this period to twenty days with an optional twenty-day extension.\textsuperscript{95}

Upon return of the application to the Commerce Department, a license must be issued or the application denied within ninety days.\textsuperscript{96} The Senate proposal would allow only sixty days.\textsuperscript{97} If the application is denied, the Commerce Department must inform the applicant of the particular reasons for denial, the general policies of the EAA furthered by such denial, the national security or foreign policy interests sought to be protected, and, in the event of a denial pursuant to foreign policy controls, evidence of consideration of the statutory foreign policy controls criteria.\textsuperscript{98} The House proposal would guarantee the applicant at least thirty days to respond before the denial becomes final.\textsuperscript{99} The applicant also is entitled to be advised of possible modifications in the goods or technology that would result in the granting of the export license.\textsuperscript{100}

If the Commerce Department fails to process the application within these time limits, the applicant may petition the Secretary of
Commerce and request compliance.\textsuperscript{101} The Secretary must then "take immediate steps to correct the situation."\textsuperscript{102} If the situation is not corrected within thirty days from the filing of the petition, the applicant may seek relief in a federal district court.\textsuperscript{103} The Senate would reduce the Commerce Department's time to twenty days.\textsuperscript{104}

If the proposed export involves goods or technologies subject to multilateral review pursuant to a formal or informal multilateral agreement, such as COCOM, the export license application must be forwarded, upon final approval by the Secretary of Commerce, to the proper multilateral reviewing body or institution.\textsuperscript{105} The Secretary of Commerce must then notify the applicant of approval and of the submission of the application to the multilateral review process.\textsuperscript{106} If the multilateral review does not result in a final determination within sixty days of the submission of the application, the export license must be issued by the Secretary of Commerce, unless it is determined that issuance would prove detrimental to national security.\textsuperscript{107} The Senate proposal would reduce the time for multilateral review to forty days.\textsuperscript{108} Upon conclusion of the multilateral review process, the export license, if previously issued, may be revoked if the reviewing authority recommends denial.\textsuperscript{109}

In addition, the EAA of 1979 authorized the Defense Department to review: (1) any export license application for the export of any goods or technologies to any country to which United States exports are controlled for national security reasons;\textsuperscript{110} and (2) any export license application for the export, to any controlled country, of any goods, technologies, or industrial techniques that have been developed as a result of research and development programs financed with funds authorized for the Defense Department.\textsuperscript{111}

In both situations, the Secretary of Defense must determine whether the proposed export would make a significant contribution to the military potential of the importing country that would be detrimental to United States national security.\textsuperscript{112} The Senate proposal would allow the Secretary of Defense, in consultation with the Secretary of Commerce, to review any proposed export where "there is a

\textsuperscript{101} Id. § 2409(j)(2).
\textsuperscript{102} Id.
\textsuperscript{103} Id. § 2409(j)(3).
\textsuperscript{104} S. Rep. No. 170, supra note 11, § 71.
\textsuperscript{105} EAA of 1979, supra note 6, § 2409(h).
\textsuperscript{106} Id.
\textsuperscript{107} Id.
\textsuperscript{108} S. Rep. No. 170, supra note 11, § 70.
\textsuperscript{109} EAA of 1979, supra note 6, § 2409(h).
\textsuperscript{110} Id. § 2409(g).
\textsuperscript{111} Id. § 2403-1(a), (b). In this respect, "controlled country" means the Soviet Union, Poland, Romania, Hungary, Bulgaria, Czechoslovakia, East Germany, and any other countries designated by the Secretary of Defense. Id. § 2403-1(d).
\textsuperscript{112} EAA of 1979, supra note 6, §§ 2403-1(b), 2409(g)(1).
clear risk of diversion of militarily critical goods or technology to proscribed destinations." If it is determined that the proposed export would make such a contribution, the Secretary of Defense must recommend to the President that such export license be denied.

Further, the Office of Export Administration may enter into consultations with other concerned government agencies. In this manner, export license applications that present foreign policy or national security problems are reviewed by more than one governmental agency before a final decision is rendered. The consultations generally take place within the context of the multilevel Advisory Committee for Export Policy (ACEP). The ACEP is composed of representatives from the Departments of Commerce, Defense, State, Energy, Transportation, and Treasury, the National Security Council, the Arms Control and Disarmament Agency, the National Aeronautics and Space Administration, the Central Intelligence Agency, and other concerned governmental agencies. ACEP export policy review operates at five levels:

1. The Operating Committee of the ACEP, which is composed of senior staff personnel of the ACEP member departments and agencies and which is chaired by a senior Commerce Department official;
2. The Sub-ACEP, at the Deputy Assistant Secretary level, which is chaired by the Deputy Assistant Secretary for Export Administration;
3. The ACEP, at the Assistant Secretary level, which is chaired by the Assistant Secretary for Trade Administration;
4. The Export Administration Review Board, at the secretary level, which is composed of the Secretary of Commerce, as chairman, and includes the Secretaries of State and Defense; and
5. The President, who has final authority to resolve all inter-agency disputes.

114 EAA of 1979, supra note 6, §§ 2403-1(c), 2409(g)(1), (g)(2).
115 EAA Overview, supra note 13, at 8. The ACEP was originally created as the Export Control Review Board (ECRB) by Exec. Order No. 10,945, 3 C.F.R. 473 (Comp. 1959-63), reprinted in 50 U.S.C. app. §§ 2021-2032 (1972). In 1970, with the passage of the EAA of 1969, the Export Administration Review Board was created, under Exec. Order No. 11,533, 3 C.F.R. 932, 933 (Comp. 1966-70), reprinted in 50 U.S.C. app. § 2403 (1972), as a replacement for the prior ECRB. In response to the enactment of the EAA of 1979, the ACEP was created in 1979 by virtue of Reorganization Plan No. 3 (1979).
116 In addition to the ACEP, the Commerce Department periodically consults with the Subgroup on Nuclear Export Coordination (SNEC) of the National Security Council ad hoc group on nuclear nonproliferation, on matters of export licensing related to nuclear nonproliferation. The SNEC is composed of representatives from the Departments of Commerce, State, Energy, and Defense, the Arms Control and Disarmament Agency, and the Nuclear Regulatory Commission. When consensus cannot be reached by the members of the SNEC, the matter is referred to the National Security Council’s ad hoc group on nuclear nonproliferation. Id.
117 Id.
The ACEP functions on a consensual basis, so that a failure to agree at any level elevates a licensing decision to the next higher level.\footnote{118 \textit{Id.}}

\section*{B. Designation of Critical Technologies}

Unlike previous export legislation, the EAA of 1979 provided the Secretary of Defense with the authority to “identify goods and technology for inclusion” on the CCL. The Secretary of Defense was authorized to refer the matter directly to the President for resolution if the Secretary of Commerce objected to the inclusion of those identified goods and technologies on the CCL.\footnote{119 EAA of 1979, \textit{supra} note 6, § 2404(c)(2).} While the Commerce Department has responsibility for establishing and maintaining the CCL, the Defense Department has responsibility for developing the MCTL, which represented “militarily critical goods and technologies and the mechanisms through which such goods and technologies may be effectively transferred.”\footnote{120 \textit{Id.} § 2404(d)(1).}

In developing the MCTL, the Secretary of Defense must give primary emphasis to:

(A) arrays of design and manufacturing know-how;

(B) keystone manufacturing, inspection, and test equipment; and

(C) goods accompanied by sophisticated operation, application, or maintenance know-how that are not possessed by countries to which such exports are controlled, and which, if exported, would make a significant contribution to the military potential of any such country.\footnote{121 \textit{Id.} § 2404(d)(2). For reference to the “Bucy Report,” which provided the basis for the Defense Department’s development of the MCTL, see \textit{supra} note 7.}

The Senate proposal would add:

(D) goods (i) which would extend, complete, maintain, or modernize a process line employed in the application of a militarily critical technology, or (ii) the analysis of which would reveal or give insight into a United States military system and would thereby facilitate either the design and manufacture of that system or the development of countermeasures against that system.\footnote{122 S. \textit{Rep.} No. 170, \textit{supra} note 11, § 42.}

The Senate version also would expand the coverage of the MCTL to goods and technologies that are either not possessed by or “available in fact from sources outside of the United States.”\footnote{123 \textit{Id.}}

The Defense Department’s MCTL ultimately is to be incorporated into the Commerce Department’s CCL upon the concurrence of the Secretaries of both departments.\footnote{124 EAA of 1979, \textit{supra} note 6, § 2404(d)(5). On October 1, 1980, pursuant to § 2404(d)(4), the Defense Department published its initial MCTL in the Federal Register. See 45 Fed. \textit{Reg.} 65,014 (1980). The MCTL, as published, listed seventeen categories of militarily critical technologies: computer-networks technology; computer technology;
sus on the particular MCTL goods and technologies to be incorporated into the CCL, however, necessitates that the matter be referred to the President for resolution. If the President rejects the Defense Secretary's recommendations, he is required to report his decision to Congress promptly, along with the Defense Department's recommendations.

In recommending that the exportation of particular technologies be contingent on the exporter obtaining a validated license, the Defense Department stated that its goal is "to protect the United States' lead time relative to its principal adversaries in the application of technology to military capabilities. The lead time is to be protected and maintained as long as is practical in order to provide time for the replenishment of technology through new research and development." Thus, the critical technologies approach focuses on controlling "revolutionary," rather than "evolutionary," advances to maintain lead time on technologies undergoing rapid scientific development.

In enacting the critical technologies lead time approach, Congress included provisions designed to narrow the range of technologies whose export would require the issuance of a validated license. First, the Defense Department may not require a validated export license for technologies otherwise available to the country of destination in the world market, unless the President certifies that a validated license is necessary to safeguard national security. Second, the Commerce Department must review the CCL every three years for multilateral (COCOM) export controls and annually for unilateral export controls to determine the continued necessity for requiring a validated license for the export of a particular commodity. The Senate proposal would require an annual review of the CCL by the Commerce Department. Finally, the Commerce Department may provide for the indexing of the CCL so that validated export license controls automatically would be removed as particular com-

software technology; automated real-time control technology; materials technology; directed energy technology; semiconductor and electronic component technology; instrumentation technology; telecommunications technology; communication, navigation, guidance and control technology; microwave technology; vehicular technology; optical and laser technology; sensor technology; undersea systems technology; chemical technology; and nuclear specific technology. Id.

125 EAA Overview, supra note 13, at 8.
126 EAA of 1979, supra note 6, § 2409(g)(4).
128 Comment, supra note 35, at 567-68.
129 EAA of 1979, supra note 6, § 2404(f)(1), (4).
130 Id. § 2404(c)(3).
131 S. 979, supra note 10, § 5(c)(3).
modities become obsolete.\textsuperscript{132}

Since 1974 the Defense Department has participated actively in export licensing decisions involving sensitive national security issues.\textsuperscript{133} In fact, the EAA of 1979 specifically requires the Defense Department, in consultation with the Office of Export Administration, to determine which types of export transactions to controlled/communist countries must be reviewed.\textsuperscript{134} Currently, the Defense Department reviews approximately thirty-five percent of all export license applications for exports to communist countries.\textsuperscript{135}

C. Enforcement of Statutory Sanctions for Violation of United States Export Restrictions

The Secretaries of Commerce and Defense were authorized under the EAA of 1979 to conduct investigations into possible violations of the EAA provisions.\textsuperscript{136} The Senate, however, has proposed shifting the responsibility for enforcing United States export laws to the United States Customs Service.\textsuperscript{137} In exercising such enforcement powers, the Secretaries are allowed to issue subpoenas requiring the appearance of any person or the production of any books, writings, or other documents.\textsuperscript{138} The EAA of 1979 provided that no person may refuse to testify by asserting the privilege against self-incrimination,\textsuperscript{139} but he is entitled to immunity against later prosecution on the basis of such compelled testimony.\textsuperscript{140}

If United States goods or technologies are exported without a proper export license or if a licensed export is later diverted from the approved destination, the Commerce Department is authorized under the Export Administration Regulations to commence an investigation. Depending upon the seriousness of the violation, the investigation may culminate in a warning letter, a civil penalty, an administrative action denying the United States exporter or foreign importer the right to participate in future United States export transactions for a specified period of time, or a referral to the Justice Department for criminal prosecution in United States courts.\textsuperscript{141}

The Office of Export Administration exercises the primary re-

\textsuperscript{132} EAA of 1979, \textit{supra} note 6, § 2404(g).
\textsuperscript{133} EAA Overview, \textit{supra} note 15, at 9.
\textsuperscript{134} EAA of 1979, \textit{supra} note 6, § 2403-1(a).
\textsuperscript{135} EAA Overview, \textit{supra} note 15, at 9.
\textsuperscript{136} EAA of 1979, \textit{supra} note 6, § 2411(a). In addition, the EAA of 1979 authorized the head of any governmental department or agency exercising any function under the Act to investigate possible violations to the extent necessary to the enforcement or imposition of any statutory penalty. \textit{Id.}
\textsuperscript{137} S. 979, \textit{supra} note 10, § 12(a).
\textsuperscript{139} EAA of 1979, \textit{supra} note 6, § 2411(b).
\textsuperscript{140} 18 U.S.C. § 6002 (1982).
\textsuperscript{141} 15 C.F.R. § 387.1(a)-(b) (1983).
responsibility for enforcing the Export Administration Regulations\textsuperscript{142} and has been concerned particularly with "preventive enforcement." This approach requires that the applicant disclose all pertinent details of the proposed export transaction, including: (1) the parties to the transaction; (2) the destination and type of goods or technologies to be exported; (3) the intended use of the exported goods or technologies; and (4) the foreign availability of the particular goods or technologies.\textsuperscript{143}

In addition to a thorough review of the export license application, the Office of Export Administration requires: (1) that importers furnish documentation in support of the license application, factual information concerning the proposed export transaction, and assurances that they understand the destination restrictions imposed on the distribution of United States goods and technologies; and (2) that shippers enter prescribed statements on bills of lading and on invoices to notify carriers, foreign forwarders, and importers of the destinations to which the Commerce Department has authorized distribution of the shipment.\textsuperscript{144}

Under section 2410 of the EAA of 1979, the Commerce Department may impose the following penalties for violation of United States export laws:

\( (a) \) whoever knowingly violates any provision of this Act . . . shall be fined not more than five times the value of the exports involved or $50,000, whichever is greater, or imprisoned not more than 5 years, or both.

\( (b)(1) \) whoever willfully exports anything contrary to any provision of this Act . . . with knowledge that such exports will be used for the benefit of any country to which exports are restricted for national security or foreign policy purposes — (A) except in the case of an individual, shall be fined not more than five times the value of the exports involved or $1,000,000, whichever is greater; and (B) in the case of an individual, shall be fined not more than $250,000, or imprisoned not more than 5 years, or both.

\( (b)(2) \) any person who is issued a validated license under this Act for the export of any good or technology to a controlled country and who, with knowledge that such a good or technology is being used by such controlled country for military or intelligence gathering purposes contrary to the conditions under which the license was issued, willfully fails to report such use to the Secretary of Defense — (A) except in the case of an individual, shall be fined not more than five times the value of the exports involved or $1,000,000, whichever is greater; and (B) in the case of an individual, shall be fined not more than $250,000, or imprisoned not more than 5 years, or both.\textsuperscript{145}

In addition, a civil penalty in the amount of $10,000 may be imposed

\textsuperscript{142} EAA Overview, supra note 13, at 14.

\textsuperscript{143} 15 C.F.R. § 379.5(d) (1983).

\textsuperscript{144} Id. See also id. §§ 375.1-.7.

for each violation of the EAA of 1979, the export regulations, export orders, or the conditions of the export license. Violations involving national security controls imposed under section 5 of the EAA of 1979 or controls imposed on the export of defense articles and defense services under section 38 of the Arms Export Control Act, however, may result in fines of up to $100,000. Further, each violation of the federal False Statements Act is punishable by a fine of $10,000 or imprisonment for not more than five years. Finally, commodities or technical data shipped in violation or attempted violation of the EAA of 1979 are subject to seizure and forfeiture.

The legislative proposals would allow the enforcing government agency to make warrantless searches, seizures, and arrests. They would also expand the reach of the export laws to include anyone who conspires to violate United States export laws. Additionally, both versions would require that anyone convicted of a violation of the EAA of 1979 forfeit to the United States any property interest which that person has in the goods or technologies that were the subject of the violation and any proceeds derived from the transaction out of which the violation arose.

IV. Review of Two Recent Examples Representing the Inherent Problems in Promoting United States Exports While Protecting National Security

Since the enactment of the EAA of 1979, the President has implemented export controls on several occasions to safeguard United States national security. The effects of such actions on United States business have been overlooked entirely, disregarded as insignificant, or treated as inherent costs in protecting national security.

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151 S. REP. No. 170, supra note 11, § 31; H.R. 3231, supra note 10, § 103(2).
152 S. REP. No. 170, supra note 11, § 30; H.R. 3231, supra note 10, § 102(a).
153 S. REP. No. 170, supra note 11, §§ 31, 73-74; H.R. 3231, supra note 10, § 102(d)(2).
154 See generally Statement of U.S. Measure Taken Against the Soviet Union, 17 WEEKLY COMP. PRES. DOC. 142 (Dec. 29, 1981) (no mention of any consideration of costs resulting from export controls).
155 See Use of Export Controls and Export Credits for Foreign Policy Purposes: Hearings on the Increasing Use by the Executive Branch of Restrictions on U.S. Exports and Export Credits for the Purpose of Promoting Foreign Policy Objectives Before the Senate Comm. on Banking, Housing and Urban Affairs, 95th Cong., 2d Sess. 44 (1978) (testimony of Donald J. Morfee, Vice President, Pullman, Inc.) [hereinafter cited as Export Controls]. See also Hearing Before the Subcomm. on International Economic Foreign Policy and Trade of the House Comm. on Foreign Affairs, 98th Cong., 1st Sess. 1 (1982) (testimony of Lionel Olmer, Undersecretary of Commerce for International Trade, that export controls may impose economic costs on American business, but these are sometimes necessary costs); Export Controls on Oil and Gas Equipment: Hearings and Markup Before the Comm. on Foreign Affairs, and Subcomms. on Europe and the Middle East and on International Economic Policy and Trade, 97th Cong., 2d Sess. 97 (1982) (testimony...
In many cases, the approach of the Commerce Department has been to impose export controls first and to calculate the costs later.\textsuperscript{156} 

In calculating the impact of export controls on the United States, both economic and noneconomic costs must be considered.\textsuperscript{157} Generally, the economic costs are borne by the private business sector, either directly or indirectly, as a result of lost export sales and of reduced foreign market shares.\textsuperscript{158} The United States Government, however, has also been forced to suffer the economic consequences of its actions, primarily as a result of the enactment of legislation designed to soften the economic impact of the export controls.\textsuperscript{159} The primary noneconomic costs, however, are borne almost exclusively by the Government.\textsuperscript{160}

The following two examples illustrate both the need for and the cost of imposing export controls on United States commodities. The need for improving the export licensing of dual-use militarily critical commodities is readily apparent from the attempted transshipment of licensed exports of VAX 11-782 computers to the Soviet Union.


\textsuperscript{157} The more important economic costs include: (1) budgetary costs, relating to increased costs incurred in administering the expanded export controls and in funding corollary government programs designed to reduce the domestic economic impact of the expanded controls; (2) lost sales costs, relating to lost profits, unrecovered expenses, cancellation charges, and other incidental costs; and (3) lost future sales costs, relating to loss of world market share and to reduced confidence in U.S. exporters. The more important noneconomic costs include: (1) injury to U.S. foreign relations; (2) loss of U.S. credibility in its failure to accomplish its expressed foreign policy objectives; and (3) reduced economic impact of export controls through repeated ineffective implementations of export controls.

\textsuperscript{158} \textit{House Report}, supra note 26, at 3-6; \textit{Export Controls}, supra note 155, at 146 (testimony of former Secretary of State Dean Rusk). In commenting on U.S. use of unilateral export controls for attaining political objectives, then Secretary of Commerce Juanita Kreps stated that the export restrictions may simply transfer economic opportunity and jobs from the United States to other countries, especially when the commodities restricted are readily available from foreign sources. \textit{U.S. Export Weekly} (BNA), at A-1 (June 27, 1978).

\textsuperscript{159} \textit{House Report}, supra note 26, at 3-6; \textit{Export Controls}, supra note 155, at 146 (testimony of former Secretary of State Dean Rusk).

\textsuperscript{160} Typical noneconomic costs include: (1) a breakdown in friendly relations between the United States and countries adversely affected, directly or indirectly, by the U.S. export controls; (2) increased friction between the U.S. Government and those segments of the U.S. commercial sector that are adversely affected by the export controls; and (3) a decrease in the ideological and/or philosophical effectiveness of export sanctions that are invoked repeatedly.
Export controls imposed under the national security provisions of section 5 of the EAA of 1979, after the Soviet Union’s invasion of Afghanistan,\textsuperscript{161} illustrate the short- and long-term costs to the United States economy of embargoes on broad categories of commodities.

A. Transshipment of VAX 11-782 Computers to the Soviet Union

On November 11, 1983, acting in response to a United States Customs Service request, West German authorities seized a two million dollar, highly sophisticated VAX 11-782 computer,\textsuperscript{162} manufactured by Digital Equipment Corporation of Maynard, Massachusetts, seven minutes before its scheduled shipment by boat from Hamburg, West Germany, to Sweden, where it would have been transshipped to the Soviet Union.\textsuperscript{163} Shortly thereafter, on November 20, 1983, Swedish authorities announced that they had seized another VAX 11-782 computer just prior to its transshipment to the Soviet Union.\textsuperscript{164}

Eight days later, Bjorn Ericsson, the general director of the Swedish Customs Authority, announced that two shipments of United States computer software, for use with the seized VAX 11-782 computers, had been seized en route to the Soviet Union.\textsuperscript{165} On December 11, 1983, United Kingdom authorities seized a truck loaded with Digital Equipment computer parts that were to be shipped to France and then transshipped to Czechoslovakia.\textsuperscript{166} The computer hardware and software had been exported pursuant to export licenses issued by the Commerce Department, apparently without careful consideration of the particular export circumstances and the militarily critical technology represented by the computers.\textsuperscript{167}

\textsuperscript{161} EAA of 1979, supra note 6, § 2404.


\textsuperscript{163} See Werner, \textit{U.S. Has Bonn Stop Soviet-Bound Computer}, N.Y. Times, Nov. 15, 1983, at A1, col. 3; Brown, \textit{U.S. Working To Unravel Computer Case}, Wash. Post, Nov. 16, 1983 (Business & Finance) at D7, col. 4. The seizure was allowed to proceed only after a West German appeals court overturned a lower court ruling that allowed the shipment to proceed.


\textsuperscript{167} Brown, \textit{Seized Computer Put on Display-Plan to Control Exports Promised}, Wash. Post, Dec. 20, 1983 (Business & Finance) at D7, col. 5. In response to the seizures of the two VAX 11-782 computer systems en route to the Soviet Union, Treasury Secretary Donald T. Regan and Defense Secretary Caspar W. Weinberger, in a Cabinet-level press conference, stated that the acquisition of the computers would “have been an espionage coup” for the Soviets, who could have used the computers to “produce vastly more accurate . . . and more destructive weapons.” \textit{Id.} Further, according to William Green, Deputy Assistant
The exportation of the VAX 11-782 computers involved those aspects of high intrigue of which spy novels are often written. Digital Equipment Corporation sold the computers to a New York-based computer broker and export company, which applied for and received an export license from the Commerce Department to export the two computers to the Microelectronics Research Institute (MRI), based in Cape Town, South Africa. MRI is controlled by Richard Mueller, a West German citizen who is currently a fugitive from a 1979 United States Customs Service indictment charging him with illegally exporting semiconductor manufacturing equipment from the United States to the Soviet Union. In addition, MRI is

Commissioner for Enforcement of the U.S. Customs Service, the VAX 11-782 was a fairly sophisticated piece of equipment that could be used for missile guidance and keeping track of military troops. Brown, U.S. Working To Unravel Computer Case, supra note 163, at D7, col. 4.

168 Time for a Consensus, COMPUTERWORLD, Dec. 12, 1983, at 64 (according to a spokesman for Digital Equipment Corporation, "it reads like a Robert Ludlum novel"). See generally Kurtz, Soviet Network Intensifies Hunt for U.S. Secrets, Wash. Post, Oct. 25, 1983, at A11, col. 1. (Soviet KGB lures employees of private defense contractors to sell military secrets with "big money"); Haas, The Soviets Are Stealing Us Blind, 29 ARMY RESERVE MAG. 11 (Fall 1983) (the Soviet espionage network, staffed by some 20,000 members, has been extremely effective at acquiring U.S. military secrets); 5 Indicted in High Tech Export Scheme, Wash. Post, Nov. 5, 1983 (Business & Finance) at D9, col. 1 (five persons, including two Americans, were indicted on charges of illegally shipping high-technology equipment, advanced computer disc memory devices, from the United States to Bulgaria).

Examples of recent Soviet acquisitions of U.S. military secrets include:

1) Soviet listening buoys, copied from advanced U.S. technology, have been discovered on both the east and west coasts of the United States and in areas used for testing the new U.S. "Trident" submarines. Defense Secretary Caspar Weinberger has confirmed that, while the buoys' microelectronics were made in the Soviet Union, they were replicas of U.S. listening buoys manufactured in the United States.

2) A new Soviet cruise missile, designed to be launched from the torpedo tubes of submerged submarines, bears an amazing resemblance to the U.S. "Tomahawk" missile. According to a Business Week article in April 1983, investigations revealed that not only had the Soviets pirated from U.S. shores the manufacturing technology used in the missile's turbofan engine, but the terrain-hugging Soviet missile contains a compact computer-controlled radar guidance system filled with semiconductor chips so advanced that the U.S. is convinced that their origin must be American.

3) The Soviet KGB (Komitet Gosudarstvennoy Bazopasnosti, the Committee for State Security) stole the design plans and drawings for the U.S. Air Force C-5A cargo plane before it even flew.

4) Missile silos of the Soviet SS-13, the first Soviet solid propellant missile, are strikingly similar to the U.S. "Minuteman" silos.

5) The Soviet SAM-7 surface-to-air missile, which was so effective in Vietnam against low-flying U.S. aircraft, is largely a duplicate of the U.S. Army's "Redeye" missile.

6) The KGB was largely successful in stealing manufacturing components to equip fully a Soviet factory to produce integrated circuits and microcomputers.

7) The range finder on a new Soviet tank, according to John N. McMahon, CIA Deputy Director, is based on a U.S. design.

Haas, The Soviets are Stealing Us Blind, 29 ARMY RESERVE MAG. 11 (Fall 1983).

169 Brown, Seized Computer Put on Display—Plan to Control Exports Promised, supra note 167, at D8, col. 4. The Commerce Department has refused to divulge the identity of the New York-based computer broker on the grounds that the exporting company's identity is confidential. Time for a Consensus, supra note 168, at 64.

170 46 Fed. Reg. 40,914 (1981). Richard Mueller has been denied U.S. export privileges, including the issuance of any general or validated export license, from August 6,
currently under Commerce Department investigation for violations of United States export laws and was under investigation at the time of the issuance of the export license.\footnote[171]{Brown, Seized Computer Put on Display—Plan to Control Exports Promised, supra note 167, at D7, col. 3. Richard Mueller has been named by the U.S. Government in illegal export cases on two separate occasions. He was banned from U.S. export in connection with the first case and was a fugitive from a federal indictment in the second case, reportedly in control of those companies in South Africa and West Germany that played a role in the transshipment of the VAX 11-782 and named by the United Kingdom as a KGB agent. Time for a Consensus, supra note 168, at 64.}

Upon arrival of the computers in South Africa, MRI secretly attempted to transship them to the Soviet Union via West Germany and Sweden.\footnote[172]{Brown, Seized Computer Put on Display—Plan to Control Exports Promised, supra note 167, at D8, col. 4.}

Over the last decade, international recognition of the superiority of United States technology in the computer field has resulted in a worldwide demand for United States computer technology exports.\footnote[173]{Brown, U.S. Working To Unravel Computer Case, supra note 163, at D8, col. 1; Swedes Said to Halt KGB Shipment of U.S. Computer, supra note 164, at A21, col. 1.}

This demand has caused the United States computer industry to become increasingly reliant on a continued high volume of export sales of computer hardware to insure the industry's continued growth and profitability.\footnote[174]{U.S. Export Control Policy and Extension of the Export Administration Act: Hearings Before the Senate Comm. on Banking, Housing and Urban Affairs, Part I, 96th Cong., 1st Sess. 153-54 (1979) (statement of C. Fred Bergsten, Assistant Secretary of Treasury for International Affairs). During the period of October 1979 to September 1980, the Office of Export Administration granted export licenses for computer hardware and software, to controlled destinations, totalling $145,963,807. U.S. DEP'T OF COMMERCE, 121 EXPORT AD. REP. 30 (1979-80). This figure reflects 16.7\% of all U.S. exports to controlled destinations. Id.}

The technological complexity of computer hardware, however, has rendered it virtually useless without the corresponding export of compatible computer software,\footnote[175]{Gold, Goodman & Walker, Software: Recommendations for an Export Control Policy, ACM COM., Apr. 1980, at 199-201. The term "computer software" is defined as: various programming aids that are frequently supplied by manufacturers to facilitate the purchaser's efficient operation of the equipment. C.J. SIPPL & R.J. SIPPL, COMPUTER DICTIONARY 84 (3d ed. 1983).}

which is much more strictly regulated by the Defense Department.\footnote[176]{Bucy Report, supra note 7.}

As a result, the United States computer industry is faced with the dilemma of needing to export computer systems, including both hardware and software, to foreign markets, while being restricted in their export efforts by the Departments of Defense and Commerce on the basis that the export of such computer systems could jeopard-
ize national security.\textsuperscript{177}

The Defense Department recognized as early as 1976 that the evaluation of United States computer technology, under the critical technologies approach, would prove to be an extremely difficult but necessary task.\textsuperscript{178} As a result, the Defense Department established the Computer Network Critical Technology Expert Group (CNCTEG) to advise it on the appropriate classification of computer hardware and software as representing, or not representing, militarily critical technology.\textsuperscript{179} In its recommendations, the CNCTEG advocated dividing all computer software into six categories for analysis as to whether it should be classified as representing militarily critical technology.\textsuperscript{180} The eventual CNCTEG proposals, however, were not adopted by the Defense Department in its organization of the MCTL.\textsuperscript{181}

In response to the Defense Department's concern over the export of computer software, the Commerce Department issued interim export licensing requirements for exports of computer software. The actual MCTL computer software categories finally adopted by the Defense Department are:

\begin{itemize}
  \item A) Software Technology
    \begin{itemize}
      \item 1) Development Environment Technology
        \begin{itemize}
          \item a) Software Life-Cycle Management Technology
          \item b) Software Library Data Base Technology
          \item c) Software Development Tool Technology
          \item d) Formal Methods and Tools for Developing Trusted Software Technology
        \end{itemize}
      \item 2) Operations and Maintenance Technology
        \begin{itemize}
          \item 1) Maintenance of Large Software Product Technology
          \item 2) Large Self-Adapting Software System Technology
        \end{itemize}
      \item 3) Application Software Technology
        \begin{itemize}
          \item 1) Secure Software Technology
          \item 2) Large Self-Adapting Software System Technology
        \end{itemize}
    \end{itemize}
\end{itemize}


\textsuperscript{178} See generally Bucy Report, supra note 7; Memorandum from Secretary of Defense Harold Brown to the Secretaries of the Military Departments, reprinted in Dresser Industries, supra note 2, at 90-92.

\textsuperscript{179} In addition to the CNCTEG, the Defense Department established five other Critical Technology Expert Groups to assist it in the organization of the MCTL: (1) materials and structures, jet engines, and wide body aircraft; (2) large scale integrated production technology; (3) array processors; (4) acoustic arrays; and (5) computer networks, high-energy lasers and infra-red detection. Memorandum from Defense Secretary Harold Brown to the Secretaries of the Military Departments, reprinted in Dresser Industries, supra note 2, at 90-92.

\textsuperscript{180} The six categories recommended by the CNCTEG were:
  \begin{itemize}
    \item 1) General Assistance — All Software Function Areas;
    \item 2) Product Support Assistance — All Software Function Areas;
    \item 3) Product Shipment, Military Software — All Software Function Areas;
    \item 4) Product Shipment, Other Software — All Software Function Areas;
    \item 5) Product Shipment, Commercial Software, and Usage — Software Development and Maintenance Aids, and Application Software; and
  \end{itemize}

\textsuperscript{181} The actual MCTL computer software categories finally adopted by the Defense Department are:

\begin{itemize}
  \item A) Software Technology
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          \item c) Software Development Tool Technology
          \item d) Formal Methods and Tools for Developing Trusted Software Technology
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          \item 2) Large Self-Adapting Software System Technology
        \end{itemize}
      \item 3) Application Software Technology
        \begin{itemize}
          \item 1) Secure Software Technology
          \item 2) Large Self-Adapting Software System Technology
        \end{itemize}
    \end{itemize}
\end{itemize}

These interim regulations were designed to implement several of the CNCTEG recommendations and to provide the Office of Export Administration with additional information as to the possible military applications of specific exports of computer hardware and software. The regulations, however, increased the burden on the United States computer industry in obtaining an export license for exports of computer hardware and software, without a corresponding increase in the restrictions on exports of militarily critical technologies.\textsuperscript{183}

Therefore, there clearly is a need for more stringent export licensing precautions to guard against future inadvertent export licensing of United States dual-use militarily critical technologies. These more stringent precautions, however, need not cause further interference with the United States business community, provided the Departments of Commerce and Defense begin to work more harmoniously toward identifying those United States commodities or technologies whose export could potentially threaten national security. This is the approach that Congress foresaw in enacting the EAA of 1979. The mandatory unification of the CCL and of the MCTL should provide the additional safeguards necessary to insure that the preceding examples will not be repeated.

**B. Soviet Invasion of Afghanistan and Resulting United States Embargoes**

On December 26, 1979, Soviet armed forces invaded Afghanistan,\textsuperscript{184} assisted in the overthrow and execution of Afghanistan’s Prime Minister, Hafizullah Amin,\textsuperscript{185} and supported the installation of Babrak Karmal as the new Afghan leader.\textsuperscript{186} Responding to the invasion, on January 4, 1980, President Carter announced the suspension of the shipment of seventeen million tons of grain to the Soviet Union and the suspension of the issuance of validated licenses for the export of high technology commodities to the Soviet Union.\textsuperscript{187} Three days later, after consulting with the Department of

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\textsuperscript{182} 45 Fed. Reg. 80,485 (1980).

\textsuperscript{183} In response to criticism by U.S. exporters over extensive red-tape and procedural delays in obtaining export licenses, various bills have been introduced in Congress that would abolish the Commerce Department and create a new Department of International Trade. \textit{See}, e.g., Comments of Sen. Jake Garn (R-Utah) in \textit{U.S. EXPORT WEEKLY} (BNA) 341, at B-1 (Jan. 20, 1981).


\textsuperscript{186} \textit{Id.}

Agriculture, President Carter directed the Commerce Department to impose an embargo on all United States grain exports to the Soviet Union. 188

In imposing export controls on both grain and high technology commodities, President Carter and the Commerce Department relied on both sections 5 and 6 of the EAA of 1979. 189 While section 6 requires the President and the Commerce Department to consider specific factors and to consult with both Congress and potentially affected United States industries before imposing foreign policy export controls, 190 section 5 requires only that the President consider effective January 11, 1980, suspending all outstanding validated licenses and all pending validated license applications for the export of controlled commodities to the Soviet Union. 45 Fed. Reg. 3027 (1980). These regulations provided in pertinent part that:

(a) All validated licenses, reexport authorizations, 15 C.F.R. § 374, and parts and components authorizations, id. § 376.12, for shipment of any commodities or transfer of any technical data, id. § 379, to the Union of Soviet Socialist Republics (U.S.S.R.) are suspended. This suspension includes shipments under special bulk licenses, described in § 373, to the extent they authorize shipment of commodities to the U.S.S.R. Except as described in the Saving Clause, no exports or reexports may be made against such suspended licenses or authorizations without further approval from the Office of Export Administration. This order does not affect any agricultural commodities or products made subject to validated licensing pursuant to § 376.5 of these regulations.

(b) Saving Clause. Shipments of any commodity or technical data previously authorized for shipment to the U.S.S.R. by a validated license or authorization, as aboard any exporting carrier, or in transit to a port of exit pursuant to actual orders for export prior to 12 noon EST January 11, 1980, may be exported under that validated license or authorization up to 12 noon EST January 13, 1980. Any such shipment not exported before 12 noon January 13, 1980, may not be shipped to the U.S.S.R. without further authorization from the Office of Export Administration. 45 Fed. Reg. at 3029.


189 In his report to Congress pursuant to the mandate of § 2405(e) of the EAA of 1979, which dealt only with the imposition of an agricultural embargo, President Carter stated that he was acting in both the national security and the foreign policy interests of the United States. U.S. Export Weekly (BNA) 292, at M-1 (Jan. 29, 1980). Further, the President stated that the exports being curtailed would make a significant contribution to the military potential of the Soviet Union, which would be detrimental to the national security of the United States. Id. See also Agricultural Embargo Implications, supra note 50, at 9.

190 EAA of 1979, supra note 6, § 2405(b), (c) & (e). The specific criteria the President must consider under section 6 include:

1. the probability that such controls will achieve the intended foreign policy purpose, in light of other factors, including the availability from other countries of the goods or technology proposed for such controls;
2. the compatibility of the proposed controls with the foreign policy objectives of the United States, including the effort to counter international terrorism, and with overall United States policy towards the country that is the proposed target of the controls;
3. the reaction of other countries to the imposition or expansion of such export controls by the United States;
4. the likely effects of the proposed controls on the export performance of the United States, on the competitive position of the United States in the international economy, on the international reputation of the United States
the foreign availability of the embargoed commodities, which may be disregarded if necessary to protect national security. 191 Further, section 5 does not require the President or the Commerce Department to consult with Congress or with potentially affected private industries in implementing national security controls. 192

This joinder of the President's authority to impose export controls for national security and foreign policy reasons blatantly defeats the congressional intention behind the statutory separation of these bases of authority. In addition to imposing export controls on grain and high technology commodities under both sections 5 and 6, President Carter imposed export controls on various other aspects of United States trade with the Soviet Union under section 6 alone. 193

On February 4, 1980, the Commerce Department announced that it no would longer require the issuance of a validated license for the export of particular agricultural commodities to the Soviet Union and that it would begin considering, on a case-by-case basis, validated export license applications for the export of certain other agricultural commodities. 194 Shortly thereafter, on March 18, 1980, the

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191 EAA of 1979, supra note 6, § 2404(b).
192 Id.
194 45 Fed. Reg. 8289 (1980). The grain embargo regulations were amended to allow the export of such commodities as alcoholic beverages, tobacco, and wood products under a general export license. The remaining agricultural commodities were divided into two...
Commerce Department announced that it would commence reviewing validated export license applications for the export of high technology commodities to the Soviet Union. The issuance of export licenses for the export of high technology commodities, however, was to be governed by new, stricter licensing regulations promulgated in response to the growing concern over the flow of United States high technology exports to the Soviet Union. The broad export controls on the bulk of United States grain exports to the Soviet Union were continued, however, until April 24, 1981, when President Reagan, honoring a much criticized campaign promise, terminated the embargo on grain exports to the Soviet Union. The remaining export controls imposed by President Carter, under section 6 alone, were gradually terminated or allowed to expire.

groups. The first group included those commodities subject to a validated license but for which no validated license would be issued, because they had been determined to be commodities that could contribute significantly to the Soviet grain-livestock complex. This group included such agricultural commodities as meats, dairy products, birds' eggs, grains, milled grain products, peanuts, certain oils, and animal feeds.

The second group contained commodities that were subject to validated licensing requirements but for which licenses would be issued on a case-by-case basis, if it was determined that the objectives of the embargo would not be undermined by their export to the Soviet Union. This group included such agricultural commodities as live animals, fish and shellfish, hides, skins, leather, malts and starches, certain oils, tallow, and fats and greases.

Under these stricter licensing regulations, export controls toward the Soviet Union were tightened so that export license applications for export to the Soviet Union, Estonia, Latvia, and Lithuania, which required COCOM approval, were denied, except in a few limited circumstances. Further, export license applications for export to other Warsaw Pact countries, Albania, Laos, and the Mongolian People's Republic were evaluated in light of: (1) the risk of diversion to military use in those countries; (2) the risk of diversion to the Soviet Union; and (3) efforts by certain East European countries to distance themselves from the Soviet Union's Afghanistan policies. EAA Overview, supra note 13, at 4. See Office of Export Admin., Dep't of Commerce, Export Admin. Ann. Rep. FY 1980 at 20 (1981) (export licenses for commodities regulated by COCOM would generally be denied); Afghanistan Sanctions, supra note 193, at 67 (indicating that the Commerce Department was going to begin strictly enforcing restrictions on the export of U.S. high technology commodities); 45 Fed. Reg. 29,568 (1980) (requiring validated licenses for the export of certain new U.S. commodities that could be militarily advantageous to the Soviet Union).


The export controls relating to the 1980 Summer Olympic Games were allowed to expire on January 21, 1983. See 48 Fed. Reg. 3359 (1983). On April 24, 1983, the U.S. embargo on U.S. phosphate exports to the Soviet Union was ended. See 46 Fed. Reg. 23,923 (1981). In response to the turmoil in Poland, however, President Reagan tight-
In October 1979, immediately prior to the invasion of Afghanistan, the United States and the Soviet Union agreed to the Soviet Union's purchase of twenty-five million metric tons of United States corn and wheat, under the United States-Soviet Grain Agreement of 1975. The imposition of the grain embargo resulted in an economic loss to United States farmers of more than two billion dollars. Attempting to reduce the economic impact of the grain embargo on the United States farmers, President Carter implemented government grain programs costing in excess of $2.5 billion. Overall, analysts believe that the United States economy lost approximately $11.4 billion in national output and approximately ened U.S. export controls on exports destined for the Soviet Union's Kama River truck complex. See 47 Fed. Reg. 9201 (1982).

199 Agricultural Embargo Implications, supra note 50, at 9 n.1. See also Afghanistan Sanctions, supra note 193, at 24.

200 Grains Agreement, Oct. 20, 1975, United States-U.S.S.R., 26 U.S.T. 2971, T.I.A.S. No. 8206 (expired Sept. 30, 1983). The U.S.-U.S.S.R. Grain Supply Agreement provided that, over a five-year period, the Soviets would be allowed to purchase at least six million metric tons of corn and wheat annually, beginning with the 1976-77 crop year. Further, whenever the U.S. supply of grain was sufficient, the Soviets could purchase an additional two million metric tons of corn and wheat without prior approval or consultation with the U.S. Government. Id. The agreement was scheduled to expire on September 30, 1981, but was extended for the 1981-82 and 1982-83 crop years. Agricultural Embargo Implications, supra note 50, at 9 n.1.

On October 1, 1983, a new U.S.-U.S.S.R. long-term grain agreement, following the general framework of the 1975 Agreement, became effective. The new agreement requires the Soviets to purchase nine million metric tons of corn and wheat annually and allows the Soviets to purchase an additional twelve million metric tons without prior U.S. Government approval. Id. at 23. Soviet negotiators, however, succeeded in deleting a clause, included in the first agreement, which allowed the U.S. Government to cut off sales in times of short supply. Id.


In the EAA 1980 Annual Report, the Commerce Department reported that the grain embargo resulted in lost exports of approximately thirteen million metric tons of corn and four million metric tons of wheat. OFFICE OF EXPORT ADMIN., DEP'T OF COMMERCE, EXPORT ADMIN. ANN. REP. FY 1980 at 146 (1981). Further, the Report indicated that the embargo caused the loss of approximately 1.3 million metric tons of soybean meal, approximately 65,000 tons of poultry, and numerous other large sales of agricultural products pending in negotiations at the time of the embargo. Id. See generally Rich, Most Farm Groups Oppose Grain Cutoff, Wash. Post, Jan. 4, 1980, at A12, col. 1.

202 Schnittker Report, supra note 201, at i. Following the grain embargo of 1980, an embargo protection clause was added to the Agriculture and Food Act of 1981, requiring the Agriculture Department to make payments to producers or increase the price-support loan rate if the President restricts agricultural exports to any country for reasons of na-
$3.1 billion in personal income.\textsuperscript{203}

While critics of the grain embargo have argued that the economic costs were excessive, any costs incurred to safeguard national security should be justifiable.\textsuperscript{204} Such justification, however, requires that the Soviet grain embargo effectively safeguarded United States national security. If this was not achieved, any costs, economic or noneconomic, must be deemed excessive.

In compliance with its reporting obligations under the EAA of 1979,\textsuperscript{205} the Commerce Department reported to Congress that the grain embargo would have a marked and adverse effect on Soviet livestock and meat production capabilities.\textsuperscript{206} The General Accounting Office (GAO), however, determined that, based upon information supplied by the Department of Agriculture, the Soviets were able to locate new sources of grain to replace the lost United States grain exports.\textsuperscript{207} Primarily, the Soviet Union was able to purchase the needed grain from three United States allies—Canada, Australia, and Argentina.\textsuperscript{208} As a result, the GAO determined that the grain national security or foreign policy without placing similar restrictions on all U.S. exports.\textit{Agricultural Embargo Implications, supra} note 50, at 10.

Further, an amendment to the Agricultural Act of 1970 prohibits the President from curtailing the export of agricultural products for which an export sales contract has been entered into before the announcement of an embargo and which requires delivery within 270 days after the date of imposition of the embargo. \textit{Id. See also} Gwertzman, \textit{U.S. and China Near Agreement on Sale of American Grains}, N.Y. Times, Oct. 10, 1980, at A1, col. 4 (in addition to implementing federal government relief programs costing between $2 and $3 billion, a grain agreement with the People's Republic of China became a political necessity for the Carter Administration to offset the criticism of its grain embargo).

\textsuperscript{203} Schnittker Report, \textit{supra} note 201, at 7-8.

\textsuperscript{204} \textit{See Use of Export Controls and Export Credits for Foreign Policy Purposes: Hearings on the Increasing Use by the Executive Branch of Restrictions on U.S. Exports and Export Credits for the Purpose of Promoting Foreign Policy Objectives Before the Senate Comm. on Banking, Housing and Urban Affairs, 95th Cong., 2d Sess. 17, 21 (1978) (testimony of David Packard, Chairman of the Board, Hewlett-Packard); Lippman, \textit{Reagan Asks Strategic-Export Curbs}, Wash. Post, Apr. 6, 1983 (Business & Finance) at F1, col. 2 (quoting Lionel Olmer, Undersecretary for International Trade, Commerce Department, as stating that the Reagan Administration, while recognizing that export controls may impose economic costs on business firms, believes that maintaining export controls for national security reasons is vital to the safety of the United States).}

\textsuperscript{205} EAA of 1979, \textit{supra} note 6, § 2413 (requires the Secretary of Commerce to report to Congress at the end of each calendar year on the administration of the EAA of 1979 during the preceding fiscal year).


\textsuperscript{207} GAO Report, \textit{supra} note 201, at 46. The Reagan Administration has also publicly acknowledged that the Soviets were able to locate alternative grain suppliers. Hoffman, \textit{Soviets Accept Reagan Offer to Extend Grain Sales a Year}, Wash. Post, Aug. 21, 1982, at A1, col. 2.

\textsuperscript{208} GAO Report, \textit{supra} note 201, at 49. In fact, the U.S. grain embargo resulted in significantly increased continuing grain exports to the Soviet Union from Canada, Australia, and Argentina. For example, Canada increased its annual grain exports to the Soviet Union from 2.1 million metric tons, in the 1978-79 crop year, to 8.9 million metric tons, in the 1982-83 crop year. \textit{Agricultural Embargo Implications, supra} note 50, at 94. Australia increased its annual grain exports to the Soviet Union from 0.1 million metric tons, in the 1978-79 crop year, to 4.0 million metric tons, in the 1979-80 crop year, but its grain ex-
embargo had little, if any, effect on Soviet meat consumption.\textsuperscript{209}

In addition, Senate hearings on the grain embargo found that approximately five million metric tons of United States grain were transshipped to the Soviet Union from third-world countries during the embargo.\textsuperscript{210} The only actual effect of the United States grain embargo on the Soviet Union appears to have been that the Soviets were required to pay approximately one billion dollars extra for the needed grain.\textsuperscript{211}

After four years, however, the long-range effects of the grain embargo are just beginning to be assessed properly. First, from crop year 1978-79 to crop year 1982-83, the overall United States share of the world market for wheat and soybeans (and soybean products) declined by four percentage points, and the overall United States share of the world market for coarse grains declined by three percentage points.\textsuperscript{212} From crop year 1979-80 to crop year 1982-83, major competitors of the United States in the world grain and soybean markets substantially expanded their production and exports to capture a growing share of the world markets.\textsuperscript{213}

Further, the United States has come to be viewed as an unreliable world supplier of agricultural commodities.\textsuperscript{214} This has resulted in an increased demand for agricultural exports from foreign trade competitors of the United States.\textsuperscript{215} Finally, since 1980, the Soviet Union has entered into a number of bilateral agricultural trade agreements with several of the United States major grain competitors,\textsuperscript{216} resulting in reduced Soviet dependency on United States grain imports and in continued economic injury to the United States.

ports, while still substantially more than in the 1978-79 crop year, have decreased to 1.0 million metric tons in the 1982-83 crop year. \textit{Id.}

Argentina increased its annual grain exports to the Soviet Union from 1.4 million metric tons, in the 1978-79 crop year, to 9.6 million metric tons, in the 1982-83 crop year. \textit{Id.} A substantial amount of Argentina's grain exports, however, are the result of a five-year grain export agreement with the Soviet Union, signed in 1980, that requires the Soviets to purchase at least four million metric tons of corn and sorghum and 500,000 million metric tons of soybeans annually beginning in 1981. \textit{Id.} See also Lewis, \textit{France, on Election Eve, Announces Grain Sale to Soviets}, N.Y. Times, Apr. 26, 1981, at A12, col. 3. See also Krause, \textit{Argentina Rejects U.S. Proposal For Limiting Grain Sale to Soviets}, Wash. Post, Jan. 11, 1980, at A20, col. 1.

\textsuperscript{209} GAO Report, supra note 201, at 46.

\textsuperscript{210} U.S. Embargo of Food and Technology to the Soviet Union: Hearings Before the Senate Comm. on Banking, Housing and Urban Affairs, 96th Cong., 2d Sess. 97 (1980) (statement of Sen. Garn referring to estimates of four to five million metric tons of U.S. grain being shipped to the Soviet Union).

\textsuperscript{211} 1982-83 EUR. PARL. DOC. (No. 1-83/82) 26 (1982). See also Moyer & Mabry, supra note 155, at 145.

\textsuperscript{212} Agricultural Embargo Implications, supra note 50, at viii.

\textsuperscript{213} Id. at viii-ix.

\textsuperscript{214} Id. at ix-x.

\textsuperscript{215} Id.

\textsuperscript{216} Id. at xii. For example, a Soviet grain agreement with Canada calls for the Soviets to purchase a minimum of 25 million metric tons of grain over a five-year period, with the

\textsuperscript{217} See supra note 209, at 46.

\textsuperscript{218} Id. at 46-47. See also id. at viii-x.

\textsuperscript{219} Id. at xii.

\textsuperscript{220} Id. at xii-xiii.
farmer.\textsuperscript{217}

While the adverse economic impact of the grain embargo was substantial, the long-range economic costs on exports of high technology commodities probably will far exceed the agricultural costs. The high technology commodities embargo was imposed primarily to cripple the Soviet Union's industrial modernization efforts to such a degree that the Soviets would have little choice but to withdraw their troops from Afghanistan. President Carter apparently also imposed the export controls to show the Soviet Union and the international community that the United States would not stand idly by in the wake of such overt use of force by the Soviet Union.\textsuperscript{218}

Primarily, the United States embargo affected manufacturers and exporters of computer hardware and software, automobiles, communications, chemicals, lasers, and oil and gas drilling equipment.\textsuperscript{219} For example, the following export licenses were adversely affected: export licenses held by IBM and Ingersoll-Rand to export computer hardware to the Kama River truck complex were revoked;\textsuperscript{220} export licenses held by Caterpillar Tractor to export pipelaying tractors used on the Soviet transcontinental natural gas pipeline were suspended for several months;\textsuperscript{221} and export licenses held by Dresser Industries to export oil and gas drilling technology and equipment used in a Soviet oil drill bit factory were revoked.\textsuperscript{222}

Apparently, the Carter Administration determined that the eco-

\textsuperscript{217} Weisman, Record Soviet Purchase Seen in Grain Accord, N.Y. Times, July 31, 1982, at A33, col. 1 (Agriculture Secretary Block was quoted as saying that prior to the grain embargo, the U.S. supplied 70% of total Soviet grain imports, compared with 30% in 1982, and that the Carter Administration "threw away" this share in 1980 when it imposed the grain embargo. \textit{Id.} at A34, col. 5).

\textsuperscript{218} \textit{Id.} See also U.S. EXPORT WEEKLY (BNA) 292, at M-1 (Jan. 29, 1980) (reporting to Congress his decision to impose the grain embargo, President Carter stated that export controls will impress upon Soviet peoples the consequences of their government's actions).


\textsuperscript{221} \textbf{Afghanistan Sanctions}, supra note 193, at 72. While the Soviets had originally ordered 200 pipelaying tractors from Caterpillar Tractor, the licensing delay caused them to reduce their order to only 100 U.S. pipelaying tractors and, instead, to place an order for 150 pipelaying tractors from the Japanese. \textit{Id.} See Auerbach, U.S. Lets Soviets Buy Pipelayers, Retaining Grip on High-Tech Gear, Wash. Post, Aug. 21, 1983, at A12, col. 1 (on August 20, 1983, the Reagan Administration lifted the license restrictions on the basis that the pipelaying tractors, which cost approximately $500,000 each, did not represent U.S. high technology and could not be converted to military use). See also Auerbach, Reagan To End Curb on Sale of Pipelayers to Soviet Union, Wash. Post, Aug. 20, 1983, at A1, col. 5.

\textsuperscript{222} \textbf{Afghanistan Sanctions}, supra note 193, at 76.
nomic cost of lost United States export sales to the Soviet Union was acceptable in view of the threat posed to both national security and to world peace by the Soviet Union's invasion of Afghanistan.\(^{223}\) The principal concern, however, is whether the impact on the Soviet Union justified the economic cost to the United States.\(^{224}\) Originally, the Carter Administration viewed its imposition of sanctions "as the first steps in an international drive to show the Soviet Union the high cost of its actions."\(^{225}\) In retrospect, however, international reprisals against the Soviet Union failed to measure up to the Carter Administration's predictions.

The actual impact of the embargo appears to be openly disputed, with the majority of evidence tending to indicate that the Soviets were able to find alternative sources for those high technology commodities that they were unable to acquire from United States manufacturers.\(^{226}\) Further, a report issued by the European Economic Community on the long-term effects of the high technology embargo concluded that United States exporters probably lost a substantial share of the Soviet market to other developed western exporting countries.\(^{227}\)

The United States perhaps first should have secured multilateral agreements, with all other principal suppliers of the proposed commodities to be embargoed, banning exports of those commodities to the Soviet Union.\(^{228}\) Absent such multilateral agreements, the costs of imposing export controls will exceed the benefits derived from such controls, and the corresponding effectiveness of the controls will be reduced drastically.\(^{229}\) Clearly, the grain embargo and the

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\(^{223}\) In 1980 the United States exported about $40 million worth of such products and associated technology (computers, automobiles, communications, chemicals, lasers, microprocessing equipment, and oil and gas drilling equipment) to the Soviet Union. Mr. Jody Powell, White House Press Secretary under President Carter, contended that the relatively small value of those sales, compared with total American exports, was far less important than the potential consequences for the Soviet Union, which is trying to expand and modernize its productive capacities. N.Y. Times, Jan. 10, 1980, at A18, col. 2. See also U.S. Embargo of Food and Technology to the Soviet Union: Hearing Before the Subcomm. on International Finance of the Senate Comm. on Banking, Housing and Urban Affairs, 96th Cong., 2d Sess. 116-17, 28 (1980) (testimony of Phillip M. Klutznick, Secretary, Commerce Department).

\(^{224}\) See Moyer & Mabry, supra note 155, at 142-58.


\(^{226}\) See Afghanistan Sanctions, supra note 193, at 76.


\(^{228}\) See Berman & Garson, supra note 3, at 834. See also Moyer & Mabry, supra note 155, at 144, 158-61.

\(^{229}\) Moyer & Mabry, supra note 155, at 144, 158-61. Even multilateral agreements, however, are not necessarily the ultimate solution. For example, on January 16, 1980, NATO countries agreed not to undermine or undercut U.S. embargoes on grain sales, high technology exports, and commercial credit. Downie, Allies Back U.S. Curbs, Wash. Post, Jan. 16, 1980, at A1, col. 4. In retrospect, it is evident that many of these NATO countries, directly or indirectly, undertook commercial relations with the Soviet Union, which undermined the U.S. embargoes.
high technology embargo failed to accomplish the original goals enunciated by the Carter Administration. The Soviet Union's armed forces remain in Afghanistan, the Soviet Union's people have survived the minimal deprivations resulting from the United States embargo, and the Soviet Union's rapid industrialization plans have not been hindered significantly. The United States economy as a whole has suffered substantial short-term losses in the export of commodities and will probably suffer significant long-term losses due to potentially permanent reductions in foreign market shares.230

V. Conclusion

Members of the federal government, the international business community, and the legal profession apparently have reached a consensus that export controls are necessary to safeguard the national security of the United States.231 These factions, however, disagree on the most appropriate manner for imposing national security export controls. The Government has argued quite convincingly before Congress that more stringent export controls are necessary for the protection of national security.232 The international business community's position is supported by the testimony of Former Secretary of State Dean Rusk, who said that the United States refusal to trade for security or political reasons deprives the United States of trade benefits in the form of convertible currencies or goods and services needed for its national existence.233 Further, the international bar of the legal profession has expressed its view that:

[the law and politics of U.S. export controls—other than munitions controls—are based on an economic myth, namely, that by withholding permission to export goods, equipment, and technology to the Soviet Union we can substantially hurt the Soviet economy and thereby influence Soviet conduct. In fact, however, even a total embargo on exports from the United States could not have more than a minimal adverse effect on the Soviet economy.

The challenge, therefore, is one of enacting legislation that insures United States national security, while freeing the United States

230 These long-term losses probably will be the result of reduced foreign confidence in U.S. exporters' ability to guarantee compliance with export contracts and a substantially decreased Soviet market share for U.S exports, particularly exports of grain and high technology commodities. See supra notes 154-60 and accompanying text.

231 Export Controls, supra note 155, at 146 (testimony of Former Secretary of State Dean Rusk).


233 Export Controls, supra note 155, at 146.

business community from too stringent or too excessive export controls. Congress, however, has failed to meet this challenge. Since June of 1983, it has been reviewing specific proposals for amending and reauthorizing the EAA of 1979. Even though both houses of Congress passed proposals, the Conference Committee was unable to achieve a consensus on several controversial issues regarding national security, enforcement, and South Africa. As a result, United States export policies continue to operate under a state of national economic emergency. The business community remains frustrated at the confusing and often contradictory signals given by Congress, whose inability to enact legislation has highlighted the significance and controversy of the United States export laws and policies.