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Export Controls—International Coordination: Issues for Congress

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Christopher A. Casey
Analyst in International
Trade and Finance

Export Controls—International Coordination: Issues for Congress

Since the 1940s, the United States has maintained a regime of peacetime controls on exports for national security, foreign policy, and economic purposes. During that time, Congress has increasingly emphasized, through both legislation and oversight, the importance of coordinating export controls with allies and partners. Coordination, Congress asserts, can increase the effectiveness and decrease the costs of controls by ensuring that (1) controlled goods and technologies are not widely available from alternative sources; and (2) U.S. exporters are not disadvantaged vis-à-vis foreign competitors who might be freer to sell their wares.

Since 1949, the United States has coordinated its controls with allies and partners in a variety of fora. During the Cold War, the United States was a part of the Coordinating Committee for Multilateral Export Controls (CoCom), an exclusive, informal organization, whose operations were largely hidden from public view, where members of the North Atlantic Treaty Organization (NATO) and other aligned states coordinated controls on exports to the Soviet Union and its close allies. Beginning in the 1970s, various governments, including the United States, established other regimes to coordinate export controls on goods and technologies related to the development of weapons of mass destruction. In contrast to CoCom, the operations of these regimes were not hidden from public view, they were open to a wider group of states, and did not target specific countries.

With the end of the Cold War, the United States and its NATO allies dissolved CoCom in 1994. In its place, dozens of countries came together and established the Wassenaar Arrangement on Export Controls for Conventional Arms and Dual-Use Goods and Technologies. The Wassenaar Arrangement, like the nonproliferation regimes, is open to virtually any state and its operations are not hidden from public view. As a result, the Wassenaar Arrangement includes many former members of the Soviet Union, including Russia. Following the Wassenaar Arrangement's establishment, some Members of Congress expressed dissatisfaction and concern with many of the Arrangement's provisions and its capacity to coordinate controls that target other countries effectively.

Since the 2010s, some U.S. policymakers have adopted a more expansive view of national security that integrates economic concerns to a greater degree than at any point since the end of the Cold War. Since the middle of the last decade, multiple administrations have used a variety of tools to restrict trade for national security purposes. Export controls have arguably been the most frequently used tool in that effort.

Because of difficulties in reaching consensus among participants in existing export control arrangements, some policymakers and experts have advocated that the United States coordinate export control policy with smaller groups of likeminded states to achieve specific national security, foreign policy, and economic goals. The United States has recently adopted export controls as part of its response to: the Russian Federation's (Russia) further invasion of Ukraine; the People's Republic of China's (China) efforts to develop advanced semiconductor manufacturing capabilities; and human rights concerns.

This report considers issues related to coordinating export controls internationally. It begins by discussing why governments control exports, the reasons for coordinating controls, and the different styles of regimes for coordinating controls. It then discusses the longstanding interest of Congress in coordinating controls and the history of U.S. involvement in post-World War II export control regimes and recent attempts to coordinate controls with small groups of like-minded states. The report concludes by identifying potential areas of congressional interest and engagement.

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Introduction

The U.S. Constitution authorizes Congress to regulate commerce with foreign nations.¹ Congress, in turn, has periodically delegated authority to the President to regulate exports for a variety of national security, foreign policy, and economic purposes.² In 2018, Congress enacted the Export Control Reform Act (ECRA), which provided the first permanent,³ non-emergency statutory authority to the executive branch to regulate exports.⁴ To protect the national security and further the foreign policy of the United States,⁵ ECRA authorizes the President to control the export of dual-use goods and technologies,⁶ which are defined as items with both “civilian applications and military, terrorism, weapons of mass destruction, or law-enforcement-related applications.”⁷

The modern dual-use export control regime emerged in the years following the Second World War when the United States was the leading (or, in some sectors, the only) supplier of many goods. As other countries built or rebuilt and expanded their manufacturing capacities and research and development institutions in the 1950s and 1960s, some U.S. policymakers, industry interest groups, and other stakeholders expressed concern that, without international coordination, U.S. export controls would be ineffective and potentially harmful to U.S. interests.⁸ In response to such concerns, by 1969 Congress began requiring that the President consider whether goods were available from other sources before subjecting them to control and, if they were, to coordinate

¹ U.S. Constitution, art. I, §8, cl. 1.

² See, for example, Export Control Act of 1949 (ECA 1949), P.L. 81-11 (February 26, 1949), 63 Stat. 7; Export Administration Act of 1969 (EAA 1969), P.L. 91-184 (December 30, 1969), 83 Stat. 841; Export Administration Act of 1979 (EAA 1979), P.L. 96-72 (September 29, 1979), 93 Stat. 503; Act of March 3, 1925 (Helium Act of 1925), P.L. 68-544 §4 (1925), 43 Stat. 1110, 1111.

³ Permanent insofar as, unlike all earlier non-emergency export control authorities, ECRA does contain a sunset provision.

⁴ The Export Control Reform Act of 2018 (ECRA), Title XVII, Subtitle B of P.L. 115-232 (August 13, 2018), 132 Stat. 2208, codified at 50 U.S.C. §§4801 *et seq.* includes the Export Controls Act of 2018 (ECA), Title XVII, Subtitle B, Part I of P.L. 115-232. The legislative history for ECA is lengthier than for ECRA, of which it was a part. However, throughout this report ECRA will be used because it encompasses the definitions to which ECA refers and because it is the name most commonly used by the Bureau of Industry and Security (BIS) when citing to statutory authority for controls. Unlike its predecessors, ECRA does not have an expiration date on the delegated authority to control exports. See, for example, EAA 1979 §20.

⁵ ECRA §1755, codified at 50 U.S.C. §4814.

⁶ The word “technology” as it relates to export control policy has long been tricky. This is mainly because the popular and technical uses of the word have drifted apart over the past century. As J. Fred Bucy, then-President of Texas Instruments, member of the Defense Science Board, and Chairman of the Task Force on the Export of U.S. Technology put it:

Technology is not science and it is not products. 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.... This distinction between technology and products is important to the development of objectives and strategies for strategic controls.

J. Fred Bucy, “On Strategic Technology Transfer to the Soviet Union,” *International Security* 1, no. 4 (Spring 1977), p. 28; Department of Defense, Defense Science Board Task Force, *An Analysis of Export Control of U.S. Technology — A DOD Perspective* (Washington, DC, 1976) (Bucy Report). Export controls apply to both goods and technologies. However, because it would be tedious to read “goods and technologies” repeatedly, the reader should assume that any reference to “goods” in this report also refers to “technologies” unless otherwise noted.

⁷ ECRA §1742(2), codified at 50 U.S.C. §4801(2).

⁸ CRS Report R46814, *The U.S. Export Control System and the Export Control Reform Act of 2018*, by Paul K. Kerr and Christopher A. Casey.

controls with allies.⁹ Those concerns have persisted and in ECRA, Congress noted that “[e]xport controls that are multilateral are most effective”¹⁰ and declared that U.S. policy is to “participate in multilateral organizations and agreements regarding export controls.”¹¹

The United States has participated in several peacetime regimes for coordinating export controls. The first, the Coordinating Committee for Multilateral Export Controls (CoCom), emerged during the early years of the Cold War. It served as an informal forum for most of the members of the North Atlantic Treaty Organization (NATO) along with Japan and Australia to coordinate controls on the export of a variety of goods to the other Council for Mutual Economic Assistance (COMECON) members, the People’s Republic of China (PRC or China), and other communist states.¹² CoCom was described as the “economic arm” of NATO and was a component of a broad U.S. strategy to foster economic integration among close allies and trading partners during the Cold War that included foreign aid and trade liberalization.¹³ To encourage participation in the face of potential domestic political criticism, CoCom’s operations were largely hidden from public view.¹⁴

By the late 1960s, concerns about trade with the Soviet Union gradually became less prominent as concerns about the proliferation of nuclear, biological, and chemical weapons increased (see “Warming Relations and Nonproliferation” below). New regimes for coordinating export controls emerged alongside CoCom that prioritized an expansive membership and targeted behaviors rather than specific countries, these included the Nuclear Suppliers Group, the Australia Group, and the Missile Technology Control Regime (see “Conditionally Open Institutional Coordination / Multilateral Coordination” below).

With the collapse of the Soviet Union in the early 1990s, CoCom members dissolved the committee in 1994 (see “The End of the Cold War and the Creation of the Wassenaar Arrangement” below). In 1996, the former members of CoCom, together with several additional countries, including former members of the Soviet Union, established the Wassenaar Arrangement on Export Controls for Conventional Arms and Dual-Use Goods and Technologies to coordinate controls on dual-use goods.¹⁵ In contrast to CoCom, the Wassenaar Arrangement, like the other nonproliferation regimes, is open to virtually any state and has a broad membership (however, admission is based on consensus among members) that includes states with conflicting

⁹ EAA 1969 §4(b): “[W]henver export licenses are required on the ground that considerations of national security override considerations of foreign availability, the reasons for so doing shall be reported to the Congress in the quarterly report following the decision . . .” EAA 1979 §4(c), §5(i): “The President shall enter into negotiations with the governments participating in the group known as the Coordinating Committee . . .”

¹⁰ ECRA §1752(5), codified at 50 U.S.C. §4811(5).

¹¹ ECRA §1752(4), codified at 50 U.S.C. §4811(4); ECRA §1754(a)(6), codified at 50 U.S.C. §4813(a)(6).

¹² Michael Mastanduno, *Economic Containment: CoCom and the Politics of East-West Trade* (Ithaca, NY: Cornell University Press, 1992), chap. 1.

¹³ “A Report to the National Security Council by the Executive Secretary,” NSC 68, April 14, 1950, *Foreign Relations of the United States*, 1950, National Security Affairs; Foreign Economic Policy, Volume I, eds. Neal H. Petersen et al. (Washington, DC: Government Printing Office, 1977), Document 85, pp. 234-293, 259 (NSC 68). The Soviet Union and its allies likewise had a strategy to foster economic integration, the Council for Mutual Economic Assistance, also known as Comecon. Randall W. Stone, *Satellites and Commissars: Strategy and Conflict in the Politics of Soviet-Bloc Trade* (Princeton, NJ: Princeton University Press, 1995); Lorenz M. Lüthi, *Cold Wars: Asia, the Middle East, Europe* (Cambridge: Cambridge University Press, 2020), chap. 16.

¹⁴ Mastanduno, *Economic Containment*, chap. 1; U.S. Foreign Operations Administration, *World-Wide Enforcement of Strategic Trade Controls: Mutual Defense Assistance Control Act of 1951 (the Battle Act): Third Report to Congress* (Washington, DC: GPO, 1953), pp. 19-22.

¹⁵ Wassenaar Arrangement on Export Controls for Conventional Arms and Dual-Use Goods and Technologies, Public Documents, Volume I: Founding Documents.

national security, foreign policy, and economic goals; compliance with restricted lists is voluntary.¹⁶

Because of difficulties in reaching consensus among the memberships of existing export control arrangements, several policymakers and experts have advocated that the United States coordinate export control policy with smaller groups of likeminded states to achieve specific national security, foreign policy, and economic goals (see “A Fifth Export Control Regime” below). The United States has recently taken several such actions in response to: the Russian Federation’s (Russia) further invasion of Ukraine; China’s efforts to develop advanced semiconductor manufacturing capabilities; and human rights concerns (see “Recent Plurilateral and Bilateral Coordination” below).

This report provides an overview of issues related to coordinating export controls internationally. It begins by discussing why countries control exports, the reasons for coordinating controls, and the different styles of regimes for coordinating controls. The report then discusses the longstanding interest of Congress in coordinating controls, the history of U.S. involvement in post-World War II export control regimes, and recent attempts to coordinate controls with small groups of like-minded states. The report concludes by identifying potential areas of congressional interest and engagement.

A Note on the terms “Multilateral” and “Plurilateral”

The meaning of “multilateral” has changed over the past few decades. Particularly since the 1990s, its common and specialized meanings have increasingly diverged. Commonly, “multilateral” is defined broadly as something “[i]nvolving more than two nations or parties.”¹⁷ Following the end of the Cold War, however, scholars of international relations and some policymakers began to define “multilateral” more narrowly, particularly when considering international institutions and agreements.¹⁸ Some commentators on this issue have imported the more esoteric term “plurilateral” from discussions about World Trade Organization (WTO) agreements to debates about export control coordination.¹⁹

¹⁶ Ibid., p. 8 (Initial Elements, VIII): “The new Arrangement will be open, on a global and non-discriminatory basis, to prospective adherents that comply with the agreed criteria in Appendix 4. Admission of new participants will be based on consensus.”

¹⁷ *American Heritage Dictionary*, 5th ed., s.v. Multilateral; see also *Webster’s Third New International Dictionary*, s.v. Multilateral.

¹⁸ See, for example, John Gerard Ruggie, “Multilateralism: The Anatomy of an Institution,” *International Organization* 46, no. 3 (Summer 1992), p. 571; Walter Goode, *Dictionary of Trade Policy Terms*, 5th ed., s.v. Plurilateralism; World Trade Organization, “Agreement on Government Procurement:” “The GPA is a plurilateral agreement within the framework of the WTO, meaning that not all WTO members are parties to the Agreement.”

¹⁹ See, for example, Kevin J. Wolf, Testimony before the U.S.-China Economic and Security Review Commission Hearing on “U.S.-China Relations in 2021: Emerging Risks,” Panel III: “Assessing Export Controls and Foreign Investment Review,” September 8, 2021, p. 5, 9, 10, 11, 15: “Another benefit of such informal and plurilateral efforts is that core Wassenaar member countries can work together to get alignment on new types of items that should be multilaterally controlled;” Jeannette Chu, “The New Arms Race: Sanctions, Export Policy, and China,” Center for Strategic and International Studies (CSIS), March 25, 2022, available at <https://www.csis.org/analysis/new-arms-race-sanctions-export-control-policy-and-china>: “The use of export controls and sanctions as unilateral and plurilateral foreign policy tools has become more frequent and complex.” “Plurilateral” is used far less frequently than “multilateral” in English language texts and often is only used in specialized contexts.

In the WTO context, plurilateralism describes “doing things in small groups involving more than bilateralism (two participants), but less than multilateralism (many participants).”²⁰ In addition to having more participants, multilateralism describes “an approach to the conduct of international trade based on cooperation, equal rights and obligations, non-discrimination and the participation as equals of many countries.”²¹ As such, “multilateral” increasingly describes regimes that are relatively open and thus often have many diverse participants, whereas “plurilateral” describes regimes that are relatively more closed and have participants that generally have closely related national security and economic interests. To illustrate the difficulty presented by this semantic shift, CoCom was short for the Coordinating Committee for *Multilateral* Export Controls. Yet, as a regime that explicitly was set up in opposition to the Soviet Union and its allies, CoCom would not be considered a multilateral institution under contemporary specialized definitions; and when certain scholars and policymakers discuss creating a new regime like CoCom, they describe their proposals as *plurilateral*.²² To align with the terms used in recent debates, this report will use “plurilateral” to describe restrictive institutional coordination involving two or more countries and “multilateral” to describe “conditionally open” institutional coordination involving many parties.

Why Control Exports?

Since the end of the Second World War, the United States has maintained peacetime controls on exports.²³ During that time, Congress and the President have controlled exports for a variety of national security, foreign policy, and economic reasons, many of which changed over time. But the United States has generally controlled exports to achieve some combination of the following three practical ends: (1) to prevent foreign actors from acquiring certain goods; (2) to prevent certain actors from exporting certain goods; or (3) to signal disapproval of some foreign action.

First, and most commonly, the United States has controlled exports to prevent certain foreign states, organizations, or persons from acquiring certain goods (and technology, including, importantly, design and manufacturing “know-how”). In doing so, U.S. policymakers have sought to further a variety of national security, foreign policy, or economic goals. For example, the United States has attempted to: prevent foreign militaries from acquiring faster planes,²⁴ block foreign states from acquiring materials to build oil pipelines,²⁵ inhibit foreign terrorist groups

²⁰ Goode, *Dictionary of Trade Policy Terms*, s.v. Plurilateralism.

²¹ *Ibid.*, s.v. Multilateralism.

²² See, for example, Kevin Wolf and Emily S. Weinstein, “CoCom’s Daughter,” *WorldECR* (May 2022); Kevin Wolf, “Export Controls Will Become More Effective When They Include Plurilateral Controls,” Center for a New American Security (CNAS), August 13, 2020.

²³ The United States had previously imposed controls on exports during periods of declared war. See CRS Report R46814, *The U.S. Export Control System and the Export Control Reform Act of 2018*, by Paul K. Kerr and Christopher A. Casey.

²⁴ U.S. Congress, House Committee on International Relations Subcommittee on International Trade and Commerce, *Export Licensing of Advanced Technology: A Review: Part II*, hearing, 94th Cong., 2nd sess., April 12, 1976 (Washington, DC: GPO, 1976), pp. 7, 26.

²⁵ Roberto Cantoni, “What’s in a Pipe? NATO’s Confrontation on the 1962 Large-Diameter Pipe Embargo,” *Technology and Culture* 58, no. 1 (January 2017).

from acquiring dangerous biological agents,²⁶ and prevent foreign industries from acquiring machines or software for producing advanced semiconductors,²⁷ among other actions.

Second, the United States has controlled exports to prevent organizations or persons (usually U.S. entities) from exporting certain goods. Unlike the first practical end, discussed above, the focus here is the would-be exporter rather than the ultimate end-user. That is, policy has sought to ensure that U.S. goods are not being exported, even if the goods may still be widely available from other sources. When implementing such controls, U.S. policymakers have sought to further a variety of moral or economic goals.²⁸ For example, the United States has attempted to: prevent U.S. companies from selling voice-print analyzers to foreign governments that imprison political dissidents,²⁹ prohibit the export of horses destined for slaughter,³⁰ and regulate the export of petroleum products to blunt the inflationary impact of a domestic shortage,³¹ among other actions.

Finally, the United States has controlled exports to signal disapproval of certain actions by foreign states, organizations, or persons.³² The aim of U.S. policymakers may be to signal disapproval by demonstrating a willingness to make an economic sacrifice in response to an action as much as (or perhaps more than) prohibit the export of any particular good.³³ Such a signal may also be aimed at encouraging future coordination among likeminded, but otherwise hesitant, suppliers of the controlled goods.³⁴

²⁶ Department of Commerce, Bureau of Industry and Security, “Revisions and Clarifications to the Export Administration Regulations-Chemical and Biological Weapons Controls: Australia Group; Chemical Weapons Convention,” 67 *Federal Register* 37977, May 31, 2002.

²⁷ Department of Commerce, Bureau of Industry and Security, “Implementation of Additional Export Controls: Certain Advanced Computing and Semiconductor Manufacturing Items; Supercomputer and Semiconductor End Use; Entity List Modification,” 87 *Federal Register* 62186, October 13, 2022.

²⁸ U.S. Congress, Senate Committee on Banking, Housing, and Urban Affairs, *Use of Export Controls and Export Credits for Foreign Policy Purposes*, 95th Cong., 2nd sess., October 10 and 11, 1978 (Washington, DC: GPO, 1978), p. 9: “There are, it seems to me, four different objectives that inspire people to urge for the use of export controls.... The first is a desire to satisfy certain moral imperatives.”

²⁹ Department of Commerce, Domestic and International Business Administration, “Exports of Crime Control and Detection Equipment to U.S.S.R., Eastern Europe, and the People's Republic of China (Country Groups Q, W, and Y),” 39 *Federal Register* 26719, July 23, 1974; U.S. Congress, Senate Committee on Government Operations, Permanent Subcommittee on Investigations, *Transfer of Technology to the Soviet Union and Eastern Europe*, hearing, 93rd Cong., 2nd sess., July 19, 1974 (Washington, DC: GPO, 1975), p. 16. Although this regulation is concerned with certain end-users, the wide foreign-availability of crime control and detection equipment means the end-users are likely able to acquire the goods regardless of U.S. controls and, thus, the purpose of the policy is to prevent U.S. exports from reaching these end-users rather than preventing these end-users from obtaining the goods at all.

³⁰ 15 C.F.R. §754.5 (2023).

³¹ Department of Commerce, Domestic and International Business Administration, “Commodity Control List; Statement of Past Participation and Establishment of Monitoring System,” 38 *Federal Register* 3442, December 13, 1973.

³² Homer E. Moyer, Jr. and Linda A Mabry, *Export Controls as Instruments of Foreign Policy* (Washington, DC: International Law Institute, 1988), p. 156.

³³ *Ibid.*

³⁴ The United States has been the first mover in placing export controls on goods that other countries later implement. For example, in October 2022 the United States expanded its controls on exports of certain semiconductors and semiconductor manufacturing equipment to China. A few months after, it was reported that Japan and the Netherlands had agreed to similar restrictions. See Alexandra Alper and David Shepardson, “U.S. Official Acknowledges Japan, Netherlands Deal to Curb Chipmaking Exports to China,” *Reuters*, January 31, 2023. Similarly, as one pair of scholars noted:

[I]nternational politics unrelated to the target country may be a factor in the use of export controls. For example, the sudden decision to impose [controls on pipeline products] had every appearance (continued...)

Why Coordinate Controls?

The United States has sought to coordinate its export controls with other governments both to increase the effectiveness of controls and decrease the controls' political and economic costs to the United States.

Increase Effectiveness

Coordination may be critical to the effectiveness of a policy aimed at preventing or delaying the foreign acquisition of certain goods or technology. Such controls may be less effective if the goods or technologies are readily available from foreign sources.³⁵ Even in cases where the products are not readily available from foreign sources, coordination may be needed to prevent the unauthorized reexport of controlled goods or technologies.³⁶

Coordination may be less important for the success of policies primarily aimed at signaling disapproval of an action or preventing U.S. persons from exporting a good for moral or economic reasons. In such cases, coordination may still help prevent circumvention through reexport or through the activities of U.S. persons or foreign-owned subsidiaries of U.S. companies abroad.

Decrease Cost

Coordination may decrease the economic and political costs of a control. Export controls impact domestic businesses by restricting where, or with whom, they do business. In 1987, as the modern export control regime was entering its fifth decade, a panel of the National Academies noted that there had been “no credible estimate of the economic cost of national security export controls.”³⁷ The panel commissioned a study in which it was determined that the economic impact of the U.S. export control regime on the United States was substantial.³⁸ This study aside, there continue to be few empirical studies of the overall economic impact of export controls.³⁹ A CRS assessment of earlier empirical studies highlighted the ambiguity of the data.⁴⁰

of being more a response to the failure of the allies to reach a durable consensus at the 1982 economic summit at Versailles.... [T]hus while these controls were clearly directed at the Soviet Union, the timing of their announcement was unquestionably also intended to be a signal to our allies.

Moyer and Mabry, *Export Controls*, 1988, pp. 162-163.

³⁵ The controls are less effective rather than ineffective because limiting the supply of a good or technology that is available elsewhere may still theoretically increase the cost of the transaction for the target of the controls by reducing the available supply.

³⁶ However, tight coordination that is too narrowly focused may also present strategic challenges by heightening the importance of malignant suppliers.

³⁷ National Academies of Sciences, Engineering, and Medicine, *Balancing the National Interest: U.S. National Security Export Controls and Global Economic Competition* (Washington, DC: The National Academies Press, 1987), p. 120.

³⁸ National Academies, *Balancing the National Interest*, pp. 121, 254-267.

³⁹ The studies that do exist tend to be sector specific. For example, Antonio Varas and Raj Varadarajan, *How Restricting Trade with China Could End US Semiconductor Leadership*, Boston Consulting Group, March 9, 2020; National Academies of Sciences, Engineering, and Medicine, *Finding Common Ground: U.S. Export Controls in a Changed Global Environment* (Washington, DC: The National Academies Press, 1991), appendices; Department of Defense, *Defense Industrial Base Assessment: U.S. Space Industry, Final Report*, Dayton, Ohio, August 31, 2007.

⁴⁰ In a survey of the literature done in 2000, CRS determined that those empirical studies placed “static economic losses (costs) of export controls in a range from 0.007% to 0.2% percent of U.S. GDP.” The same report, when addressing dynamic losses, noted “The existence and size of such dynamic effects, however, are more uncertain than the existence (continued...)”

Nevertheless, it is commonly asserted that unilateral controls, when the controlled goods are available from other sources, are more economically costly than coordinated controls.⁴¹ When U.S. exporters are limited by controls, foreign competitors not subject to controls may gain an economic advantage.⁴² Moreover, as trading partners start to see U.S. exporters as potentially unreliable providers, end-users in restricted countries may develop indigenous capabilities to replace the controlled U.S. goods. For example, there have been claims by scholars and U.S. officials that strict U.S. controls harmed the U.S. space industrial base by, according to the Department of Defense (DOD), “encouraging other nations, in many cases [U.S.] allies, to develop indigenous space capabilities and industries that now market globally.”⁴³ Indeed, a 2007 DOD report found that export controls had “either directly or indirectly precipitated ... global competition” and were “a significant impediment to the U.S. space industry’s ability to market to foreign buyers.”⁴⁴ However, some analysts have disputed the Department of Defense’s finding.⁴⁵

of static efficiency effects” and encouraged a cautious approach to data in this area. CRS Report RL30430, *Export Controls: Analysis of Economic Costs*, February 10, 2000 by Craig K. Elwell (archived, copy available from author).

⁴¹ For example, in EAA 1979, Congress found, “The restriction of exports from the United States can have serious adverse effects on the balance of payments and on domestic employment, particularly when restrictions applied by the United States are more extensive than those imposed by other countries;” In 1983, the House Committee on Foreign Affairs noted, “The committee’s review of the implementation of the Export Administrative Act [of 1979] over the past 4 years, and the impact of the act upon U.S. export trade, leads to the conclusion that actions taken under the act, particularly for purposes of furthering U.S. foreign policy goals, may be the single greatest hindrance to U.S. exports, costing significant loss of U.S. jobs. Although imposed for good and even noble purposes, such as encouragement of human rights and freedoms and avoidance of excessive European dependence upon Soviet energy resources, these controls have created a pervasive belief in world markets that U.S. firms cannot be relied upon as suppliers particularly for larger projects which require long-term servicing, spare parts, and the like.... [T]he historical willingness of the United States to impose controls has led foreign buyers, manufacturers, and planners actively to avoid and eliminate dependence upon U.S. products and technologies, and has been exploited by foreign competitors.” U.S. Congress, House Committee on Foreign Affairs, *Export Administration Amendments Act of 1983*, report to accompany H.R. 3231, 98th Cong. 1st sess., H.Rept. 98-257 Part 1 (Washington, DC: GPO, 1983), pp. 6-7; Ed Schau, “Export Controls and America’s Competitive Challenge,” *High Technology Law Journal* 1, no. 1 (Spring 1986), pp. 1-6.

⁴² See, for example, Eric L. Hirschhorn, “Export Controls on Emerging and Foundational Technologies: A Null Set?,” *China Business Review*, June 23, 2020: “when we unilaterally control any technology too tightly, there’s a good chance that we will drive research and development, and ultimately production, offshore;” See also Clark Packard, *Why We Should Be Wary of Export Controls*, CATO Institute, April 15, 2022: “An overly restrictive export control regime thus poses significant long-term risks to the U.S. economy.”

⁴³ Department of Defense, *Defense Industrial Base Assessment: U.S. Space Industry*, Final Report, Dayton, Ohio, August 31, 2007, p. 10; For a narrative account, see Hugo Meijer, *Trading with the Enemy: The Making of U.S. Export Control Policy Toward the People’s Republic of China* (Oxford: Oxford University Press, 2016), p. 8, chap. 6; For other analyses on the role of export controls on the development of indigenous technologies, see A. Baskaran, “The Impact of Export Controls on Indigenous Technology Development in India’s Space Programme,” *International Studies* 38, no. 2 (2001): “India’s experience shows that if a ‘target’ country is prepared to invest heavily in terms of money and human capital over a long period of time (fifteen to twenty years), it will eventually succeed in achieving threshold capacities;” Tim Hwang, and Emily S. Weinstein, *Decoupling in Strategic Technologies: From Satellites to Artificial Intelligence*, Center for Security and Emerging Technology, July 2022, pp. 6-7: “The case study of space technologies highlights that decoupling is at best a tool of delay.”

⁴⁴ Department of Defense, *Defense Industrial Base Assessment: U.S. Space Industry*, Final Report, Dayton, Ohio, August 31, 2007, p. 48.

⁴⁵ John Hoffner, “The Myth of ‘ITAR-Free,’” *Aerospace Security*, Center for Strategic and International Studies, May 15, 2020, available at <https://aerospace.csis.org/itar-satellite-regulation/>.

Types of International Export Control Coordination

There are several ways the United States has coordinated its exports controls. Analysts have characterized all past and present coordination on export controls as informal insofar as such coordination has not involved legally binding international commitments.⁴⁶

While informal, such coordination has often included the establishment of regimes or international institutions.⁴⁷ Some of these have been “conditionally open,” in that they are based on publicly available texts that define generalized principles of conduct, articulate decisionmaking procedures, establish regular meetings of experts or policymakers, and provide for any state to petition for membership upon meeting or agreeing to certain conditions.⁴⁸ This is true of the existing international regimes for coordinating export controls (see “Conditionally Open Institutional Coordination / Multilateral Coordination”).

Other regimes have been “restricted,” in that they are explicitly or implicitly limited to a select group of partners to achieve specific policy goals and, in some circumstances, target specific countries for national security, foreign policy, or economic reasons.⁴⁹ This was true of the arrangement used to coordinate export controls amongst NATO members during the Cold War. Other examples of “restricted” coordination have been limited in scope and duration, based on diplomatic discussions to achieve specific, temporally limited objectives, and have not involved establishing institutions.⁵⁰ Several recent actions coordinated by the United States in response to the actions or policies of Russia and China have taken this limited form.⁵¹

⁴⁶ Paul C. Webster, “COCOM: Limitations on the Effectiveness of Multilateral Export Controls,” *Wisconsin International Law Journal* (1983), p. 113; “COCOM was created by an informal agreement;” Michael L. Lipson, “International Cooperation on Export Controls: Nonproliferation, Globalization, and Multilateralism,” PhD diss., (University of Wisconsin, 1999): “Subsequent export control arrangements have adopted many of the features of CoCom, the first such organization. Specifically, they are predominantly informal, non-treaty-based organizations whose rules are implemented at the national level.” Daniel H. Joyner, “Restructuring the Multilateral Export Control Regime System,” *Journal of Conflict and Security Law* 9, no. 2 (Summer 2004), p. 184: “All [the major export control regimes] are informal political arrangements, with no elements of legal formality in the commitments of member states either in the originating regime documents or with regard to subsequent guidelines and decisions made by or within the regimes;” Seema Gahlaut, “Multilateral Export Control Regimes: Operations, Successes, Failures, and Challenges Ahead,” in *Non-Proliferation Export Controls: Origins, Challenges, and Proposals for Strengthening*, ed. Daniel Joyner (London: Routledge, 2006), pp. 9-11.

⁴⁷ Stephen D. Krasner defines a regime as “principles, norms, rules, and decision-making procedures around which actor expectations converge in a given area.” Stephen D. Krasner, “Structural Causes and Regime Consequences: Regimes as Intervening Variables,” *International Organization* 36, no. 2 (1982), p. 186; Robert A. Keohane defines institutions as “persistent and connected sets of rules, formal and informal, that pre- scribe behavioural roles, constrain activity, and shape expectations.” Robert A. Keohane, “Multilateralism: An Agenda for Research,” *International Journal* 45, no. 4 (Autumn 1990), p. 732. Douglas C. North similarly defines institutions as “the humanly devised constraints that structure political, economic and social interaction [and] consist of both informal constraints (sanctions, taboos, customs, traditions, and codes of conduct), and formal rules (constitutions, laws, property rights).” Douglass C. North, “Institutions,” *Journal of Economic Perspectives* 5, no. 1 (Winter 1991), 97.

⁴⁸ The typology here is based on that elaborated upon in Keohane, “Multilateralism,” pp. 750-751.

⁴⁹ Keohane, “Multilateralism,” pp. 750-751.

⁵⁰ At least not publicly as of the writing of this report. CoCom itself was intended to be secret for many years after its establishment. U.S. Foreign Operations Administration. *World-Wide Enforcement of Strategic Trade Controls: Mutual Defense Assistance Control Act of 1951 (the Battle Act): Third Report to Congress* (Washington, DC: GPO, 1953), pp. 19-22.

⁵¹ See, “Recent Coordination on Export Controls,” below.

As there have been no legally binding commitments, the executive branch has not sought formal congressional approval to participate in any extant institutions or regimes that coordinate controls.

Conditionally Open Institutional Coordination / Multilateral Coordination

Some experts have used the term “conditionally open” to refer to institutions that “are open in principle to states that are willing to accept a set of prescribed commitments, which not all states may be able (much less willing) to do.”⁵² There are currently four⁵³ regimes that coordinate controls on the export of certain goods and all four existing regimes are conditionally open. These are the Zangger Committee⁵⁴ and Nuclear Suppliers Group⁵⁵ (nuclear material and related technology);⁵⁶ the Missile Technology Control Regime (MTCR; missiles and related technology);⁵⁷ the Australia Group (biological and chemical weapons and related materials);⁵⁸ and the Wassenaar Arrangement (conventional arms and dual-use goods).⁵⁹ All of these regimes emerged between the late-1960s and 1990s amid global concerns over the proliferation of conventional arms and weapons of mass destruction.⁶⁰ The regimes encourage broad participation

⁵² Keohane, “Multilateralism,” p. 750.

⁵³ There is some variation in how the regimes are counted. Some experts, policymakers, and government agencies say that there are five multilateral regimes, others say there are four. The variation in the number depends upon whether the speaker or writer considers the Zangger Committee and the Nuclear Suppliers Group to be independent arrangements or two parts of the same regime. For example, the Department of Energy in some guidance notes “requirements regarding technology related to weapons of mass destruction (WMD) flow from U.S. membership in *five* multilateral export control regimes” (emphasis added). In contrast BIS notes “much of the CCL [is] based on the control lists published by *four* multilateral export control regimes” (emphasis added). Department of Energy, Acquisition Guide, Compliance with U.S. Export Control Laws, Regulations and Policies, June 2016; BIS, “Support Document Requirements with Respect to Hong Kong,” 82 *Federal Register* 6216, January 19, 2017. Based on a survey of writing on the topic, most treat the Zangger Committee and the Nuclear Suppliers Group as two parts of a single regime and thus identify four regimes. For information on the Zangger Committee’s relationship to the Nuclear Suppliers Group, see Tadeusz Strulak, “The Nuclear Suppliers Group,” *Nonproliferation Review* 1, no. 1 (1993), pp. 2-3; Isabelle Anstey, “Negotiating Nuclear Control: The Zangger Committee and the Nuclear Suppliers’ Group in the 1970s,” *International History Review* 40, no. 5 (2018). Moreover, it is increasingly common in policy debates to discuss the creation of a “fifth” regime. Kevin Wolf and Emily S. Weinstein, “CoCom’s Daughter,” *WorldECR* (May 2022): “Calls for creating a *fifth new regime* among the techno-democracies . . .” (emphasis added); William Alan Reinsch, “Meeting the Technology Transfer Challenge: Part II,” Center for Strategic and International Studies (CSIS), August 1, 2022, available at <https://www.csis.org/analysis/meeting-technology-transfer-challenge-part-ii>: “This has led Bureau of Industry and Security (BIS) undersecretary Alan Estevez to advocate for a *fifth regime*—an addition, not a replacement” (emphasis added). For these reasons this report adopts four as the number used.

⁵⁴ Zangger Committee, <http://zanggercommittee.org>.

⁵⁵ Nuclear Suppliers Group, <https://www.nti.org/education-center/treaties-and-regimes/nuclear-suppliers-group-nsg/>. For background on the origins of the Nuclear Suppliers Group, see William Burr, “A Scheme of ‘Control’: The United States and the Origins of the Nuclear Suppliers’ Group, 1974–1976,” *International History Review* 36, no. 2 (2014).

⁵⁶ Scholars and policymakers often discuss the Zangger Committee and Nuclear Suppliers Group as a single regime. See discussion above.

⁵⁷ Missile Technology Control Regime, <https://mtcr.info>; For an overview of the Missile Technology Control Regime, see Waheguru Pal Singh Sidhu, “The Missile Technology Control Regime,” *Arms Control Today* 37, no. 3 (April 2007).

⁵⁸ Australia Group, <https://www.dfat.gov.au/publications/minisite/theaustraliagroupnet/site/en/index.html>.

⁵⁹ Wassenaar Arrangement, <https://www.wassenaar.org>.

⁶⁰ The term weapons of mass destruction is commonly defined as referring to nuclear, biological, and chemical weapons or other weapons of similar destructive potential. See, for example, Weapons of Mass Destruction Control Act of 1992, Title XV of P.L. 102-484 §1502(1)(A), 106 Stat. 2567 (1992); Commission on Conventional Armaments (continued...)

and cooperation rather than strategic, political, or economic rivalry. To encourage participation, these arrangements refrain from formally targeting specific states⁶¹ and allow any country to petition for membership, with admission based upon an applicant's willingness and capacity to adhere to generalized principles of conduct.⁶² Additionally, all these regimes have a permanent institutional presence, including ongoing technical working groups to identify and discuss what technologies should be controlled; permanent points of contact or a secretariat; rotating chairmanships; and annual plenaries.⁶³

All but the MTCR have more than 40 members. Non-member states, in addition, also use the regimes' lists to implement their own export control programs to meet U.N. Security Council obligations to "refrain from providing any form of support to non-state actors that attempt to develop, acquire, manufacture, possess, transport, transfer, or use nuclear, chemical, or biological weapons and their means of delivery."⁶⁴

(CCA), UN document S/C.3/32/Rev.1, August 1948; However, the definition is often used more broadly. W. Seth Carus, *Defining "Weapons of Mass Destruction,"* National Defense University, Center for the Study of Weapons of Mass Destruction, Occasional Paper, No. 8, January 2012.

⁶¹ While not formally directed against a particular state, these multilateral arrangements were created in response to the actions of a particular state or group of states. The Nuclear Suppliers Group arguably formed in response to India's detonation of a nuclear device in 1974. Anstey, "Negotiating Nuclear Control," p. 986. Similarly, the Australia Group was formed in response to Iraq's use in 1984 of chemical weapons in the Iran-Iraq War. Australia Group, *The Origins of the Australia Group*, available at <https://www.dfat.gov.au/publications/minisite/theaustraliagroupnet/site/en/origins.html>. Moreover, while not explicitly directed at specific states, such regimes have sometimes targeted specific states in practice. Lynn E. Davis, then-U.S. Secretary of State for Arms Control noted in a speech about the then-new Wassenaar Arrangement, "all of the participating countries currently maintain national policies to prevent transfers of arms and sensitive technologies for military purposes to the four pariah countries—Iran, Iraq, Libya, and North Korea. This is a critical requirement that the United States insisted on—and will continue to insist on in examining the credentials of new members." Lynn E. Davis, "The Wassenaar Arrangement," *DISAM Journal* 18, no. 3 (Spring 1996), p. 76; Kenneth A. Dursht, "From Containment to Cooperation: Collective Action and the Wassenaar Arrangement," *Cardozo Law Review* 19, no. 3 (December 1997), p. 1109; For a survey of the precipitating events for many of the regimes, see GAO, *Nonproliferation: Strategy Needed to Strengthen Multilateral Control Regimes*, GAO-03-43, October 2002, p. 5, Table 1.

⁶² Nuclear Suppliers Group, Participants, available at <https://web.archive.org/web/20230415174519/https://www.nuclearsuppliersgroup.org/en/participants1>; Zangger Committee, Outreach, available at <https://www.zanggercommittee.org/outreach.html>; Missile Technology Control Regime, MTCR Partners, available at <https://mtrc.info/partners/>; Australia Group, Australia Group Membership, available at <https://www.dfat.gov.au/publications/minisite/theaustraliagroupnet/site/en/membership.html>; The Wassenaar Arrangement on Export Controls for Conventional Arms and Dual-Use Goods and Technologies, Public Documents, Volume I: Founding Documents, p. 8 (Initial Elements, Appendix 4). Although admission is purportedly based upon an applicant's willingness to adhere to generalized principles of conduct, in practice, admission decisions have been subject to political considerations. For example, Mark Hibbs, "A More Geopoliticized Nuclear Suppliers Group," *Strategic Trade Review* (Autumn 2017); These regimes fit the narrower definition of multilateral commonly used by many international relations scholars since the 1990s. For example, Ruggie, "Multilateralism," p. 571; Keohane, "Multilateralism," pp. 750-751; Zangger Committee and Nuclear Suppliers Group: Anstey, "Negotiating Nuclear Control," p. 983; Missile Technology Control Regime: Wyn Q. Bowen, "U.S. Policy on Ballistic Missile Proliferation: The MTCR's First Decade (1987-1997)," *Nonproliferation Review* 5, no. 1 (1997), p. 22: "since 1987, membership has grown from seven relatively like-minded states to 29 diverse nations, including Argentina, Brazil, Russia, and South Africa, each of which was once targeted by the regime;" Wassenaar Arrangement: The Wassenaar Arrangement on Export Controls for Conventional Arms and Dual-Use Goods and Technologies, Public Documents, Volume I: Founding Documents, p. 14 (Initial Elements, Appendix 4).

⁶³ Gahlaut, "Multilateral Export Control Regimes," p. 11.

⁶⁴ United Nations (UN) Security Council Resolution 1540, S/RES/1540, April 28, 2004; Kolja Brockmann, *Challenges to Multilateral Export Controls: The Case for Inter-regime Dialogue and Coordination* (Stockholm: Sipri, 2019), p. 3.

Restricted Institutional Coordination / Institutional Plurilateral Coordination

In contrast to conditionally open institutions, some experts have used the term “restricted” to refer to institutions that “deliberately limit membership to a relatively small number of states that have some set of interests in common or that have specified domestic political arrangements.”⁶⁵ The North Atlantic Treaty Organization (NATO) and the Organization of Petroleum Exporting Countries (OPEC) are examples of such coordination.⁶⁶ Some states have also established restricted institutions to limit exports to specific states for national security, foreign policy, or economic reasons. During the Cold War, for example, the aforementioned CoCom coordinated controls on exports to many communist countries among NATO members, Japan, and Australia.⁶⁷ Some policymakers have begun to call this type of coordination “plurilateral” to distinguish it from the conditionally open, multilateral regimes discussed above.⁶⁸

Ad Hoc Coordination / *Ad Hoc* Plurilateral Coordination

Coordination of export controls may be negotiated between countries for the purpose of meeting specific, temporally limited objectives without the establishment of any durable institutions. For example, in order to avoid CoCom disagreements or secure the participation of states outside of CoCom, U.S. negotiators sometimes used other diplomatic channels to coordinate with others to control the trade in specific goods.⁶⁹ Recently, the United States has employed the same approach with respect to the four existing regimes to coordinate export controls with other groups of likeminded states.⁷⁰ For example, following Russia’s further invasion of Ukraine in 2022, the

⁶⁵ Keohane, “Multilateralism,” p. 750.

⁶⁶ Ibid.

⁶⁷ Like this report, Michael Lipson uses Keohane’s typology to describe CoCom as a more restricted regime to the Wassenaar Arrangement that would follow CoCom’s dissolution. Michael Lipson, “The Reincarnation of CoCom: Explaining Post-Cold War Export Controls,” *Nonproliferation Review* 8, no. 2 (Winter 1999) p. 39.

⁶⁸ For example Kevin J. Wolf, Testimony before the U.S.-China Economic and Security Review Commission, pp. 10-11: “Another benefit of such informal and plurilateral efforts is that core Wassenaar member countries can work together to get alignment on new types of items that should be multilaterally controlled;” Jeannette Chu, “The New Arms Race: Sanctions, Export Policy, and China,” CSIS, March 25, 2022, available at <https://www.csis.org/analysis/new-arms-race-sanctions-export-control-policy-and-china>: “The use of export controls and sanctions as unilateral and plurilateral foreign policy tools has become more frequent and complex.” This term has been borrowed from another trade context where it is more common. See Walter Goode, *Dictionary of Trade Policy Terms*, 5th ed., s.v. Plurilateralism: “doing things in small groups involving more than bilateralism (two participants), but less than multilateralism (many participants).”

⁶⁹ Beginning in 1984, for example, the United States coordinated its export controls on “supercomputers” with Japan and, later, Canada on a “Supercomputer Safeguard Plan” to limit exports in excess of what was controlled by CoCom. Glenn J. McLoughlin and Ian F. Fergusson, High Performance Computers and Export Control Policy: Issues for Congress, CRS Report RL31175, Updated May 5, 2005, p. 7; Robert Johnston, “U.S. Export Control Policy in the High-Performance Computer Sector,” *Nonproliferation Review* (Winter 1998), pp. 46-47. For other examples, see Cantoni, “What’s in a Pipe?” p. 81; Michael Mastanduno, “The United States Defiant: Export Controls in the Postwar Era,” *Daedalus* 120, no. 4 (Fall 1991), p. 98.

⁷⁰ See, for example, Supplement No. 3 to Part 746 - Countries Excluded From Certain License Requirements of §746.8, 15 C.F.R. §746 (2023); White House, FACT SHEET: Joined by Allies and Partners, the United States Imposes Devastating Costs on Russia, February 24, 2022, available at <https://www.whitehouse.gov/briefing-room/statements-releases/2022/02/24/fact-sheet-joined-by-allies-and-partners-the-united-states-imposes-devastating-costs-on-russia/>: “Countries that adopt substantially similar export restrictions are exempted from new U.S. licensing requirements for items produced in their countries. The European Union, Australia, Japan, Canada, New Zealand and the United Kingdom, have already communicated their plans for parallel actions;” White House, Joint Statement on the Export Controls and Human Rights Initiative, December 10, 2021, available at <https://www.whitehouse.gov/briefing-> (continued...)

United States and 37 countries committed to implementing substantially similar export controls on Russia and Belarus.⁷¹ The United States is also working with other governments to restrict the export of advanced semiconductor manufacturing equipment to China.⁷²

Congress and International Coordination of Export Controls

For more than 70 years, Congress has periodically authorized the President to regulate exports of dual-use goods to protect U.S. national security,⁷³ “further [significantly] the foreign policy of the United States”⁷⁴ and (until 2018) reduce inflation.⁷⁵ Since the end of the Second World War, Congress has enacted four comprehensive peacetime dual-use export control statutes: The Export Control Act of 1949; the Export Administration Act of 1969; the Export Administration Act of 1979; and ECRA.⁷⁶ With each successive act, as well as with amendments between the major reforms, Congress provided increasingly detailed policy statements and more firmly worded directives to the executive branch.⁷⁷ These directives have shifted over the decades, emphasizing control in some acts, while urging decontrol and liberalization in others. For example, ECA 1949 authorized controls that “further the foreign policy of the United States.”⁷⁸ Twenty years later, Congress slightly narrowed that language to “further *significantly* the foreign policy of the United States.”⁷⁹ Similarly, ECA 1949 did not require the President to determine whether a good or technology was available from a foreign source.⁸⁰ In contrast, EAA 1969 required the President to

room/statements-releases/2021/12/10/joint-statement-on-the-export-controls-and-human-rights-initiative/: “Over the coming year of action, we commit to working to establish a voluntary, nonbinding written code of conduct around which like-minded states could politically pledge, to use export control tools to prevent the proliferation of software and other technologies used to enable serious human rights abuses.”

⁷¹ 15 C.F.R. §746.8(a)(4), Supplement no. 3. See “Export Control Coordination on Russia and Belarus” below.

⁷² Alper and Shepardson, “U.S. Official Acknowledges Japan, Netherlands Deal....”

⁷³ ECA 1949 §2; EAA 1969 §3; EAA 1979 §3; ECRA §1752(1)(A).

⁷⁴ ECA 1949 §2; EAA 1969 §3; EAA 1979 §3; ECRA §1752(1)(B). Note that “significantly” was not included in ECA 1949 and was added as part of EAA 1969.

⁷⁵ ECA 1949 §2; EAA 1969 §3; EAA 1979 §3; ECRA §1757, codified at 50 U.S.C. §4811. Note that ECRA removed the short supply controls that had been a central feature of ECA 1949. During periods when these statutes expired, the President used authority under the Trading with the Enemy Act of 1917 and the International Emergency Economic Powers Act of 1977 to keep in place the Export Administration Regulations. See, for example, Executive Order 13222 of August 17, 2001, “Continuation of Export Control Regulations,” 66 *Federal Register* 44025, August 22, 2001. Trading with the Enemy Act of 1917 (TWEA), P.L. 65-91, 40 Stat. 11 (1917), codified as amended at 50 U.S.C. §§4301 *et seq.* (2018); International Emergency Economic Powers Act (IEEPA), P.L. 95-223, 91 Stat. 1626 (1977), codified as amended at 50 U.S.C. §§1701 *et seq.*

⁷⁶ These have sat alongside, and often complimented or reinforced other statutes authorizing the President to control exports of goods related to nuclear, biological, chemical, conventional weapons as well as certain other defense services. For example Arms Export Control Act of 1976, P.L. 94-329, 90 Stat. 729 (1976); Nuclear Non-Proliferation Act of 1978, P.L. 95-242, 92 Stat. 120 (1978); Chemical and Biological Weapons Control and Warfare Elimination Act of 1991, P.L. 102-82, 105 Stat. 1233 (1991).

⁷⁷ Whereas the Export Control Act of 1949 ran a short three pages in the *Statutes at Large*, the Export Administration Act of 1969 ran seven, the Export Administration Act of 1979, 34, and ECRA, 30. While ECRA is arguably shorter than EAA 1979, it incorporated by reference certain elements of EAA 1979 and the International Emergency Economic Powers Act of 1977. ECRA §1766, 50 U.S.C. §4601 note. These attempts to restrict the President’s discretion were not necessarily successful. William J. Long, *U.S. Export Control Policy* (New York: Columbia University Press, 1989), p. 30.

⁷⁸ ECA 1949 §2(b).

⁷⁹ EAA 1969 §3(2).

⁸⁰ ECA 1949.

make such a determination and to report to Congress whenever considerations of national security overrode considerations of foreign availability.⁸¹

One constant during that time has been the increasing emphasis on the importance of coordinating controls with other countries. The Export Control Act of 1949 said nothing about international coordination. The Export Administration Act of 1969, in contrast, declared:

It is the policy of the United States (A) to formulate, reformulate, and apply any necessary controls to the maximum extent possible in cooperation with all nations with which the United States has defense treaty commitments, and (B) to formulate a unified trade control policy to be observed by all such nations.⁸²

The Export Administration Act of 1979 and ECRA further expanded upon those directives to encourage cooperation “with all nations,” and not just those with which the United States had defense treaty commitments.⁸³ The 2018 authorization, ECRA, contains more references to international coordination than any of its predecessors.⁸⁴ While statutory references to coordination have increased over time, Members of Congress have pressured administrations and allies to coordinate export controls from virtually the beginning of the modern dual-use export control era.⁸⁵

Indeed, congressional criticism about the perceived lack of participation of NATO allies in controls on the Soviet Union led the executive branch to disclose publicly the existence of CoCom, which had been a closely guarded secret, in 1953.⁸⁶ In its third report to Congress, the short-lived U.S. Foreign Operations Administration⁸⁷ said that it decided to disclose CoCom’s existence to combat “false or exaggerated notions” about the “world-wide enforcement of strategic trade controls.”⁸⁸ Its report, in a “note to historians,” identifies many of the sensitive issues related to controlling exports that still confront policymakers:

⁸¹ EAA 1969 §4(b)

⁸² EAA 1969 §3(3).

⁸³ EAA 1979 §3(3): “It is the policy of the United States (A) to apply any necessary controls to the maximum extent possible in cooperation *with all nations*, and (B) to encourage observance of a uniform export control policy by all nations with which the United States has defense treaty commitments” (emphasis added); ECRA §1752(4), 15 U.S.C. §4811(4): “The national security and foreign policy of the United States require that the United States participate in multilateral organizations and agreements regarding export controls on items that are consistent with the policy of the United States, and take all the necessary steps to secure the adoption and consistent enforcement, by the governments of such countries, of export controls on items that are consistent with such policy.”

⁸⁴ ECRA §§1752-1753, 15. U.S.C. §§4811-4812.

⁸⁵ See, for example, Mutual Defense Assistance Control Act of 1951 (Battle Act), P.L. 82-212 §101, 65 Stat. 644, 645 (1951): “It is further declared to be the policy of the United States that no military, economic, or financial assistance shall be supplied to any nation unless it applies an embargo on such shipments 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.”

⁸⁶ U.S. Foreign Operations Administration, *World-Wide Enforcement of Strategic Trade Controls: Mutual Defense Assistance Control Act of 1951 (the Battle Act): Third Report to Congress* (Washington, DC: GPO, 1953), pp. 19-22.

⁸⁷ The U.S. Foreign Operations Administration (FOA) was a government agency that existed from 1953 to 1955 during the administration of President Dwight D. Eisenhower. It was created from the merger of several pre-existing agencies, including the Economic Cooperation Administration and the Mutual Security Agency, with the purpose of managing foreign aid and assistance. Dwight D. Eisenhower to Secretary Dulles, “Letter to Secretary Dulles Regarding Transfer of the Affairs of the Foreign Operations Administration to the Department of State,” April 17, 1955, available at <https://www.presidency.ucsb.edu/documents/letter-secretary-dulles-regarding-transfer-the-affairs-the-foreign-operations>.

⁸⁸ U.S. Foreign Operations Administration, *World-Wide Enforcement of Strategic Trade Controls: Mutual Defense Assistance Control Act of 1951 (the Battle Act): Third Report to Congress*, pp. 19-22., p. III.

People sometimes fail to recognize that effective multi-national security trade controls would not exist today unless they had been developed on the basis of mutual accord and voluntary action of the participating governments. On the one hand there are segments of American opinion convinced that international cooperation in this field has been lacking, or at best passive. On the other hand there are segments of opinion abroad that strict United States export controls have ... been forced upon other countries against their will.... Both of these views are erroneous.... [In January 1950 a] Coordinating Committee (known as COCOM) was organized to provide an informal forum at a working level for day-to-day discussions.⁸⁹

Stated reasons for congressional pressure to coordinate have varied over time, but congressional action, inaction, and Member statements have consistently focused on issues of effectiveness,⁹⁰ cost,⁹¹ and the occasional expression of moral concern.⁹² Such pressure is also made in the context of a broader U.S. willingness to use trade in general, and export controls in particular, to achieve a variety of policy goals;⁹³ the United States, for example, has long been one of the only major economies to control exports for human rights purposes.⁹⁴

Historical Coordination of Export Controls

CoCom and the Cold War

Prior to the Second World War, the United States rarely regulated exports. The Constitution's prohibition on export taxes,⁹⁵ combined with the geographic security afforded to the United States by the Atlantic and Pacific oceans, meant that Congress generally did not consider regulating exports other than during times of war or armed conflict or in defense of U.S. neutrality.⁹⁶

⁸⁹ Ibid., p. XX. This sentiment, and its analogue at the corporate level, is still common. See Chad Bown, "Episode 170: National Security, Semiconductors, and the U.S. Move to Cut off China," *Trade Talks*, November 2, 2022; Kevin Wolf: "Everybody in the business thinks that their competitor is being favored. Foreign companies think that American companies are being favored, and American companies think that foreign companies are being favored. And from a licensing decision – working with lots of US and some non-US companies, I never really saw that."

⁹⁰ For example, EAA 1979 §5(f); ECRA §1752(5); U.S. Congress, Senate Committee on Banking, Housing and Urban Affairs, *U.S. Export Control Policy and Extension of the Export Administration Act*, hearing, 96th Cong, 1st sess., March 5-6, 1979 (Washington, DC: GPO, 1979), p. 1.

⁹¹ For example, U.S. Congress, *U.S. Export Control Policy and Extension of the Export Administration Act*, pp. 137-149.

⁹² For example, Ibid., pp. 1, 137-149, 208.

⁹³ For example, Congress has prohibited the export of western red cedar from public lands under certain circumstances as well as horses by sea. Customs and Trade Act of 1990, P.L. 101-382 §491, 104 Stat. 629, 719 (1990), codified as amended at 16 U.S.C. §620c; 15 C.F.R. §754.4; Export Administration Amendments Act of 1985, P.L. 99-64 §125, 99 Stat. 120, 156 (1985), codified as amended at 15 U.S.C. §1824a; 15. C.F.R. §754.5; See also, U.S. Congress, *U.S. Export Control Policy and Extension of the Export Administration Act*, pp. 137-149, p. 1.

15 C.F.R. §754.5.

⁹⁴ 15 C.F.R. §742.7; ECRA 1753(b)(7), codified at 50 U.S.C. §4812(b)(7).

⁹⁵ U.S. Constitution, art. 1, §9, cl. 5.

⁹⁶ There were some embargoes in the earliest days of the Republic both during the War for Independence and during the Wars of the French Revolution, see Continental Congress, "Articles of Association," October 20, 1774, art. 4, *Journals of the Continental Congress 1* (Washington, DC: GPO, 1904), p. 77: "If the said acts ... are not repealed, we will not directly or indirectly, export any merchandise or commodity whatsoever to Great Britain, Ireland, or the West-Indies, except rice to Europe;" Act of June 4, 1794, 3 Cong. Ch. 41, 1 Stat. 372: Congress authorized the President to lay an embargo on all ships in the United States "whenever, in his opinion, the public safety shall so require;" Act of December 22, 1807, 10 Cong. Ch. 5, 2 Stat. 451-452: "an embargo be, and hereby is laid on all ships and vessels in the (continued...)"

During the Second World War, the United States established, in coordination with its allies, an expansive system of export controls.⁹⁷ Following the defeat of Germany and Japan in 1945, many items were gradually decontrolled.⁹⁸ However, by 1947, some U.S. policymakers had begun to argue that the United States should restrict its trade with the Soviet Union because U.S. technology might contribute to the development of the Soviet economy and thus improve the country's military capacity.⁹⁹ At the same time, some policymakers were arguing that liberalizing trade was a key component of crafting a peaceful postwar international order.¹⁰⁰ As Assistant Secretary of State William L. Clayton testified before Congress in 1945, "Nations which act as enemies in the marketplace cannot long be friends at the council table."¹⁰¹

This tension between liberalizing trade and restricting exports to the Soviet Union and other communist countries was at the center of policymaking during the early years of the Cold War. In 1950, a year following the successful detonation of an atomic bomb by the Soviet Union, officials from the Departments of State and Defense jointly drafted NSC 68, a "landmark" policy paper for the National Security Council (NSC) assessing U.S. objectives in peace and war and that established the early outlines of U.S. strategy in the emerging Cold War.¹⁰² NSC 68 observed that "economic conditions are among the fundamental determinants of the will and the strength to resist subversion and aggression."¹⁰³ The principal features of U.S. national security policy, the paper argued, should include financial assistance to Western Europe and other countries, "efforts to re-establish an international economy based on multilateral trade, declining trade barriers, and

ports and places. within the limits or jurisdiction of the United States, cleared or not cleared, bound to any foreign port or place." Congress repealed its embargo in 1814. Act of April 14, 1814, 13 Cong. Ch. 56, 3 Stat. 123; The United States began controlling exports again during its participation in the Spanish-American War (1898) and World War I (1917-1919). Joint Resolution of April 22, 1898, P.R. 55-25 (1898); Trading with the Enemy Act of 1917, P.L. 65-91, 40 Stat. 411 (1917); During the 1930s, to preserve U.S. neutrality, Congress prohibited exports of arms and munitions to countries engaged in armed conflict. Joint Resolution of August 31, 1935, P.R. 74-67 §3, 49 Stat. 1081, 1083 (1935); Joint Resolution of February 29, 1936, P.R. 74-74 (1936); Joint Resolution of May 1, 1937, P.R. 75-27, 50 Stat. 151 (1937); Neutrality Act of 1939, P.R. 76-54, 54 Stat. 4 (1939); See Richard T. Cupitt, *Reluctant Champions, U.S. Presidential Policy and Strategic Export Controls* (London: Routledge, 2000), pp. 31-50.

⁹⁷ Cupitt, *Reluctant Champions*, pp. 46-47.

⁹⁸ *Ibid.*, p. 55.

⁹⁹ For example, Report by the National Security Council, "December 17, 1947, *Foreign Relations of the United States*, 1948, Eastern Europe; The Soviet Union, Volume IV, eds. Rogers P. Churchill et al. (Washington, DC, Government Printing Office, 1974), Document 328, p. 512: "The National Security Council therefore considers that US national security requires the immediate termination, for an indefinite period, of shipments from the United States to the USSR and its satellites of all commodities which are critically short in the United States or which would contribute to the Soviet military potential;" "A Report to the National Security Council by the Executive Secretary," NSC 68, April 14, 1950, *Foreign Relations of the United States*, 1950, National Security Affairs; Foreign Economic Policy, Volume I, eds. Neal H. Petersen et al. (Washington, DC: Government Printing Office, 1977), Document 85, pp. 234-293, 259 (NSC 68).

¹⁰⁰ Trade liberalization, in the opinion of Franklin D. Roosevelt's long-serving Secretary of State Cordell Hull, would provide the conditions for a "permanent peace." The link between free trade and peace was a central tenet of Hull's approach to international economic policy throughout his career in Congress and in the Franklin D. Roosevelt Administration. For example, Cordell Hull, *Memoirs of Cordell Hull* (New York: Macmillan, 1948), pp. 1:81-82, 174.

¹⁰¹ U.S. Congress, Senate Committee on Finance, *1945 Extension of the Reciprocal Trade Agreements Act*, hearings, 79th Cong., 1st sess., May 30 – June 5, 1945 (Washington, DC: GPO, 1945), p. 5.

¹⁰² NSC 68. For historical assessments of the document's importance, see Joseph M. Siracuse, "NSC 68: A Reappraisal," *Naval War College Review* 33, no. 6 (November-December 1980), p. 5; Ken Young, "Revisiting NSC 68," *Journal of Cold War Studies* 15, no. 1 (Winter 2013), p. 3. For a collection of opinions on the document from scholars and policymakers, see Ernest E. May, ed., *American Cold War Strategy: Interpreting NSC 68* (Boston: Bedford, 1993).

¹⁰³ NSC 68.

convertible currencies.”¹⁰⁴ But in addition to these liberalizing measures, NSC 68 also called for the “restriction of East-West trade in items of military importance to the East.”¹⁰⁵

U.S. officials were not alone in wanting to restrict Eastern Europe’s and the Soviet Union’s access to materials and goods of military importance. By 1949, officials in the United Kingdom (UK) and France were also increasingly concerned about trade with the Soviet Union, particularly after learning of Soviet progress in developing an atomic weapon.¹⁰⁶ The two countries took the initiative in negotiating with other European countries over a proposed list of goods that French and British officials thought should be subject to eastward export restrictions.¹⁰⁷

By January 1950, officials from the United States, the UK, France, Italy, Belgium, the Netherlands, Luxembourg, Denmark, and Norway had established lists of goods that all the countries agreed to control. In addition, they established an informal regime to coordinate efforts. This regime included the Consultative Group, which was composed of high-ranking officials and responsible for general policymaking, and the Coordinating Committee (CoCom), which was staffed by experts from all participating countries.¹⁰⁸ While the Consultative Group rarely met, CoCom was “in effect [a] permanent consultative mechanism”¹⁰⁹ that grew in membership and became the central coordinating body for export controls amongst most members of NATO as well as Australia, and Japan.¹¹⁰

The formation of CoCom in 1950 was critical for coordinating export control policy during the Cold War. As one scholar put it:

By bringing the West European states together in a multilateral forum, CoCom provided what each government required: immediate and up-to-date information regarding what all other participating states were willing or unwilling to embargo and thus knowledge of whether and to what extent economic sacrifices were strategically justifiable.¹¹¹

¹⁰⁴ NSC 68, p. 259.

¹⁰⁵ Ibid. “United States foreign economic [...] policy can be summarized as follows: [...] (5) restriction of East-West trade in items of military importance to the East; [...] (7) efforts to re-establish an international economy based on multilateral trade, declining trade barriers, and convertible currencies [...].”

¹⁰⁶ Ian Jackson, *The Economic Cold War: America, Britain and East-West Trade, 1948-63* (London: Palgrave, 2001), p. 38.

¹⁰⁷ U.S. policymakers believed that having British and French officials lead discussions over coordinating export controls would be more likely to result in establishing a successful coordination mechanism. The Administrator of the Economic Cooperation Administration (Hoffman) to the Embassy in France, February 9, 1949, ECA Telegram Files, Lot W-131, Paris Torep: Telegram, *Foreign Relations of the United States, 1949, Eastern Europe; The Soviet Union, Volume V (FRUS 1949:V)*, eds. William Z. Slany and Rogers P. Churchill (Washington, DC: GPO, 1975), Document 30, available at <https://history.state.gov/historicaldocuments/frus1949v05/d30>: “Most desirable that British take leadership in gaining cooperation other govts ...;” Jackson, *Economic Cold War*, pp. 40-41.

¹⁰⁸ The Special Representative in Europe for the Economic Cooperation Administration (Harriman) to the Economic Cooperation Administrator (Hoffman), January 13, 1950, London Embassy Files: Lot 59 F 59: 500 Marshall Plan: Telegram, *Foreign Relations of the United States, 1950, Central and Eastern Europe; The Soviet Union, Volume IV (FRUS 1950:IV)*, eds. William Z. Slany, Charles S. Sampson, and Rogers P. Churchill (Washington, DC: GPO, 1980), Document 32, available at <https://history.state.gov/historicaldocuments/frus1950v04/d32>; Jackson, *Economic Cold War*, p. 41.

¹⁰⁹ *FRUS 1950:IV*, Document 32.

¹¹⁰ Iceland is a member of NATO, but was not a member of CoCom. Mutual Security Agency, *World Wide Enforcement of Strategic Trade Controls, Third Report to Congress as Required by the Mutual Defense Assistance Control Act of 1951 (Battle Act, Third Report)* (Washington, DC: GPO, 1953), p. 19; Michael Mastanduno, *Economic Containment: CoCom and the Politics of East-West Trade* (Ithaca, NY: Cornell University Press, 1992), p. 4.

¹¹¹ Mastanduno, *Economic Containment*, p. 78.

Put another way, the countries of Western Europe had to worry less that their controls would be *secretly* undercut by a neighbor's sales of controlled goods to Eastern Europe.¹¹²

CoCom's Functioning

CoCom, drawing in part on how the allies had controlled exports during the Second World War, established a model for how subsequent export control institutions could function. Three characteristics were, and continue to be in successor regimes, particularly important. First, CoCom was informal.¹¹³ Lacking both a binding agreement and a formal enforcement mechanism,¹¹⁴ all CoCom members enacted any agreed-upon controls in their own domestic law and regulations.¹¹⁵ Second, much of CoCom's activity involved the sharing of information and drafting of detailed lists of goods to be controlled.¹¹⁶ Third, and most crucially, all modifications to those lists were adopted by consensus—all participants had to agree.¹¹⁷ These three characteristics have been present in all subsequent institutions for coordinating export controls.¹¹⁸

But CoCom had some unique elements that subsequent regimes have lacked. First, even after the United States revealed its existence in 1953, CoCom's operations remained largely hidden from public view. The committee's control lists, for example, were never published. Instead, scholars and researchers reconstructed them only by comparing national control lists against one another. Scholars have credited the secrecy with some early successes.¹¹⁹ The domestic political situations of many European allies might have made it impossible to enter into a public arrangement. Additionally, public participation might have led to retaliation by the Soviet Union or its allies. Secrecy allowed for plausible denial.¹²⁰

Second was CoCom's exception process. Like the four export control regimes today, CoCom required any participating government to notify the other members when it exported certain controlled goods or technologies. Unlike the regimes today, members of CoCom who wished to export certain *highly* controlled advanced goods or technologies to a proscribed destination were expected to seek a "general exception," which required the unanimous consent of all CoCom members. This, in effect, gave every member of CoCom a veto over another country's exports of certain goods. The United States was both the most frequent applicant for general exceptions of exceptions and the most frequent user of its veto, a fact which was not lost on its partners.¹²¹

¹¹² Mastanduno, *Economic Containment*, p. 78.

¹¹³ Lipson, "The Reincarnation of CoCom," p. 36; Mastanduno, "What is COCOM and How Does it Work?" p. 75.

¹¹⁴ Central Intelligence Agency, CoCom Book Cable, General CIA Records, FOIA/ESDN (CREST): CIA-RDP85M00364R000601070005-6, Released: February 1, 2008, available at <https://www.cia.gov/readingroom/docs/CIA-RDP85M00364R000601070005-6.pdf>.

¹¹⁵ Mastanduno, "What is COCOM and How Does it Work?" p. 75.

¹¹⁶ Lipson, "The Reincarnation of CoCom," p. 37.

¹¹⁷ Mastanduno, "What is COCOM and How Does it Work?" p. 75.

¹¹⁸ Cindy Whang, "Undermining the Consensus-Building and List-Based Standards in Export Controls: What the US Export Controls Act Means to the Global Export Control Regime," *Journal of International Economic Law* 22 (2019), p. 583.

¹¹⁹ Michael Mastanduno, "What is COCOM and How Does it Work?" in *The Post-Containment Handbook*, ed. Robert Cullen (Boulder, CO: Westview Press, 1990), p. 75; Mastanduno, *Economic Containment*, pp. 80-81.

¹²⁰ *Ibid.*

¹²¹ Mastanduno, "What is COCOM and How Does it Work?" p. 76.

CoCom Challenges

CoCom members frequently disagreed about the scale and scope of controls as well as the overall purpose for controlling exports. At many points in CoCom's history, U.S. policymakers favored a total embargo against exports to the Soviet Union and its allies in an effort to retard Soviet economic development.¹²² Between 1947 and 1952 annual U.S. exports to Eastern Europe fell from \$350 million to less than \$10 million following the U.S. imposition of expanded export controls.¹²³ The United States was better-positioned to support a total embargo because the country was less reliant on exports in general and less reliant on trade with the Soviet Union and its allies in particular than its European allies. U.S. policymakers were also more inclined to use export controls tactically to respond to specific events.¹²⁴

Although CoCom's European members were reluctant to participate in what some scholars have characterized as "economic warfare,"¹²⁵ the outbreak of the Korean War and the successful detonation of the first Soviet atomic weapon in 1950 fused a consensus among U.S. allies in Europe around an expansive embargo. But that consensus was short-lived. By the mid-1950s, under pressure from its European members, CoCom began to decontrol a number of goods. Over the next forty years, CoCom generally focused on a strategic embargo, only controlling goods with clear military purposes. While there were some moments when the embargo was expanded (such as after the Soviet Union's invasion of Afghanistan in 1979), these were infrequent.¹²⁶

The Gradual Shift to Open Institutional Coordination / Multilateral Coordination

Warming Relations and Nonproliferation

The threat of nuclear proliferation, coupled with some warming of relations between the Soviet Union and the United States led to the collaboration between the two superpowers on export controls related to nuclear proliferation under the Nuclear Supplier's Group (NSG).¹²⁷ Unlike CoCom, the NSG, founded in 1974, was not born out of a military alliance and did not target any state or group of states.¹²⁸ Like CoCom, negotiations over the scale and scope of the controls were difficult, especially as several Western European entities remained eager to sell nuclear energy technology abroad without burdensome regulations.¹²⁹ These difficulties compounded as NSG membership quickly expanded.¹³⁰

¹²² Mastanduno, *Economic Containment*, pp. 68-74; Adler-Karlsson, *Western Economic Warfare*.

¹²³ Mastanduni, *Economic Containment*., p. 74.

¹²⁴ *Ibid.*, pp. 313-318.

¹²⁵ *Ibid.*, pp. 68-74; Adler-Karlsson, *Western Economic Warfare*.

¹²⁶ *Ibid.*, chaps. 3, 7.

¹²⁷ The precursor to the Nuclear Suppliers Group, the Western Suppliers Group, was informal, secretive, and did not include the Soviet Union or Eastern European States. Nevertheless, the effort was different from CoCom in its ambition. Although the Soviet Union was not a part of the Group, it also was not the explicit target of the Group's strategy, particularly since the Soviet Union had ample reserves of Uranium. Anstey, "Negotiating Nuclear Control," p. 986; K.D. Kapur, "Nuclear Non-Proliferation Regime and the Soviet Union," *India Quarterly* 44, no. 3/4 (July-December 1988), p. 205.

¹²⁸ Burr, "A Scheme of 'Control,'" p. 260.

¹²⁹ *Ibid.*, p. 253.

¹³⁰ *Ibid.*, p. 270.

Despite the difficult negotiations, similar arrangements soon proliferated, with the foundation of the Australia Group in 1985 and the Missile Technology Control Regime in 1987. These nonproliferation regimes, like the Nuclear Suppliers Group, did not target specific countries. Moreover, they lacked CoCom's veto provision.¹³¹ Unlike CoCom, all three of these regimes were open to participation from a variety of countries, including U.S. adversaries. The goal of these organizations was a breadth of participation and today all three of these regimes have at least twice as many members as CoCom had at its height.

The End of the Cold War and the Creation of the Wassenaar Arrangement

Following the Soviet Union's collapse in 1991, many U.S. allies saw CoCom as an impediment to integrating Russia and the other former Soviet states into the global economy.¹³² A prominent study of CoCom, published in 1992, found it unlikely that CoCom would survive much longer. "In the absence of a perceived, direct military threat," the study noted, "there is little to sustain Western Europe's interest in the strategic embargo."¹³³ Western Europe's lack of interest, and U.S. ambivalence, meant CoCom's days were numbered. By 1993, the United States and its allies agreed to dissolve CoCom and the organization ceased operations on March 31, 1994, a little more than 44 years after its first meeting.¹³⁴

While there was a lack of interest in maintaining CoCom, there was still broad interest, including among Members of Congress,¹³⁵ in coordinating controls on conventional arms and dual-use goods in some capacity.¹³⁶ Over several years, the United States, many former CoCom members, and several former Soviet states, negotiated what became known as the Wassenaar Arrangement, which began operations in 1996.¹³⁷

Policymakers, scholars, and practitioners frequently describe the Wassenaar Arrangement as a successor to CoCom.¹³⁸ This claim, however, is only temporally correct; Wassenaar emerged from a different international context and is more akin to the other multilateral nonproliferation regimes.¹³⁹ As Under Secretary of State for Arms Control and International Security Affairs Lynn E. Davis explained in a speech given shortly after the establishment of the Wassenaar Arrangement in 1996:

Although the COCOM parties were responsible for initiating development of The Wassenaar Arrangement, the successor regime differs significantly in its goals and procedures, given the changed strategic environment. COCOM was designed as an

¹³¹ For an example of the nonproliferation regimes being criticized as "toothless," see Senate debate, *Congressional Record*, vol. 135, part 19 (November 2, 1989), p. 27033; See also Meijer, *Trading with the Enemy*, p. 131.

¹³² Michael Lipson, "The Wassenaar Arrangement: Transparency and Restraint through Trans-Governmental Cooperation," in *Non-Proliferation Export Controls: Origins, Challenges, and Proposals for Strengthening*, ed. Daniel Joyner (London: Routledge, 2006), p. 51; Kathryn C. Lavelle, *The Challenges of Multilateralism* (New Haven, CT: Yale University Press, 2020), pp. 106-107.

¹³³ Michael Mastanduno, *Economic Containment*, pp. 336-342.

¹³⁴ Lipson, "The Reincarnation of CoCom," p. 36.

¹³⁵ For example, Riegle-Neal Interstate Banking and Branching Efficiency Act of 1994, P.L. 103-328 §202, 108 Stat. 2338, 2368 (1994).

¹³⁶ Lipson, *International Cooperation on Exports*, p. 177.

¹³⁷ *Ibid.*, pp. 190-201.

¹³⁸ For example, Davis, "The Wassenaar Arrangement," p. 79; Lipson, "The Reincarnation of CoCom," p. 34; Jamil Jaffer, "Strengthening the Wassenaar Export Control Regime," *Chicago Journal of International Law* 3, no. 2 (September 2002), p. 521; Gahlaut, "Multilateral Export Control Regimes," p. 8; "Wassenaar Arrangement (a.k.a. 'New Forum') to take place of COCOM," *Export Practitioner* (January 1996), pp. 7-8

¹³⁹ Lipson, "The Wassenaar Arrangement," p. 51.

institution of the Cold War.... As the original threats of the Cold War diminished, new threats to global security began to emerge.... This led the U.S. and other countries to develop worldwide non-proliferation regimes, such as the Nuclear Suppliers Group, the Missile Technology Control Regime, and the Australia Group. The Wassenaar Arrangement extends and complements this development.¹⁴⁰

The product of a bipolar world, CoCom was a strategic alliance designed to limit trade in certain goods with the Soviet Union, Eastern Europe, and China. In contrast, the Wassenaar Arrangement was a product of the end of the Cold War and a unipolar world. Wassenaar was open to virtually any state¹⁴¹ and was explicitly not “directed against any state or group of states.”¹⁴² Instead, Wassenaar focused on non-state actors in stark contrast to CoCom’s state-centered approach. Nor was Wassenaar meant to impede “bona fide civil transactions.”¹⁴³ That is, Wassenaar was not used as part of a broader strategy to limit the economic or technological development of a civilian economy. Wassenaar’s focus was, like the other nonproliferation regimes, constraining objectionable behaviors. As one senior State Department official succinctly put it a few years after its founding, “Wassenaar is not and cannot be COCOM.”¹⁴⁴

Criticism of Wassenaar

From the start, many U.S. policymakers criticized the Wassenaar Arrangement. U.S. allies had expressed eagerness to liberalize exports following the end of the Cold War and reluctance to maintain the strict controls for which the United States had advocated.¹⁴⁵ Combining all the regimes into a single regime, an early idea among some U.S. policymakers, met domestic bureaucratic resistance as different U.S. agencies appeared reluctant to cede authority over their historic policy turf.¹⁴⁶ Combining the regimes might have lent Wassenaar the political weight of being institutionally part of the regime controlling nuclear and biological weapons. Instead, Wassenaar stood alone.

Wassenaar lacks many of the elements of CoCom. First, Wassenaar does not have a license review mechanism. Whereas CoCom required members’ unanimous approval of export licenses for certain sensitive technologies, Wassenaar’s Secretariat has no such review function. Instead, Wassenaar members are free to export a controlled good, so long as they notify other members.¹⁴⁷ Second, and similarly, Wassenaar lacks a formal no-undercut rule, which had prohibited a CoCom member from granting a license to export a particular product to a particular country if another member had denied such a license. Instead, Wassenaar only requires that governments, prior to approving an export, consult members that had prohibited the same export.¹⁴⁸ Third, whereas

¹⁴⁰ Davis, “The Wassenaar Arrangement,” p. 79.

¹⁴¹ The Wassenaar Arrangement on Export Controls for Conventional Arms and Dual-Use Goods and Technologies, Public Documents, Volume I: Founding Documents, WA-DOC (19) Pub 007, December 2019, p. 4 (Initial Elements I.4), available at <https://www.wassenaar.org/app/uploads/2021/12/Public-Docs-Vol-I-Founding-Documents.pdf>.

¹⁴² *Ibid.*, p. 14 (Initial Elements, Appendix 4).

¹⁴³ *Ibid.*

¹⁴⁴ Testimony of John D. Holum, Senior Advisor for Arms Control and International Security, U.S. Department of State in U.S. Congress, Senate Committee on Governmental Affairs, *The Wassenaar Arrangement and the Future of Multilateral Export Controls*, hearing, April 12, 2000, 106th Cong., 2nd sess., S. Hrg. 106-613 (Washington, DC: GPO, 2000) p. 5.

¹⁴⁵ Meijer, *Trading with the Enemy*, pp. 135-142.

¹⁴⁶ *Ibid.*, pp. 130-131

¹⁴⁷ The Wassenaar Arrangement on Export Controls for Conventional Arms and Dual-Use Goods and Technologies, Public Documents, Volume I: Founding Documents, p. 8 (Initial Elements, Part V).

¹⁴⁸ *Ibid.*, p. 5 (Initial Elements, Part II).

CoCom was established explicitly to limit exports to the Soviet Union and its allies, Wassenaar has no list of target countries.¹⁴⁹ Finally, and perhaps most importantly, Wassenaar was a much larger organization at its founding and very quickly expanded. Whereas CoCom had at most 17 members during its existence, today the Wassenaar Arrangement has 48—nearly three times as many—and includes countries, such as the United States and Russia, with conflicting national security or foreign policy interests.

Within a few years of Wassenaar’s establishment, reports of the Senate Committee on Banking and the House Committee on International Relations, expressed concerns with the Arrangement’s limitations.¹⁵⁰ Citing Wassenaar’s lack of a no-undercut mechanism¹⁵¹ and the lack of “respect” for Wassenaar regime guidelines by non-arrangement members,¹⁵² the Senate Banking Committee’s report called Wassenaar “the least effective” of the multilateral regimes.¹⁵³

In addition to encouraging the President to improve Wassenaar’s effectiveness, the Senate Banking Committee urged “[U.S.] participation in new export control regimes that serve the national security and foreign policy interests of the United States.”¹⁵⁴ By 2001, Under Secretary of Commerce for Industry and Security Kenneth Juster stated to a reporter that he was exploring arrangements between key countries to better control select technologies.¹⁵⁵ Other committees made similar recommendations.¹⁵⁶

However, following the terrorist attacks of September 11, 2001, the United States redirected much of its attention toward non-state actors—which the Wassenaar Arrangement was relatively well-suited to address. Although there were still critics of Wassenaar in Congress, the arrangement received less negative attention until well into the second decade of the 21st century.

Recent Plurilateral and Bilateral Coordination

Beginning in the 2010s, the United States has expanded, both in scale and scope, its use of export controls to address national security, foreign policy, and economic concerns. Alongside this expansion, the Department of Commerce’s Bureau of Industry and Security (BIS) has made what many observers have described as “novel” uses of export controls (see textbox below).¹⁵⁷ Many

¹⁴⁹ *Ibid.*, p. 14 (Initial Elements, Appendix 4).

¹⁵⁰ U.S. Congress, Senate Committee on Banking, Housing, and Urban Affairs, *The Export Administration Act of 2001*, Report to Accompany S. 149, 107th Cong., 1st sess., S.Rept. 107-10 (Washington, DC: GPO, 2001); U.S. Congress, House Committee on International Relations, *The Export Administration Act of 2001*, Report to Accompany, 107th Cong., 1st sess., H.Rept. 107-297 (Washington, DC: GPO, 2001), p. 56: “The Committee strongly endorses Administration efforts to strengthen existing multilateral regimes ... including the creation of new mechanisms in the Wassenaar Arrangement providing for a ‘no undercut’ policy.”

¹⁵¹ Senate Committee on Banking, *The Export Administration Act of 2001*, pp. 20.

¹⁵² *Ibid.*

¹⁵³ *Ibid.*

¹⁵⁴ *Ibid.*, pp. 7, 20-21.

¹⁵⁵ Bruce Odessey, “Official to Explore Export-Control Deal Among a Few Countries,” *Aerotech News and Review*, July 27, 2001, available at <https://web.archive.org/web/20010811143405/www.aerotechnews.com/starc/2001/072701/exports.html>.

¹⁵⁶ For example, U.S. Congress, House Select Committee on U.S. National Security and Military/Commercial Concerns with the People’s Republic of China, *U.S. National Security and Military/Commercial Concerns with the People’s Republic of China*, 105th Cong., 2nd sess., H.Rept. 105-851 (Washington, DC: GPO, 1999).

¹⁵⁷ For example, Kevin J. Wolf, Testimony before the Senate Committee on Banking, Housing, and Urban Affairs, February 28, 2023, p. 5: “[T]he Trump Administration took a series of individual classical and novel unilateral export control actions under its ECRA authorities.” Gregory C. Allen, Emily Benson, and William Alan Reinsch, Improved (continued...)

of these export control policies attempt to limit the access of certain countries to advanced semiconductors and the equipment needed to produce them.¹⁵⁸ But BIS has also targeted other goods and sectors. Alongside these novel controls, the United States has expanded its longstanding use of export controls to address human rights concerns.

The United States has attempted to limit circumvention of its expanded use of export controls by coordinating with other countries. In response to Russia's further invasion of Ukraine in 2022, the United States coordinated with dozens of countries to limit exports of controlled technologies to Russia and Belarus, reportedly to deny those states the means to conduct military operations.¹⁵⁹ The United States has also coordinated with partner countries to limit the export of advanced semiconductor manufacturing equipment to China, reportedly in response to China's efforts to develop advanced military technologies.¹⁶⁰ Additionally, the United States has worked closely with the European Union and other governments to coordinate controls on technologies that might be used to commit human rights abuses.¹⁶¹

Foreign-Produced Direct Product Rule (FPDR)

At the center of these efforts has been a Cold-War era tool: the foreign-produced direct product rule (FPDR). Under the FPDR, BIS can prohibit foreign manufacturers from exporting *foreign-produced* goods that are direct products of controlled U.S. technology or software. The United States can use the FPDR to force foreign manufacturers to comply with U.S. export-control strategies. But the FPDR can also be used to coordinate controls with cooperative foreign governments that might lack the legal capacity to enact their own controls. Similarly, the FPDR might insulate partner governments from domestic criticism and partner countries from

Export Controls Enforcement Technology Needed for U.S. National Security, Center for Strategic and International Studies, November 2022, p. 2: "What is novel about these controls is that they represent a sea change in the U.S. approach to China, particularly since the controls are both geographic in nature and unilateral;" Ellen Nakashima and Jeanne Whalen, "U.S. Threatens Use of Novel Export Control to Damage Russia's Strategic Industries if Moscow Invades Ukraine," *Washington Post*, January 23, 2022; Kevin J. Wolf, *et al.*, "U.S. Government Imposes Expansive, Novel and Plurilateral Export Controls Against Russia and Belarus," Akin Gump Alert, March 8, 2022, available at <https://www.akingump.com/en/insights/alerts/us-government-imposes-expansive-novel-and-plurilateral-export-controls-against-russia-and-belarus>.

¹⁵⁸ When policymakers discuss semiconductors and semiconductor manufacturing equipment (SME) they are generally referring to "integrated circuits" and equipment for manufacturing them. And most commonly they are referring to "monolithic integrated circuits." A monolithic integrated circuit is a complete circuit made into or on top of a single die or "chip" of semiconducting material (usually, but not always, silicon). *Oxford Dictionary of Electronics and Electrical Engineering*, 5th ed., s.v. integrated circuit (IC); chip; Similarly, the export controls at issue often use the term "integrated circuit" rather than "semiconductors." For example, 15 C.F.R. §774: ECCN: 3A001.a Note 1; Nevertheless, in order to accord with the language of policy discussions, this report will use the word semiconductors to mean integrated circuits.

¹⁵⁹ White House, "FACT SHEET: Joined by Allies and Partners, the United States Imposes Devastating Costs on Russia," press release, February 24, 2022, available at <https://www.whitehouse.gov/briefing-room/statements-releases/2022/02/24/fact-sheet-joined-by-allies-and-partners-the-united-states-imposes-devastating-costs-on-russia/>.

¹⁶⁰ White House, "Remarks by National Security Advisor Jake Sullivan on the Biden-Harris Administration's National Security Strategy," press release, October 13, 2022, available at <https://www.whitehouse.gov/briefing-room/speeches-remarks/2022/10/13/remarks-by-national-security-advisor-jake-sullivan-on-the-biden-harris-administrations-national-security-strategy/>.

[L]ast week, we launched significant, carefully tailored restrictions on semiconductor technology exports to the PRC, focused on advanced semiconductor manufacturing tools, the most advanced chips, and supercomputing capabilities. These restrictions are premised on straightforward national security concerns. These technologies are used to develop and field advanced military systems, including weapons of mass destruction, hypersonic missiles, autonomous systems, and mass surveillance.

¹⁶¹ White House, "Fact Sheet: Export Controls and Human Rights Initiative Launched at the Summit for Democracy," press release, December 10, 2021, available at <https://www.whitehouse.gov/briefing-room/statements-releases/2021/12/10/fact-sheet-export-controls-and-human-rights-initiative-launched-at-the-summit-for-democracy/>.

retaliation by providing them space to deny complicity in enacting the controls. As Kevin Wolf, former Assistant Secretary of Commerce for Export Administration, stated in an interview:

[Some countries] generally bristle at the extra-territorial jurisdiction of US law over their companies. They wouldn't say it, but it is something that frustrates and upsets otherwise very polite, good allies.

Other allies love it because they may have the same policy concerns, and they don't have the legal authority or the political will in their countries to impose the type of controls that the US has. They think, personally, "Great, the US is doing what I would love to be able to do in my system. Go, get 'em!"

Sources: 15 C.F.R. §734.9; Chad Bown, "Episode 170: National Security, Semiconductors, and the Move to Cut of China," *Trade Talks Podcast*, transcript, November 2, 2022, p. 13.

Export Control Coordination on Russia and Belarus

Following Russia's further invasion of Ukraine in 2022, the United States coordinated controls on a variety of exports with several allied and partner countries.¹⁶² As the White House put it, many of these controls are designed to "choke off Russia's import of technological goods critical to a diversified economy and Putin's ability to project power."¹⁶³ Additionally, some of these controls are meant to limit the political capacity of Russia to continue the invasion. For example, controls placed on the export of luxury goods were intended to "increase the costs on Russian and Belarusian persons who support the government of Russia and its invasion of Ukraine."¹⁶⁴

The most expansive of the new controls requires a license to export *any* item on the Commerce Control List (CCL) to either Russia or Belarus.¹⁶⁵ Applications for such licenses are reviewed under a policy of denial.¹⁶⁶ Making use of novel strategies developed to limit exports of semiconductors to China,¹⁶⁷ Commerce used the foreign-produced direct product rule (FDPR) to apply this requirement to *foreign-produced* goods that are direct products of controlled U.S. technology or software or are produced in a factory that uses U.S. controlled technology or software.¹⁶⁸ In establishing these controls, the United States "excluded countries that committed to implementing substantially similar export controls on Russia and Belarus under their domestic laws."¹⁶⁹ Shortly thereafter, 37 countries committed to implementing such controls.¹⁷⁰ When announcing the controls, the White House described this "[h]istorical multilateral cooperation" as "unprecedented."¹⁷¹

¹⁶² BIS, "Implementation of Sanctions Against Russia Under the Export Administration Regulations (EAR)," 87 *Federal Register* 12226, March 3, 2022, codified at 15 C.F.R. §746.8; White House, "FACT SHEET: Joined by Allies..."

¹⁶³ White House, "FACT SHEET: Joined by Allies..."

¹⁶⁴ BIS, "Imposition of Sanctions on 'Luxury Goods' Destined for Russia and Belarus and for Russian and Belarusian Oligarchs and Malign Actors Under the Export Administration Regulations (EAR)," 87 *Federal Register* 14785, March 16, 2022.

¹⁶⁵ 15 C.F.R. §746.8(a)(1).

¹⁶⁶ 15 C.F.R. §746.8(b).

¹⁶⁷ See "Export Control Coordination on China" below.

¹⁶⁸ 15 C.F.R. §746.8(a)(2)-(3); 15 C.F.R. §734.9(g).

¹⁶⁹ 15 C.F.R. §746.8(a)(4).

¹⁷⁰ 15 C.F.R. §746.8(a)(4), Supplement no. 3.

¹⁷¹ White House, "FACT SHEET: Joined by Allies..."

In addition, the United States, the European Union, and others have placed export controls on a variety of other goods.¹⁷² These controls are not explicitly coordinated, nor has BIS effectively compelled coordination by invoking the FDPR. As a result, there has been some variation in export controls across governments on these items.¹⁷³ During the first year following the further invasion of Ukraine, the United States worked with allied and partner countries to bring these export controls into closer alignment.¹⁷⁴

Export Control Coordination on China

For several years, the United States has taken increasingly expansive actions to limit exports of advanced semiconductors and advanced semiconductor manufacturing equipment to China.¹⁷⁵ Some analysts date the start of this escalation to 2018 and 2019, when BIS announced several actions to limit exports of semiconductors to two Chinese telecommunications firms, Zhongxing Telecommunications Equipment Corporation (ZTE) and Huawei.¹⁷⁶ BIS quickly faced problems related to the effectiveness of these controls. Without coordination between states, Huawei continued to source advanced semiconductors “by commissioning their production in overseas foundries using U.S. equipment.”¹⁷⁷ The U.S. semiconductor industry also expressed concerns about the potential relative cost of the controls if manufacturers in other countries picked up the Chinese market share, giving them greater access to capital for research and development.¹⁷⁸

To reduce the risks of circumvention and the associated relative losses to U.S. manufacturers, BIS used the FDPR to “to target Huawei’s acquisition of semiconductors that are the direct product of

¹⁷² 15 C.F.R. §746.5; 15 CFR §746.10.

¹⁷³ Ricardo Hausmann, Ulrich Schetter, and Muhammed A. Yildirim, “On the Design of Effective Sanctions: The Case of Bans on Exports to Russia,” CID Faculty Working Paper No. 417, September 2022, p. 6: “[M]ore than 35% of all product categories have been sanctioned by either the EU, the US, or both. Out of these product categories, ~ 50% have been sanctioned by both, ~ 31% by the EU only, and ~ 19% by the US only.”

¹⁷⁴ BIS, “Implementation of Additional Sanctions Against Russia and Belarus Under the Export Administration Regulations (EAR) and Refinements to Existing Controls,” 88 *Federal Register* 12175, February 27, 2023: “This rule revises the EAR to enhance and strengthen the existing sanctions against Russia and Belarus by expanding the scope of the Russian and Belarusian industry sector sanctions and the ‘luxury goods’ sanctions to better align them with the controls that have been implemented by U.S. allies and partners imposing substantially similar controls on Russia and Belarus.”

¹⁷⁵ Matt Sheehan, “Biden’s Unprecedented Semiconductor Bet,” Carnegie Endowment for International Peace, October 27, 2022, available at <https://carnegieendowment.org/2022/10/27/biden-s-unprecedented-semiconductor-bet-pub-88270>; Chad P. Bown, “Export Controls: America’s Other National Security Threat,” *Duke Journal of Comparative and International Law* 30, no. 2 (2020), p. 289.

¹⁷⁶ Sheehan, “Biden’s Unprecedented Semiconductor Bet;” Bown, “Export Controls: America’s Other National Security Threat,” p. 289; BIS, “In the Matter of: Zhongxing Telecommunications Equipment Corporation ZTE Plaza, Keji Road South Hi-Tech Industrial Park Nanshan District, Shenzhen China; ZTE Kangxun Telecommunications Ltd. 2/3 Floor, Suite A, Zte Communication Mansion Keji (S) Road Hi-New Shenzhen, 518057 China Respondent; Order Activating Suspended Denial Order Relating to Zhongxing Telecommunications Equipment Corporation and Zte Kangxun Telecommunications Ltd.,” 83 *Federal Register* 17644, April 23, 2018; BIS, “Addition of Entities to the Entity List,” 84 *Federal Register* 22961, May 21, 2019. ZTE and Huawei had both been the subject of a U.S. investigation into the companies’ role in evading U.S. sanctions on Iran.

¹⁷⁷ Department of Commerce, “Commerce Addresses Huawei’s Efforts to Undermine Entity List, Restricts Products Designed and Produced with U.S. Technologies,” press release, May 15, 2020, available at <https://2017-2021.commerce.gov/news/press-releases/2020/05/commerce-addresses-huaweis-efforts-undermine-entity-list-restricts.html>.

¹⁷⁸ Varas and Varadarajan, *How Restricting Trade with China Could End US Semiconductor Leadership*; John Neuffer, “Report Shows Risks of Excessive Restrictions on Trade with China,” Semiconductor Industry Association, March 9, 2020.

certain U.S. software and technology.”¹⁷⁹ That is, BIS prohibited foreign-based users of licensed U.S. technology and software from selling products of that technology and software, to Huawei without a license from BIS. Since virtually all manufacturers of advanced semiconductors use U.S. technology as part of the manufacturing process, the United States used the FDPR in an attempt to limit Huawei’s ability to source advanced semiconductors from major manufacturers in Taiwan, South Korea, and Japan, without having to wait for their governments to implement such controls and without requiring their governments to explicitly endorse the controls. Since 2020, BIS has subjected hundreds more entities to the FDPR.¹⁸⁰ As one trio of scholars wrote, “China’s decision to try to become more self-reliant with respect to technology can also be understood as a response to the USA cutting off supply lines to essential technology with respect to ZTE and Huawei.”¹⁸¹

On October 7, 2022, the Department of Commerce announced new export controls on certain advanced semiconductors and advanced semiconductor manufacturing equipment (SME).¹⁸² The Semiconductor Industry Association (SIA) described the new controls as “among the most novel and complex EAR provisions ever published.”¹⁸³ Another industry association, SEMI, expressed concerns with multilateral cooperation, “Currently, the U.S. is the leader in the semiconductor equipment industry, with 3 of the top 5 companies headquartered here in the U.S. Without equivalent multilateral controls,” SEMI warned, “the U.S. is at serious risk of losing that technological leadership as the legacy market provides a reliable source of income that funds innovation.”¹⁸⁴

Three countries—the United States, Japan, and the Netherlands—produce much of the world’s SME. In January 2023, the United States acknowledged that all three countries had reached a deal to coordinate controls on SME.¹⁸⁵ Although neither Japan nor the Netherlands has explicitly acknowledged coordinating with the United States, by March both governments had announced new controls on SME.¹⁸⁶

¹⁷⁹ Department of Commerce, “Commerce Department Further Restricts Huawei Access to U.S. Technology and Adds Another 38 Affiliates to the Entity List,” press release, August 17, 2020, available at <https://2017-2021.commerce.gov/news/press-releases/2020/08/commerce-department-further-restricts-huawei-access-us-technology-and.html>: “This amendment further restricts Huawei from obtaining foreign made chips developed or produced from U.S. software or technology to the same degree as comparable U.S. chips;” BIS, “Export Administration Regulations: Amendments to General Prohibition Three (Foreign-Produced Direct Product Rule) and the Entity List,” 85 *Federal Register* 29849, May 19, 2020; BIS, “Addition of Huawei Non-U.S. Affiliates to the Entity List, the Removal of Temporary General License, and Amendments to General Prohibition Three (Foreign-Produced Direct Product Rule),” 85 *Federal Register* 51596, August 20, 2020.

¹⁸⁰ 15 C.F.R. §§744 Supplement no. 4, 734.9(e), 744.11.

¹⁸¹ Anthea Roberts, Henrique Choer Moraes, and Victor Ferguson, “Toward a Geoeconomic Order in International Trade and Investment,” *Journal of International Economic Law* (2019), p. 665.

¹⁸² BIS, “Implementation of Additional Export Controls: Certain Advanced Computing and Semiconductor Manufacturing Items; Supercomputer and Semiconductor End Use; Entity List Modification,” 87 *Federal Register* 62186, October 13, 2022.

¹⁸³ Public comment 13 on Advanced computing IFR, Semiconductor Industry Association, January 13, 2023, Comment ID: BIS-2022-0025-0018.

¹⁸⁴ Public comment 26 on Advanced computing IFR, SEMI, January 31, 2023, Comment ID: BIS-2022-0025-0032.

¹⁸⁵ Alexandra Alper and David Shepherdson, “U.S. Official Acknowledges Japan, Netherlands Deal to Curb Chipmaking Exports to China,” *Reuters*, January 31, 2023.

¹⁸⁶ Minister for Foreign Trade and Development Cooperation Liesje Schreinemacher to the House of Representatives on the Additional Export Control Measures Concerning Advanced Semiconductor Manufacturing Equipment, March 8 2023; Gregory C. Allen, Emily Benson, and Margot Putnam, “Japan and the Netherlands Announce Plans for New Export Controls on Semiconductor Equipment,” CSIS, April 10, 2023; Leo Lewis and Kana Inagaki, “Japan to Restrict Semiconductor Equipment Exports as China Chip War Intensifies,” *Financial Times*, March 31, 2023.

Export Control Coordination on Human Rights

Since the 1970s, in response to congressional concerns, the United States has controlled exports of certain goods in furtherance of international human rights concerns.¹⁸⁷ These controls have been unilateral and generally, although not exclusively, focus on goods used for crime control and detection that foreign governments might use, for example, to interrogate dissidents or spy on minority populations.¹⁸⁸ Other countries have rarely maintained similar restrictions.

In many cases the lack of international coordination has not hindered the primary purpose of U.S. policy goals, which has been to prevent U.S. goods from supporting human rights abuses. U.S. policymakers have long understood that export controls are unlikely to prevent foreign actors from obtaining simple manufactured goods that are readily available—the United States and its partners are hardly the only manufacturers of thumb screws and spiked batons in the world.¹⁸⁹ Instead, controls have been imposed on such goods in large part to ensure, in the words of former Chairperson of the Senate Committee on Banking William Proxmire, that “devices used to repress and torture human beings are not stamped ‘Made in the United States of America.’”¹⁹⁰

Although controls on simple manufactures for human rights purposes have not posed significant policy or political challenges, controls on advanced technologies have. In such cases the United States has sought not only to prevent reputational damage, but to actually prevent foreign actors from obtaining certain goods.¹⁹¹ With respect to limiting access to advanced technologies,

¹⁸⁷ Department of Commerce, Domestic and International Business Administration, “Exports of Crime Control and Detection Equipment to U.S.S.R., Eastern Europe, and the People's Republic of China (Country Groups Q, W, and Y),” 39 *Federal Register* 26719, July 23, 1974.

¹⁸⁸ For example, 15 C.F.R. §742.7; BIS, “Additions to the Entity List; Amendment to Confirm Basis for Adding Certain Entities to the Entity List Includes Foreign Policy Interest of Protection of Human Rights Worldwide,” 88 *Federal Register* 18983, March 30, 2023: “The ERC determined to add the following [entities...] to the Entity List under the destination of China, for engaging in activities contrary to U.S. foreign policy interests. These additions are being made because [these entities] have been implicated in human rights violations and abuses in the implementation of China's campaign of repression, mass arbitrary detention and high-technology surveillance against the Uyghur people and members of other Muslim minority groups in the Xinjiang Uyghur Autonomous Region (XUAR).”

¹⁸⁹ See 15 C.F.R. §742.11; Rep. Christopher H. Smith and Rep. James P. McGovern to Secretary Mike Pompeo and Secretary Wilbur Ross, August 2, 2019; Rajesh Kumar Singh, “U.S. Company Supplying Tear Gas to Hong Kong Police Faces Mounting Criticism,” *Reuters*, October 11, 2019; Gregory C. Allen expressed a similar idea when as part of a panel on export controls he noted:

There are types of export control that the United States puts upon certain countries that we really know are not going to work. For example, when the dictator of Syria was engaged in the Syrian Civil War, the United States restricted the sale of hand cuffs to the Syrian regime. No one believes in the United States Government that we successfully stopped Bashar Hafez al-Assad from acquiring handcuffs. Those export controls were designed to send a signal, they were not designed to make an impact.

Center for Security and International Studies, “Economic Security: Perspectives from Seoul and Washington,” February 23, 2023, at 49:00.

¹⁹⁰ U.S. Congress, Senate Committee on Banking, *Use of Export Controls and Export Credits for Foreign Policy Purposes*, hearing, 95th Cong., 2nd sess., October 10 and 11, 1978 (Washington, DC: GPO, 1978), p. 2.

¹⁹¹ For example, the first export control imposed explicitly for human rights purposes was drafted in response to reports that an American company was poised to sell voice identification technology to the Soviet Union, which many U.S. policymakers worried would be used to oppress political dissidents. Sam Jaffe, “Russians Invited U.S. Firms to Police Trade Show,” *Chicago Tribune*, July 7, 1974; Rep. Charles A. Vanik, “American Participation in Moscow Crime Technology Trade Exposition,” remarks in the House, *Congressional Record*, daily edition, vol. 120 (July. 9, 1974), pp. 22348-22350: Vanik quoted at length from Alexandr Solzhenitsyn’s *The First Circle*, before summarizing: “This entire 670-page book describes the ordeal of a prison camp of scientists who have been ordered to build a voice print device to catch a ‘political criminal.’ ...To provide voice print devices to a nation which makes no bones about massive wiretapping would be a criminal and immoral act on the part of the United States;” Fourteen days after the news broke, (continued...)

coordination was essential both to the effectiveness of the control, but also to protect domestic firms and limit domestic criticism. For example, after the United States began to expand its use of export controls for human rights and other foreign policy purposes in the late 1970s, David Packard, Chairman of the U.S. computer manufacturer Hewlett-Packard warned: “I think the only thing such policies do is to guarantee the loss of business for the United States.”¹⁹² Specifically, he argued, U.S. technology companies would be seen as unreliable suppliers leading countries to turn to European and Japanese firms.¹⁹³ This was especially true “if the products are high technology items requiring skilled servicing and U.S. parts and components.”¹⁹⁴ Perhaps because of concerns about the potential economic costs,¹⁹⁵ or perhaps because the United States increasingly turned to financial sanctions as a tool in support of human rights, the debate over using export controls for human rights purposes subsided gradually, with little activity by either Congress or the executive branch from the mid-1980s through the 2000s.

In the mid-2010s, more nongovernmental organizations and policymakers began expressing concerns about the impact of advanced surveillance technologies on human rights and began advocating for stricter controls on their exports.¹⁹⁶ In 2013, France and Britain negotiated the addition of two types of network and intrusion software to the lists of dual-use technologies under the Wassenaar Arrangement.¹⁹⁷ Shortly thereafter, Human Rights Watch argued for more, writing, “Any export policy relating to surveillance technologies should place human rights at its heart” and urging members of the Wassenaar Arrangement to “refuse to grant export licenses for surveillance technology destined for end-users in countries where they are likely to be used in an unlawful manner i.e. not compliant with human rights legal standards.”¹⁹⁸ By 2020, BIS had amended the Export Administration Regulations to require the consideration of the human rights implications of licensing the export of any controlled item.¹⁹⁹ BIS noted that the revision was

the Department of Commerce published a rule regulating the export of such equipment. Department of Commerce, Domestic and International Business Administration, “Exports of Crime Control and Detection Equipment to U.S.S.R., Eastern Europe, and the People’s Republic of China (Country Groups Q, W, and Y),” 39 *Federal Register* 26719, July 23, 1974. Note that similar concerns have surfaced in the past several years—this time in response to facial (rather than voice) recognition. David Shepardson, “IBM Says U.S. Should Adopt New Export Controls on Facial Recognition Systems,” *Reuters*, September 11, 2020.

¹⁹² U.S. Congress, *Use of Export Controls and Export Credits for Foreign Policy Purposes*, p. 34.

¹⁹³ *Ibid.*

¹⁹⁴ *Ibid.*

¹⁹⁵ *See Ibid.*

¹⁹⁶ Organizations included, among others, Human Rights Watch, Amnesty International, and the International Federation for Human Rights, Reporters without Borders. Several experts have argued that this advocacy was in response to the use of surveillance technologies by certain governments during the Arab Spring. For example, Garrett Hinck, “Wassenaar Export Controls on Surveillance Tools: New Exemptions for Vulnerability Research,” *Lawfare*, January 5, 2018, available at <https://www.lawfareblog.com/wassenaar-export-controls-surveillance-tools-new-exemptions-vulnerability-research>; Mark Bromley, “A Search for Common Ground: Export Controls on Surveillance Technology and the Role of the EU,” *About: Intel*, available at <https://aboutintel.eu/surveillance-export-control-eu/>.

¹⁹⁷ Wassenaar Arrangement, List of Dual-Use Goods and Technologies and Munitions List,” December 2021, pp. 80 (4.D.4. “Software” specially designed or modified for the generation, command and control, or delivery of “intrusion software.”), 88 (5.A.1.j. IP network communications surveillance systems or equipment). Note, these definitions and descriptions include additional language negotiated by the United States in 2016 and 2017 to address concerns that controlling this technology could potentially cripple legitimate cybersecurity research. BIS, “Information Security Controls: Cybersecurity Items,” 86 *Federal Register* 58205, October 21, 2021; See also Hinck, “Wassenaar Export Controls on Surveillance Tools.”

¹⁹⁸ An Open Letter to the Members of the Wassenaar Arrangement, December 1, 2014, available at <https://www.hrw.org/node/264946/printable/print>.

¹⁹⁹ This policy does not apply to license reviews for items controlled because they are in short supply. Bureau of Industry and Security, “Amendment to Licensing Policy for Items Controlled for Crime Control Reasons,” 85 *Federal Register* 63007, October 6, 2020.

“necessary to prevent items currently controlled . . . , including [for] reasons related to certain telecommunications and information security and sensors, from being used to engage in or enable the violation or abuse of human rights.”²⁰⁰

The United States has sought to increase the effectiveness and decrease the costs of the controls by engaging with likeminded states on the subject. In 2021 the United States, along with Australia, Denmark, Norway, announced the Export Controls and Human Rights Initiative to “help stem the tide of authoritarian government misuse of technology and promote a positive vision for technologies anchored by democratic values.”²⁰¹ Canada, France, the Netherlands, and the United Kingdom later joined.²⁰²

Over the next year, the United States and several partners worked to draft a voluntary code of conduct, in which the parties commit “to apply export controls to ensure that relevant goods and technologies are used in compliance with international human rights law and not misused to unlawfully or arbitrarily interfere with privacy or to otherwise commit serious violations or abuses of human rights.”²⁰³ Twenty-five countries have endorsed the code and agreed to participate in a meeting in the summer of 2023 “to begin discussions on implementing the commitments in the Code of Conduct.”²⁰⁴ The code of conduct is voluntary and does not establish a new institution like the Wassenaar Arrangement. Rather this informal and voluntary regime creates a forum and a central text from which like-minded countries might bring export controls into closer alignment through communication.²⁰⁵ Such an effort may enable more countries to implement human rights controls, as some countries’ laws only allow controls that are grounded in an international effort.²⁰⁶

Issues for Congress

In the past decade, through both legislation and oversight, Congress has made clear its continuing interest in export policy and its relationship to maintaining U.S. technological leadership while denying adversaries access to advanced technologies produced by the United States and its allies. ECRA clearly stated that international coordination was of central importance to advancing the goals of U.S. export control policy.

Several issues are central to ensuring effective export control coordination. First, effective export control policy, for example, must take into account the pace of technological development. In the

²⁰⁰ Ibid.

²⁰¹ White House, “Joint Statement on the Export Controls and Human Rights Initiative,” press release, December 10, 2021, available at <https://www.whitehouse.gov/briefing-room/statements-releases/2021/12/10/joint-statement-on-the-export-controls-and-human-rights-initiative/>.

²⁰² White House, “Fact Sheet: Export Controls and Human Rights Initiative”

²⁰³ Code of Conduct for Enhancing Export Controls of Goods and Technology That Could be Misused and Lead to Serious Violations or Abuses of Human Rights, available at <https://www.state.gov/wp-content/uploads/2023/03/230303-Updated-ECHRI-Code-of-Conduct-FINAL.pdf>.

²⁰⁴ Countries that have endorsed the code include: Albania, Australia, Bulgaria, Canada, Costa Rica, Croatia, Czechia, Denmark, Ecuador, Estonia, Finland, France, Germany, Japan, Kosovo, Latvia, The Netherlands, New Zealand, North Macedonia, Norway, Republic of Korea, Slovakia, Spain, United Kingdom, and the United States. U.S. Department of State, “Export Controls and Human Rights Initiative Code of Conduct Released at the Summit for Democracy,” press release, March 30, 2023, available at <https://www.state.gov/export-controls-and-human-rights-initiative-code-of-conduct-released-at-the-summit-for-democracy/>.

²⁰⁵ Code of Conduct for Enhancing Export Controls of Goods and Technology That Could be Misused and Lead to Serious Violations or Abuses of Human Rights, available at <https://www.state.gov/wp-content/uploads/2023/03/230303-Updated-ECHRI-Code-of-Conduct-FINAL.pdf>.

²⁰⁶ See “Partner Legal and Administrative Capacity,” below.

1990s, the United States liberalized its controls, in part, due to an expectation of continuous and rapid technological innovation. While many argue that technological development continues to proceed at a rapid pace, some scholars have cautioned that technological development may be slowing. One potential response to a slower innovation environment might be stricter controls, which would require coordination to be effective. Whether through the creation of a new multilateral regime or through plurilateral cooperation, coordinating export control policy requires that domestic and foreign stakeholders recognize the aims of U.S. export control policy as legitimate. Additionally, U.S. partners and allies must also possess the legal and administrative capacity to participate in such coordination. The following sections detail some of these issues and suggests some options for Congress to encourage effective coordination of export control policy.

The Pace of Technological Development and U.S. Export Control Strategy

Congress drafted ECRA with embedded assumptions about the pace of technological development. Some scholars and policymakers argue that technological development has continued to proceed at a rapid pace;²⁰⁷ other scholars have argued that the pace of innovation has slowed. As one scholar argues, the early twentieth century was a period of rapid technological development during which a “unique clustering” of “great inventions” enabled a period of exceptional economic growth.²⁰⁸ U.S. export control policy emerged during that time and has embedded within it assumptions about the pace of technological development. For example, since the late 1980s, the United States has maintained a “run faster” strategy with respect to export controls for national security purposes.²⁰⁹ That strategy was based on both the decreased effectiveness of multilateral controls and the adoption of a strategy of civil-military “integration” to “allow the Pentagon to exploit the rapid rate of innovation and market-driven efficiencies of commercial industries to meet defense needs”²¹⁰ In contrast to the use of embargos during the Cold War, the “run faster” approach encouraged exports of existing technology to fund more research and development. One assumption underlying the strategy was that continuing innovation would keep the United States several generations ahead of its strategic competitors. This approach was particularly applicable to semiconductors where heavy private investment in research and development drove incremental progress at a relatively steady and predictable

²⁰⁷ Erik Brynjolfsson and Andrew McAfee, *The Second Machine Age: Work, Progress, and Prosperity in a Time of Brilliant Technologies* (New York: Norton, 2014), p. 12: “We should be confident that the scale and pace of innovation in computers, robots, and other digital gear is only going to accelerate in the future;” Tyler Cowen, “Is Innovation Over? The Case Against Pessimism,” *Foreign Affairs* (March/April 2016): “Perhaps [the greatest contribution of Robert J. Gordon’s book on declining rates of technological development and economic growth] is that it unintentionally demonstrates the weakness of the case for pessimism.”

²⁰⁸ Robert J. Gordon, *The Rise and Fall of American Growth: The U.S. Standard of Living Since the Civil War* (Princeton, NJ: Princeton University Press, 2016), pp. 2-3.

²⁰⁹ Meijer, *Trading with the Enemy*, chap. 4; For characterizations of this policy, see, for example, White House, Remarks by National Security Advisor Jake Sullivan at the Special Competitive Studies Project Global Emerging Technologies Summit, September 16, 2022, available at <https://www.whitehouse.gov/briefing-room/speeches-remarks/2022/09/16/remarks-by-national-security-advisor-jake-sullivan-at-the-special-competitive-studies-project-global-emerging-technologies-summit/>: “We previously maintained a ‘sliding scale’ approach that said we need to stay only a couple of generations ahead.”

²¹⁰ National Economic Council and National Security Council, *Second to None: Preserving America’s Military Advantage Through Dual-Use Technology*, February 1995, pp. 1-2.

pace.²¹¹ But that pace may have slowed as semiconductors near the physical limits of miniaturization.²¹²

Semiconductors are not the only area where technological development may have slowed. The early twentieth century's rapid technological development, some academics argue, was unique and is unlikely to be repeated.²¹³ Indeed, some scholars have argued that the pace of innovation has been slowing since the middle of the twentieth century²¹⁴ making the economic growth common in the last century unachievable in the twenty-first.²¹⁵ Should the pace of technological development slow, Congress could consider assessing whether the diffusion of current generation technology over time, without new advances, could homogenize levels of technological development. Congress might consider whether maintaining U.S. technological leadership would, therefore, require both achieving a larger technological lead over strategic rivals as well as close coordination with like-minded countries to slow the diffusion of advanced technologies.

The Biden Administration has announced some steps in this direction. At the Emerging Technologies Summit in September 2022, National Security Advisor Jake Sullivan articulated what some observers have described as a new doctrine with respect to U.S. export control policy:

On export controls, we have to revisit the longstanding premise of maintaining “relative” advantages over competitors in certain key technologies. We previously maintained a “sliding scale” approach that said we need to stay only a couple of generations ahead.

That is not the strategic environment we are in today.

Given the foundational nature of certain technologies, such as advanced logic and memory chips, *we must maintain as large of a lead as possible.*²¹⁶

Sullivan's statements were followed a month later with expansive new controls on advanced semiconductors and semiconductor manufacturing equipment.²¹⁷ By early 2023, the White House had announced that it was coordinating its controls with the countries where the most advanced semiconductor manufacturing technology is produced.²¹⁸

Congress could use its legislative powers or oversight role to examine assumptions about the pace of technological development embedded in ECRA, assess whether they remain valid, and

²¹¹ *Oxford Dictionary of Electronics and Electrical Engineering*, 5th ed., s.v. Moore's law.

²¹² Charles Q. Choi, “These Transistor Gates Are Just One Carbon Atom Thick: Researchers May Have Hit a Hard Limit,” *IEEE Spectrum*, March 11, 2022.

²¹³ Gordon, *The Rise and Fall of American Growth*, pp. 2-3.

²¹⁴ *Ibid.*, p. 7: “With a few notable exceptions, the pace of innovation since 1970 has not been as broad or as deep as that spurred by the inventions of the special century;” David Graeber, *The Utopia of the Rules: On Technology, Stupidity, and the Secret Joys of Bureaucracy* (London: Melville House, 2015), p. 114: “There is reason to believe that even by the fifties and sixties, the pace of technological innovation was slowing down from the heady pace of the first half of the century;” Michael Park, Erin Leahey, and Russell J. Fun, “Papers and Patents are Becoming Less Disruptive Over Time,” *Nature* 613 (January 4, 2023), available at <https://www.nature.com/articles/s41586-022-05543-x>: “Although the past century witnessed an unprecedented expansion of scientific and technological knowledge, there are concerns that innovative activity is slowing.”

²¹⁵ Gordon, *Rise and Fall of American Growth*, p. 7: “[This book holds that] economic growth witnessed a singular interval of rapid growth [between 1870 and 1970] that will not be repeated.”

²¹⁶ White House, “Remarks by National Security Advisor Jake Sullivan at the Special Competitive Studies Project Global Emerging Technologies Summit,” press release, September 16, 2022, emphasis added. For an example of commentary describing these statements as constituting a “doctrine,” see “America's Commercial Sanctions on China Could Get Much Worse,” *Economist*, March 30, 2023.

²¹⁷ See “Export Control Coordination: China” above.

²¹⁸ *Ibid.*

consider whether to support, seek to modify, or challenge the administration’s new approach to using export controls to maintain U.S. technological supremacy.

A Fifth Export Control Regime

Almost since the Wassenaar Arrangement’s creation, some Members of Congress and other policymakers have advocated for the creation of a “fifth” regime that is more like CoCom and less like the other four nonproliferation regimes. In 1999, for example, the House Select Committee on U.S. National Security and Military/Commercial Concerns with the People’s Republic of China stated that “The dissolution of [CoCom] in March 1994 left the United States without an effective international mechanism to control the transfer of important military technologies.”²¹⁹ The solution, the Committee argued, was the creation of “a new COCOM-like agreement, under which national exports of certain militarily useful goods and technologies are subject to international agreement, would enhance efforts to restrict technology transfers.”²²⁰ Critics, however, argued that such an agreement was politically unworkable at the time.²²¹ Calls for a new CoCom, or a “fifth regime,” mostly subsided as U.S. attention shifted toward terrorism in the 2000s and early 2010s.

Since at least 2020, several experts, current and former BIS officials, and Members of Congress have revived the subject in articles as well as in testimony before various congressional committees.²²² In February 2023, for example Under Secretary of Commerce for Industry and Security Alan Estevez was quoted as stating, “I believe we need a fifth mechanism outside the existing ones, which still work in their varying areas – missile control, nuclear control chem/bio.... And all those were built in the 90s for the world of the 90s.”²²³ Over the past few years, Members have also introduced legislation encouraging the United States to “explore the value of establishing a body akin to the Coordinating Committee for Multilateral Export Controls (CoCom) that would specifically coordinate United States and European Union export control policies with respect to limiting exports of sensitive technologies to the People’s Republic of China.”²²⁴

²¹⁹ U.S. Congress, House Select Committee on U.S. National Security and Military/Commercial Concerns with the People’s Republic of China, *U.S. National Security and Military/Commercial Concerns with the People’s Republic of China*, 105th Cong., 2nd sess., H.Rept. 105-851 (Washington, DC: GPO, 1999), p. XXV.

²²⁰ *Ibid.*

²²¹ For example, Jonathan D. Pollack, “The Cox Report’s ‘Dirty Little Secret,’” *Arms Control Today* (April/May 1999).

²²² Jared Cohen and Richard Fontaine, “Uniting the Techno-Democracies: How to Build Digital Cooperation,” *Foreign Affairs* (November/December 2020); Ian Stewart, “Export Controls in an Era of Strategic Competition: Implications for the Existing Landscape and the Need for a New Multilateral Trade Review Regime,” *Strategic Trade Review* 9, no. 10 (Winter/Spring 2023); Corey Lee Bell, Elena Collinson, and Australian Institute for International Affairs, “US Tech Export Controls on China: Lessons from COCOM,” *Australian Outlook*, February 24, 2023; Wolf and Weinstein, “CoCom’s Daughter;” Wolf, Testimony before the U.S.-China Economic and Security Review Commission Hearing, September 8, 2021, pp. 18-19; Emily S. Weinstein, Testimony before the U.S.-China Economic and Security Review Commission Hearing on “Challenges from Chinese Policy in 2022: Zero-COVID, Ukraine, and Pacific Diplomacy,” Panel II: “Russia’s Invasion of Ukraine and Implications for Integrated Deterrence,” August 3, 2022, pp. 13-15; Tyson Barker and the German Council on Foreign Relations, *The Hidden G2 for Democratic Tech Governance is the EU-US Relationship*, *DGAP Analysis* 2 (June 2021), p. 9; Brett Fortnam, “Estevez: Growing Cooperation on Export Controls Should Fuel New Regime,” *World Trade Online*, May 26, 2022.

²²³ Center for Security and International Studies, “Economic Security: Perspectives from Seoul and Washington,” February 23, 2023, at 36:00; Brett Fortnam, “Estevez Eyes Next Steps in Expanding U.S. Export Control Regime,” *World Trade Online*, February 24, 2023.

²²⁴ Identical text in: Strategic Competition Act of 2021 (Menendez), April 15, 2021; H.R. 3524, Ensuring American Global Leadership and Engagement Act (Meeks), May 25, 2021; S. 1260; United States Innovation and Competition (continued...)

As one former official recently wrote, “The existing multilateral system is generally either too slow, too compromised, or too limited in terms of its nonproliferation-focused mandate.”²²⁵ A new regime, these experts and officials argue, would provide space to coordinate on issues outside of the limited nonproliferation concerns the existing regimes address, including: human rights abuses, and strategic economic competition.²²⁶ Moreover, they argue, a new regime might also be able to act with greater speed and efficiency, enabling the United States and its partners to quickly respond to events like the Russian invasion of Ukraine.²²⁷

Some analysts, however, have expressed skepticism that the creation of a new institution would add much beyond what can already be achieved through “plurilateral arrangements, particularly over chokepoint technologies,”²²⁸ akin to what was announced in January 2023 between Japan, the Netherlands, and the United States. Skeptics have also noted that divergent security concerns and assessments of economic costs might make establishing a regime that specifically targeted a country—like China—politically challenging. Even during the Cold War, it was often difficult for the United States to convince its European allies to support robust controls on the Soviet Union. Today, the European and Chinese economies are more integrated than the European and the Soviet economies. Nevertheless, supporters have argued that Russia’s invasion of Ukraine sparked a new interest among U.S. allies and partners in coordinating export controls.²²⁹

The costs associated with controlling exports have long been hard to quantify and the costs associated with multilateral control, even more so. Members may want to consider whether or not to assess, or require the administration to assess, how the creation of a fifth regime might affect the U.S. economy, including the actual costs imposed by the regime on U.S. firms and the regime’s potential impact on U.S. innovation.

Legitimacy, Coordination, and Effectiveness

The goals of U.S. export control policy must be seen as legitimate by a wide range of domestic and foreign stakeholders in order for that policy to ultimately be effective. In ECRA, Congress defined the goals of U.S. export control policy²³⁰ and can consider whether to refine and amend those goals through hearings and legislation to encourage the support of foreign governments and other stakeholders.

Since the Second World War, the United States has at times run into difficulties coordinating policy goals with its allies and partners. In part, this can be attributed to diverging policy aims. For example, during the Cold War, Western European countries were reluctant to engage in what some characterized as “economic warfare” against the Soviet Union. Instead, European countries preferred narrow controls on goods with clear military applications. Even such limited controls

Act of 2021 (Schumer), March 20, 2021 (passed Senate June 8, 2021); and H.R. 4521, United States Innovation and Competition Act of 2021 (Johnson), March 28, 2022.

²²⁵ Wolf and Weinstein, “CoCom’s Daughter,” p. 25.

²²⁶ *Ibid.*

²²⁷ *Ibid.*

²²⁸ Scott Jones, “Think Twice Before Bringing Back the COCOM Export Control Regime,” *Defense News*, April 9, 2021.

²²⁹ Emily Weinstein and Kevin Wolf, “A New Export Control Regime for the 21st Century: How Russia’s Invasion Has Created an Opportunity for a Techno-Democracy Partnership,” Center for Security and Emerging Technology, May 23, 2022.

²³⁰ ECRA §1752, codified at 15 U.S.C. §4811.

were often controversial. CoCom’s operations remained largely hidden from public view in part to insulate democratic European governments from criticism by their electorate.²³¹

Maintaining the legitimacy of the export control system is vital for its effectiveness. As one scholar noted, “export control policies rely on the general perception of their legitimacy by the Western business community, and acceptance of the policy by concerned owners or employees provides the central underpinning of the system.”²³² For example, concerned employees may serve as whistleblowers, reporting sales that may violate U.S. export control laws.²³³ Coordinating export controls, therefore, requires a broad perception among the residents and industries of the various participating countries that the controls serve a legitimate purpose.

As Congress considers U.S. export control strategy, it may wish to consider what economic goals, values, and national security strategies have broad support among the electorates of close allies and partners.

Ethical Trade and Export Control Coordination

Since before the U.S. War for Independence, trade has been central to American political debates on moral and ethical concerns. In examining those debates, scholars typically have focused on the politics of imports and consumption;²³⁴ as one historian put it, “the consumer boycott was a brilliantly original American invention.”²³⁵ Although such politics are usually consumer-driven, the U.S. government has occasionally enforced or encouraged moral boycotts through law. For example, the United States has long prohibited the import of goods made with forced labor, including forced child labor.²³⁶ Similarly, during the Cold War, the United States imposed higher tariffs on nonmarket economies that restricted emigration.²³⁷

²³¹ Jacqueline McGlade, “COCOM and the Containment of Western Trade and Relations,” in *East-West Trade and the Cold War* ed. Jari Eloranta and Jari Ojala (Jyvaskyla: University of Jyvaskyla Press, 2005).

²³² Richard T. Cupitt, “The Future of COCOM,” in *Export Controls in Transition: Perspectives, Problems, and Prospects*, ed. Gary K. Bertsch and Steven. Elliott-Gower (Durham, NK: Duke University Press, 1992), p. 236.

²³³ *Ibid.* Cupitt cites as an example the Toshiba case, in which an employee made the initial report of the illegal sales to the Soviet Union. On the Toshiba case, see Wrubel, “The Toshiba-Kongsberg Incident.”

²³⁴ See, for example, Lawrence B. Glickman, *Buying Power: A History of Consumer Activism in America* (Chicago: University of Chicago Press, 2009); Meredith A. Katz, “Boycotting and Buycotting in Consumer Cultures: Political Consumerism in North America” in *The Oxford Handbook of Political Consumerism*. (Oxford: Oxford University Press, 2018).

²³⁵ T. H. Breen, *The Marketplace of Revolution: How Consumer Politics Shaped American Independence* (Oxford: Oxford University Press, 2004), p. XVI: He further argues that prior to the American War for Independence “no massive political movement had organized itself around the denial of imported goods.”

²³⁶ Tariff Act of 1930, P.L. 71–361, 46 Stat. 590 (1930), codified as amended at 19 U.S.C. §§1301 *et seq.* Until recently, the United States was the sole developed country with such provisions. Although this provision was not primarily enacted to enforce a moral prohibition against buying goods made with forced labor, as evidenced by the provision that allowed such imports if domestic production could not meet the consumptive demand of the United States, there were Members of Congress, including the bill’s sponsor, who made such arguments. See, for example, Senate debate, Congressional Record, vol. 71, part 4 (October 14, 1929), p. 4496: Sen. Blaine. “I understand that we might suffer some economic loss, but we can not [sic] afford any economic gain at the sacrifice of the degeneracy and death of the natives amounting to millions of men and women.” The provision took a more moral turn when the so-called consumptive demand clause was removed in 2015. Trade Facilitation and Trade Enforcement Act of 2015, P.L. 114-125 §910, 130 Stat. 122, 239. Even more recently, Congress expanded the provision to address concerns about Uyghur forced labor in the Xinjiang region of China. Act of December 23, 2021 (Uyghur Forced Labor Prevention Act), P.L. 117-78, 135 Stat. 1525 (2021).

²³⁷ The so-called Jackson-Vanik Amendment to the Trade Act of 1974 imposed higher tariff rates on nonmarket economies that did not allow free emigration. Trade Act of 1974, P.L. 93-618 §402, 88 Stat. 1978, 2056 (1975), codified as amended at 19 U.S.C. §2432(a).

Export politics have also had this moral dimension at times. During the Cold War, some policymakers argued that exporting to the Soviet Union was morally suspect and U.S. nationals should be prohibited from doing so regardless of the economic cost to U.S. industry.²³⁸ Similarly, since the 1970s, the United States has maintained controls on exports of goods that might enable human rights abuses.²³⁹

Few other countries have enforced moral concerns through trade law;²⁴⁰ for 75 years, the United States was virtually alone in formally prohibiting the import of goods made with forced labor.²⁴¹ Recently, several likeminded states have enacted, or are in the process of enacting, similar prohibitions—including Canada,²⁴² Mexico,²⁴³ and the European Union.²⁴⁴ Similarly, the United States was virtually alone in controlling exports explicitly for human rights purposes. However, several countries have recently joined with the United States in discussing how to coordinate exports for such purposes (See “Export Control Coordination on Human Rights” above).

Congress has appeared to be more willing to explicitly tie trade policy to moral or ethical concerns than the executive branch. Given the increasing interest among close allies and partners in building a trade policy around ethical and moral concerns, Congress in its legislative or oversight roles may consider whether to encourage or discourage the executive branch to frame its export control strategy around human rights issues of concern.

Partner Legal and Administrative Capacity

Since the late 1940s, Congress has provided a variety of authorities that enable the President to control exports for national security, foreign policy, and economic purposes. This includes authority to impose controls unilaterally, without coordinating with partners and allies.²⁴⁵ Even in periods where Congress did not renew export control authorizations when they expired, Presidents have used emergency authorities to maintain the U.S. export control regime. This legal authority is coupled with a relatively robust administrative capacity to enforce U.S. export controls.

²³⁸ Timothy Aepfel, “The Evolution of Multilateral Export Controls: A Critical Study of the CoCom Regime,” *Fletcher Forum* (Winter 1984), p. 114; Theodore C. Sorensen, “Why We Should Trade with the Soviets,” *Foreign Affairs* 46, no. 3 (April 1968), p. 576.

²³⁹ Department of Commerce, Domestic and International Business Administration, “Exports of Crime Control and Detection Equipment to U.S.S.R., Eastern Europe, and the People's Republic of China (Country Groups Q, W, and Y),” 39 *Federal Register* 26719, July 23, 1974.

²⁴⁰ However, some countries or trade blocs have attempted to use trade preferences to encourage improvement in foreign human rights conditions, particularly with respect to labor and environmental conditions. For example, the EU turns to its Generalized System of Preferences program to promote human rights abroad. European Parliamentary Research Service, *Human Rights in EU Trade Policy* (May 2018), p. 1.

²⁴¹ Law Library of Congress, *Laws Banning the Import of Goods Produced with Forced Labor in Selected Jurisdictions*, Report for Congress, LL File No. 2021-020699, September 2021.

²⁴² Canada-United States-Mexico Agreement Implementation Act, S.C. 2020, c. 1; Customs Tariff, S.C. 1997, c. 36, as amended.

²⁴³ Secretaría del Trabajo y Previsión Social, “Acuerdo que establece las mercancías cuya importación está sujeta a regulación a cargo de la Secretaría del Trabajo y Previsión Social” *Diario Oficial de la Federación*, February 17, 2023, p. 20.

²⁴⁴ European Commission, Proposal for a Regulation of the European Parliament of the Council on Prohibiting Products Made with Forced Labour on the Union Market, COM(2022)453, September, 14 2022.

²⁴⁵ ECRA §1758(c), codified at 50 U.S.C §4817(c).

In contrast, the legal authority of many U.S. allies and partners is explicitly limited to internationally coordinated controls.²⁴⁶ As a pair of scholars noted, “The laws of the allies are governed almost exclusively by the structure of lists and specific items that are identified for one of those WMD or conventional-weapons applications.”²⁴⁷ In other cases, allies may be limited by the purpose of the controls. Export control officials in Japan, for example, may only control items in a limited number of circumstances primarily for the maintenance of international peace and security and “to sincerely implement a treaty or any other international agreement that Japan has signed.”²⁴⁸ Japan was able to participate in the controls on exports to Russia and Belarus because those controls were internationally coordinated.²⁴⁹ Similarly, the European Union imposes limitations on the purposes under which an EU member can impose export controls.²⁵⁰ The Netherlands was able to place controls on exports of SME in part because it was able to tie the controls to human rights concerns.²⁵¹

Just as many partners have limited legal capacity to control exports, so too do many have limited administrative capacity. For example, one expert has claimed that BIS is the only export control agency in the world with its own enforcement agents.²⁵²

As part of increasing coordination efforts, the United States may need to ensure its controls are structured to allow foreign partners to impose controls under their laws and regulations or encourage partners to adopt more capacious export control regimes. Congress through oversight or legislation, could consider whether to encourage or direct the executive branch to take into account the legal restrictions of close allies when framing controls to better enable coordination. Alternatively, Congress could consider whether to use trade agreements to encourage partners to expand their legal authority and administrative capacity to control exports.

²⁴⁶ Jordan Schneider and Irene Zhang, “New Chip Export Controls and the Sullivan Tech Doctrine with Kevin Wolf,” *China Talk*, October 11, 2022, available at <https://www.chinatalk.media/p/new-chip-export-controls-explained>; “The laws of the allies are governed almost exclusively by the structure of lists and specific items that are identified for one of those WMD or conventional-weapons applications;” Kevin J. Wolf, Testimony before the U.S.-China Economic and Security Review Commission, pp. 8-9: “The export control laws of our allies are largely based on and limited by the scope of the controls, and purposes for controls, in the multilateral export control regimes;” There are exceptions. New Zealand, for example, provides broad authorities to impose controls that are “necessary” and “in the public interest.” Customs and Excise Act 2018, P.A. 2018-4 §96 (2018); This seems to be an authority the New Zealand government intends to use widely, particularly with respect to assessments of the human rights record of destination countries. David Smol and Jennie Kerr, A Review of the Ministry of Foreign Affairs and Trade’s Export Controls Regime July 2021, available at <https://www.mfat.govt.nz/assets/Trade-General/Brokering-weapons-AND-Trading-weapons-and-controlled-chemicals/Export-Controls-Report-22-July-2021.pdf>.

²⁴⁷ Schneider and Zhang, “New Chip Export Controls....”

²⁴⁸ Foreign Exchange and Foreign Trade Act, Act No. 228 of December 1, 1949, as amended by Act No. 60 of 2019, art. 48. Unofficial translation available at <https://www.japaneselawtranslation.go.jp/en/laws/view/3700>. See also Center for Information on Security Trade Control, *Overview of Japan’s Export Controls*, 4th ed., June, 2015, p. 5, available at <https://www.cistec.or.jp/english/export/Overview4th.pdf>.

²⁴⁹ 15 C.F.R. §746.8(a)(4), Supplement no. 3.

²⁵⁰ Regulation (EU) 2021/821 of the European Parliament and the Council of 20 May 2021 Setting up a Union Regime for the Control of Exports, Brokering, Technical Assistance, Transit and Transfer of Dual-Use Items, 2021 O.J. (L 206/1) arts. 4, 9, 10.

²⁵¹ Minister for Foreign Trade and Development Cooperation Liesje Schreinemacher to the House of Representatives on the Additional Export Control Measures Concerning Advanced Semiconductor Manufacturing Equipment, March 8 2023; Allen, Benson, and Putnam, “Japan and the Netherlands Announce Plans for New Export Controls on Semiconductor Equipment.”

²⁵²This claim was made by Kevin Wolf, former Assistant Secretary of Commerce for Export Administration, Bureau of Industry and Security (BIS). Schneider and Zhang, “New Chip Export Controls....” “the Commerce Department is the only export control organization on the planet with its own enforcement agents who are subject matter experts in export controls.” CRS has not verified this claim.

Trade Agreements, Trade Promotion Authority, and Export Controls

Congress periodically authorizes the President to negotiate trade agreements. These authorizations, colloquially known as trade promotion authority (TPA), define U.S. trade negotiating objectives.²⁵³ Congress passed the most recent such authorization in 2015 (TPA 2015); it expired in 2021.²⁵⁴ In TPA 2015, Congress declared that any trade agreement made under TPA 2015 was to include “strong protection for new and emerging technologies.”²⁵⁵ The provision was established in the context of intellectual property protections, but Congress could, should it choose to provide the President with TPA, consider whether to include provisions that require trading partners to coordinate their export controls with the United States. For example, TPA could require that any new trade agreement partners adopt robust legal and administrative export control authorities. Similarly, if Congress is interested in encouraging the creation of a “fifth regime,” it could consider whether to condition trade agreements with the United States on participation in that regime by trading partners.

Author Information

Christopher A. Casey
Analyst in International Trade and Finance

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²⁵³ CRS Report RL33743, *Trade Promotion Authority (TPA) and the Role of Congress in Trade Policy*, by Cathleen D. Cimino-Isaacs and Christopher A. Casey.

²⁵⁴ Bipartisan Congressional Trade Priorities and Accountability Act of 2015 (TPA 2015), Title I of P.L. 114-26, 129 Stat. 320 (2015).

²⁵⁵ TPA 2015 §102(b)(5)(A)(ii).
