RETHINKING MULTILATERAL CONTROLS FOR A COMPETITIVE WORLD

The Hon. Christopher A. Ford*

* The Hon. Christopher Ford is a Visiting Fellow at Stanford University's Hoover Institution and Distinguished Policy Advisor at MITRE Labs. A graduate of Harvard, Oxford (as a Rhodes Scholar), and the Yale Law School, Dr. Ford is a former a Senate staffer, diplomat, think tank scholar, lawyer, and U.S. Navy intelligence officer, who formerly served as Assistant Secretary of State for International Security and Nonproliferation while also performing the duties of the Under Secretary for Arms Control and International Security. The views expressed herein represent solely Dr. Ford's personal opinion, and do not necessarily reflect those of anyone else.

INTRODUCTION

The international community's present multilateral export control regimes – the Missile Technology Control Regime ("MTCR"),[1] Nuclear Suppliers' Group ("NSG"),[2] Wassenaar Arrangement ("WA"),[3] Australia Group ("AG"),[4] and Zangger Committee[5] – have played an important role in promoting international security over the last generation. Nevertheless, the global circumstances that led to creating some of these regimes have changed. In light of the new geopolitical environment of the present day, which differs in significant ways from that prevailing at the time of these regimes' birth and presents security challenges that some of them were not designed to meet, it is worth exploring the degree to which these regimes remain "fit for purpose" in addressing pressing international security needs, and what supplemental or alternative approaches might work better. This Article hopes to help initiate a conversation about this challenge and what might be done about it.

I am no longer in government, of course, but as I see it, today's regimes have not all aged well as the world has changed. To its credit, the nuclear nonproliferation regime retains considerable salience, it being both no less important than ever to prevent the number of nuclear weapons possessors from increasing and still conceivable that even today's rivalrous great powers will continue to feel a shared interest in cooperation to preclude others from acquiring such capabilities. Despite actual or potential possession of illegal chemical and/or biological weaponry ("CBW") by Russia and China,[6] it also

[1] *See* MISSILE TECH. CONTROL REGIME, https://mtcr.info (last visited Mar. 2, 2022).
[2] *See* NUCLEAR SUPPLIERS GRP., https://www.nuclearsuppliersgroup.org/en/ (last visited Mar. 2, 2022).
[3] *See* WASSENAAR ARRANGEMENT, https://www.wassenaar.org (last visited Mar. 2, 2022).
[4] *See* AUSTL. GRP., https://www.dfat.gov.au/publications/minisite/theaustraliagroupnet/site/en/index.html (last visited Mar. 2, 2022).
[5] *See* ZANGGER COMM., http://zanggercommittee.org (last visited Mar. 2, 2022).
[6] *See, e.g.*, Addition of Entities to the Entity List, and Revision of Entries on the Entity List, 85 Fed. Reg. 52898 (Aug. 27, 2020) (to be codified at 15 C.F.R. pt. 744)

seems likely that at least some such shared interest in CBW nonproliferation can still be found among the world's major states. Therefore, the export control regimes devoted to controlling the spread of weapons of mass destruction ("WMD") seem to remain viable and worthy of continued support.

However, time and geopolitical circumstances have been less kind to the dual-use export control regimes of Wassenaar and the MTCR, which focus upon what might be termed advanced conventional weapons (ACW). Both of those regimes were established to fulfill purposes and built around mechanisms that make them, each for its own reasons, ill-suited to, and to some degree perhaps even counterproductive in, today's world of great power competitive dynamics. This Article explores this challenge and suggests some general principles to guide responses to this evolved mismatch.

I. ADJUSTMENTS TO NEED

As a preliminary matter, it is worth remembering that these specific multilateral export control regimes are not, and should not be, eternal fixtures of the international terrain. Instead, they are institutions that developed in response to particular needs and to serve particular

(adding to the Commerce Department's "Entity List" three Russian institutes "associated with the Russian biological weapons program"); U.S. DEP'T OF STATE, 2021 ADHERENCE TO AND COMPLIANCE WITH ARMS CONTROL, NONPROLIFERATION, AND DISARMAMENT AGREEMENTS AND COMMITMENTS, at Part V (Apr. 15, 2021) (finding that China has "engaged in activities with dual-use applications, which raise concerns regarding its compliance with Article I of the BWC. In addition, the United States does not have sufficient information to determine whether China eliminated its assessed historical biological warfare (BW) program, as required under Article II of the Convention" and that "the Russian Federation (Russia) maintains an offensive BW program and is in violation of its obligation under Articles I and II of the BWC. The issue of compliance by Russia with the BWC has been of concern for many years."); U.S. DEP'T OF STATE, 2021 COMPLIANCE WITH THE CONVENTION ON THE PROHIBITION OF THE DEVELOPMENT, PRODUCTION, STOCKPILING, AND USE OF CHEMICAL WEAPONS AND ON THEIR DESTRUCTION (CONDITION 10(C) REPORT), at 10-17 (Apr. 2021) (explaining that "the United States cannot certify that China has met its obligations under the Chemical Weapons Convention due to concerns regarding China's research of pharmaceutical-based agents (PBAs) and toxins" and "Russia is in non-compliance with the CWC … [and] Russia maintains an undeclared chemical weapons program.").

purposes, and they may be – and, historically, are – adjusted in response to changing circumstances. They do not exist for their own sake and have no intrinsic value, but rather are created to serve global security interests; they gain their value from their degree of effectiveness in doing this.

Historically, such regimes have sometimes been created in response to specific crises that illustrated the need for more restraint.[7] The Nuclear Suppliers Group, for instance, was created in 1975 to restrict transfers of dual-use nuclear technology after India's explosion of a nuclear device the previous year demonstrated that civil-nuclear items, materials, and technology supplied for peaceful purposes were at risk of being diverted to nuclear weapons development.[8] Alternatively, regimes have sometimes emerged in order to take advantage of emergent possibilities for global restraint, such as the MTCR's creation in 1987 by the principal technology-possessing Western democracies of the G7 group as a way to control the further spread of advanced (and nuclear-capable) missile capabilities at a time when Cold War tensions were waning, and the United States and the Soviet Union were in the process of negotiating the elimination of all their intermediate-range missiles.[9]

However, it is also the case that multilateral export control regimes have on occasion been terminated and new ones created to impose *less* restraint.[10] The Coordinating Committee for Multilateral Export Control ("COCOM"), for example, was created in 1949 as the United States and its NATO allies were gearing up for what turned out

[7] *See* CONG. RSCH. SERV., RS20517, MILITARY TECHNOLOGY AND CONVENTIONAL WEAPONS EXPORT CONTROLS: THE WASSENAAR ARRANGEMENT, at 3 (Sept. 29, 2006) [hereinafter CRS CONVENTIONAL WEAPONS EXPORT CONTROLS].

[8] *See* Daryl Kimball et al., *The Nuclear Suppliers Group (NSG) at a Glance*, ARMS CONTROL ASS'N (Mar. 2022), https://www.armscontrol.org/factsheets/NSG.

[9] *Compare* Debra A. Ozga, *A Chronology of the Missile Technology Control Regime*, 1 NONPROLIFERATION REV. 66, 66-93 (Winter 1994), *with* Steven Pifer et al., *The Treaty on Intermediate-Range Nuclear Forces: History and Lessons Learned*, BROOKINGS INST. (Dec. 6, 2012).

[10] *See* John H. Henshaw, *The Origins of COCOM: Lessons for Contemporary Proliferation Control Regimes*, HENRY L. STIMSON CENTER, REPORT NO. 7, 17-21 (May 1993) (describing the various adjustments in COCOM control lists and procedures over time negotiated by the United States and its allies).

to be decades of geopolitical competition with the Soviet Union and its allies.[11] COCOM imposed strict controls on what dual-use (conventional or military) technologies could be exported to the Communist bloc. The organization maintained one list of controlled items related to nuclear technology, a second list for munitions, and a third for dual-use items. Depending upon the sensitivity of the item, various degrees of restriction existed on whether and when they could be exported; the most sensitive items could only be transferred with the unanimous consent of all COCOM members.[12]

The COCOM system originally covered the Soviet Union, its Warsaw Pact allies, and China. However, even before the end of the Cold War these restrictions had been adjusted in response to perceived changes in the security environment. Indeed, COCOM's history from the early 1970s onward could be read as a *succession* of adjustments to COCOM rules, each made in the service of what were felt to be the strategically competitive Cold War exigencies and possibilities of the moment.

Before 1972, COCOM restrictions were actually *tougher* on China than they were on the Soviet Union. At that time, however, in conjunction with U.S. diplomatic moves to open to Beijing as a maneuver for competitive advantage against Moscow, the previous "China difference" was ended, and Moscow and Beijing were thereafter treated similarly.[13] A few years later, moreover, "when China no longer appeared to pose the kind of threat to the West it once had," standards were relaxed further, and the so-called "China Green Line" – below which "technology . . . was to be freely available to China without reference to COCOM" – was established for technology transfers to Beijing.[14] From 1980, China was put into "a special one-country COCOM category," and Washington adopted more lenient national rules for exporting dual-use goods to China. In 1983, when U.S.-Soviet tensions rose sharply, COCOM softened its rules vis-à-vis

[11] *Id.* at 8-10.
[12] *Id.* at 6.
[13] John Garver, "China's U.S. Policies," in *China Rising: Power and Motivation in Chinese Foreign Policy* (Yong Deng & Fei-Ling Wang, eds.) (Lanham, Maryland: Rowman & Littlefield, 2005), at 201, 212.
[14] Henshaw, *supra* note 10, at 6-7.

Beijing once again, now designating China as a "friendly, nonaligned country." Western countries further simplified procedures for technology exports to China in 1985.[15]

After the general relaxation of geopolitical competition that seemed to have occurred with the end of the Cold War, moreover, COCOM was felt to be too restrictive *in general*, and to have become inappropriate in the post-competitive environment of the post-Cold War era – a period in which its member countries now felt that "an East-West focus was no longer the best basis for export controls."[16] COCOM was accordingly disbanded in 1994, and replaced in 1996 by the more permissive rules of the Wassenaar Arrangement, which did not expressly target any major countries but rather focused merely upon exports to "countries of concern" that were understood (albeit only impliedly) to consist of so-called "rogue" or "pariah" states.[17] The membership of Wassenaar, in fact, came to include the Russian Federation itself – COCOM's former primary target – after Moscow overcame American reluctance by agreeing not to sell plutonium reprocessing equipment to Iran.[18]

This history illustrates the point that there is nothing untoward about revisiting the structure and focus of such regimes in response to changes in the security environment. On the contrary, such a revisitation is normal and to be expected. Indeed, it would betray the fundamental purpose of multilateral export control regimes in promoting international security if they were *not*, at least in theory, subject to adjustment and revision in response to the changing circumstances of that security environment.

There is thus nothing sacrosanct about a regime's existence without discerning whether (a) it serves purposes likely to improve the security environment and (b) it operates to that end in practice.

---

[15] Garver, *supra* note 13, at 213.

[16] BERT CHAPMAN, EXPORT CONTROLS: A CONTEMPORARY HISTORY 311 (Univ. Press of America, 2013); *see also* Henshaw, *supra* note 10, at 1-4.

[17] *See* CRS CONVENTIONAL WEAPONS EXPORT CONTROLS, *supra* note 7, at 3.

[18] *Id.*; *see* Raymond Bonner, *Russia Seeks to Limit an Arms Control Accord*, N.Y. TIMES (Apr. 5, 1996) (reporting that, Russia apparently later tried to water down some of Wassenaar's provisions).

Regimes for which both of these questions can be answered in the affirmative will deserve continued support. Regimes for which they cannot, however, should be reformed or supplemented to ensure that they come once again to contribute to security, or abandoned if their defects are significant and reform proves unfeasible.

We need to approach such matters carefully, of course, but the answers to questions about whether today's multilateral regimes are fit for purpose must be answered empirically rather than *a priori*. The answer might be "yes," but it might alternatively be "no" – and we need to be open-minded enough to evaluate the issue fairly and thoughtfully.

II. WMD NONPROLIFERATION: STILL VIABLE

So let's see what that might look like. As indicated above, it is worth considering WMD-control regimes – that is, the NSG and Zangger Committee for nuclear weaponry, as well as the Australia Group for CBW – in the context of the basic purposes they were created to serve, the degree to which these purposes still make sense in today's security environment, and the extent to which these regimes effectively serve those purposes.

Significantly, all three of these regimes originated *during* the Cold War – a period, of course, of significant great power tension and rivalry, in which superpower blocs competed for influence and risks of conflict between them ran high.[19] They all grew out of a perceived need to keep *additional* states from acquiring WMD tools capable of inflicting grievous harm upon civilians in time of conflict.

As noted, the NSG was created after India's explosion of a nuclear device demonstrated that nuclear technology transferred for peaceful purposes could nonetheless be diverted to weapons efforts; it

[19] The NSG was established in 1975, the Zangger Committee in the mid-1970s, and the Australia Group in 1985. *See, e.g.*, Kimball, *supra* note 8; ZANGGER COMMITTEE, *History,* http://www.zanggercommittee.org/history.html (last visited Apr. 2, 2022); AUSTL. GRP., *The Origins of the Australia Group* https://www.dfat.gov.au/publications/minisite/theaustraliagroupnet/site/en/origins.html (last visited Apr. 2, 2022).

sought to keep more such diversions from occurring by encouraging supplier states to exercise greater restraint in transfers of nuclear materials, equipment, and technology.[20] The Zangger Committee served similar purposes, having been established in the early 1970s in order to help effectuate the terms of Article III of the Nuclear Nonproliferation Treaty ("NPT"), which requires that transfers of nuclear material be subject to International Atomic Energy Agency ("IAEA") safeguards.[21] Directly or indirectly, therefore, both of these regimes partook of the strategic wisdom encoded in the NPT: that increasing the number of states with access to nuclear weaponry was likely to be destabilizing and to increase the risk of nuclear war through accident, miscalculation, uncontrollable escalation, or a failure of deterrence.[22]

For its part, the Australia Group originated in 1985, in response to Iraq's use of chemical weaponry ("CW") during the Iran-Iraq War, and was grounded in the realization that at least some of the precursor chemicals and materials used to make Iraq's CW had been procured through legitimate trade channels.[23] Chemical weapons were not at that time illegal, for their prohibition would not occur until the Chemical Weapons Convention ("CWC") came into force in

[20] Kimball, *supra* note 8.

[21] Treaty on the Non-Proliferation of Nuclear Weapons art. III, Jul. 1, 1968, 21 U.S.T. 483, 729 U.N.T.S. 161 ("(1) Each non-nuclear-weapon State Party to the Treaty undertakes to accept safeguards, as set forth in an agreement to be negotiated and concluded with the International Atomic Energy Agency in accordance with the Statute of the International Atomic Energy Agency and the Agency's safeguards system, for the exclusive purpose of verification of the fulfi[l]lment of its obligations assumed under this Treaty with a view to preventing diversion of nuclear energy from peaceful uses to nuclear weapons or other nuclear explosive devices . . . The safeguards required by this Article shall be applied on all source or special fissionable material in all peaceful nuclear activities within the territory of such State, under its jurisdiction, or carried out under its control anywhere. (2) Each State Party to the Treaty undertakes not to provide: (a) source or special fissionable material, or (b) equipment or material especially designed or prepared for the processing, use or production of special fissionable material, to any non-nuclear-weapon State for peaceful purposes, unless the source or special fissionable material shall be subject to the safeguards required by this Article.") [hereinafter NPT].

[22] *Id.* at Preamble (noting "the devastation that would be visited upon all mankind by a nuclear war and the consequent need to make every effort to avert the danger of such a war and to take measures to safeguard the security of peoples.").

[23] *See, e.g.*, U.S. DEP'T OF STATE, THE AUSTL. GRP. FACT SHEET (Aug. 10, 2004).

1997.[24] Indeed, at the time a number of major powers – including the United States and the Soviet Union – possessed chemical weapons.[25] Nevertheless, the actual *use* of CW was prohibited by the 1925 Geneva Protocol,[26] and it was understood that CW proliferation was dangerous and undesirable, and the AG helped serve that purpose. The group's export control lists were also expanded to cover biological weapons ("BW") in the 1990s,[27] thus arguably closing a longstanding gap, since BW had been outlawed ever since the Biological and Toxin Weapons Convention ("BTWC") came into effect in 1975.[28]

The strategic rationale underlying all three of these regimes thus made sense even in the starkly great-power competitive world of the 1970s and 1980s, with the Cold War's superpower disputants and their allies and proxies generally agreeing that the addition of *new* WMD-possessing "players" was not in their interests.[29] In that context, nonproliferation not only supported the cause of international security more generally – by reducing the risk of WMD-armed conflict, with the tremendous perils it would present to innocent civilians – but also arguably advanced the interests of the major players by making it harder for new states to emerge as their military "competitors" through the acquisition of the sorts of asymmetric advantage that possession of WMD might provide. As illustrated most dramatically by the NPT itself, which Washington and

[24] Convention on the Prohibition of the Development, Production, and Stockpiling of Chemical Weapons and on their Destruction, Jan. 13, 1993, 1974 U.N.T.S. 45.
[25] *See, e.g.*, Organization for the Prohibition of Chemical Weapons, *History: Looking Back Helps Us Look Forward*, https://www.opcw.org/about/history (last visited Apr. 2, 2022).
[26] Protocol for the Prohibition of the Use in War of Asphyxiating, Poisonous or Other Gases, and of Bacteriological Methods of Warfare, June 17, 1925, 26 U.S.T. 571.
[27] *See, e.g.*, AUSTL. GRP., *supra* note 19.
[28] Convention on the Prohibition of the Development, Production, and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on Their Destruction, Apr. 10, 1972, 26 U.S.T. 583, 1015 U.N.T.S. 163.
[29] *See, e.g.*, Christopher Ford, Assistant Secretary of State, U.S. Dep't of State, Opening Remarks in Celebration of the 50th Anniversary of the NPT remarks at the United Nations (Mar. 5, 2020), https://www.newparadigmsforum.com/p2499.

Moscow jointly drafted, even cutthroat competitors could find a shared interest in nonproliferation.[30]

The geopolitical context of great power competition faded with the end of the Cold War, but the fundamental integrity of the nonproliferation concept did not diminish. If anything, its importance was accentuated after the collapse of the Soviet Union and the end of the NATO-Warsaw Pact confrontation.[31] During the bipolarity of the Cold War, alliance dependencies had allowed the superpowers to exert nonproliferation pressure on their allies and clients, arguably making formal regimes to that effect less necessary.[32] After the end of the Cold War, however, these alliance dynamics receded – arguably attenuating in Washington's case but disappearing entirely for Moscow – increasing the relative importance of nonproliferation regimes and their associated export control coordination mechanisms.

Indeed, the danger of proliferation to so-called "rogue states" emerged as perhaps the single most pressing international security concern of the 1990s, making WMD-related export control regimes arguably more important than ever.[33] In that seemingly post-competitive environment between the major powers, moreover, nuclear nonproliferation also acquired an *additional* rationale as a

[30] *Id.*

[31] The superpowers' very success in reducing their nuclear arsenals after the end of the Cold War, in fact, may have helped make proliferation more attractive since the "marginal utility" of any given weapon necessarily rises as other powers' reductions make even an "entry-level" arsenal relatively more significant. *See, e.g.*, Christopher Ford, U.S. Special Representative for Nuclear Nonproliferation, Disarmament and Non-Nuclear Stability in Tomorrow's World remarks in Nagasaki, Japan (Aug. 27, 2007) (noting that "logic suggests that as the number of nuclear weapons decreases, the 'marginal utility' of a nuclear weapons as an instrument of military power increases"), https://web.archive.org/web/20100612183441/http://merln.ndu.edu/archivepdf/wmd/State/92733.pdf.

[32] *Cf.* Christopher Ford, Assistant Secretary of State, U.S. Strength and Alliance Relationships: The World's Most Successful Nonproliferation Tool? remarks at the Capitol Hill Club (Apr. 18, 2019), https://www.newparadigmsforum.com/p2374.

[33] *Cf.* Alexandra Homolar, *Rebels Without a Conscience: The Evolution of the Rogue States Narrative in US Security Policy*, 17 no. 4 EUR. J. OF INT'L REL., 705, 705-27 (2010), https://journals.sagepub.com/doi/pdf/10.1177/1354066110383996.

foundational, *sine qua non* requirement for progress toward nuclear disarmament. (It clearly made no sense to dream of abolition if one could not prevent *additional* countries from acquiring nuclear weapons!) Therefore, despite changes in the strategic environment with the end of the Cold War, WMD nonproliferation remained central to preserving international security and perhaps played an even more important role than before.

The nonproliferation-focused rationale of the WMD-related export control regimes thus made sense both in the context of great power competition during the Cold War and in a seemingly *non*-competitive security environment. It is thus perhaps not surprising that while competitive dynamics have now returned between the major powers in ways that make the strategic environment of the 2020s in some ways reminiscent of the Cold War – especially with Russia's murderous full-scale invasion of Ukraine in February 2022 – the WMD-focused export control regimes still seem both to make strategic sense and to enjoy a degree of actual *support* from the major powers without which they would be unlikely to be effective.

To be sure, it is not impossible to imagine that a current non-nuclear U.S. ally or partner might eventually come to have a legitimate need to undertake indigenous nuclear weapons development to ensure its security – or even its continued existence – in the face of a sufficiently terrifying conjunction of growing Russian or Chinese threats and declining U.S. power or alliance credibility.[34] Nevertheless, such a strategically *pro*-proliferation nuclear eventuality still seems remote,[35] and in any case there is no sign of such logic being felt to apply in the CBW arena. Furthermore, there remains reason to believe that even great powers grimly enmeshed in ruthless global competition with each other will in the future generally remain opposed to nuclear weapons proliferation, and perhaps also to that of

[34] *See* Christopher Ford, *Deterring or Dissuading NPT Withdrawal: Lessons for the Like-Minded*, 46 no. 1 FLETCHER FORUM OF WORLD AFFS., 19, 25-26 (Winter 2022).
[35] *See* Ford, *supra* note 34, at 26 ("The circumstances in which withdrawal should be justified would be exceedingly rare and would only arise in an existentially grave situation that corresponds to none of the actual or threatened cases of withdrawal that the world has seen. No country has yet made a serious case that it faces such circumstances.").

other forms of WMD, just as they were during the Cold War. After all, the contemporary world's major great power competitors – the United States, China, Russia, and arguably India – are already nuclear weapons possessors who would seem to have a strong interest in ensuring that other states do not join this "club."

From the perspective of a great power currently possessing such weapons – as was true during the Cold War and remains the case today – nuclear proliferation would dilute the relative power (and arguably status) conveyed by such possession, give smaller states asymmetric advantages vis-à-vis the conventional military might of these great powers, and increase the risk of nuclear accident, miscalculation, or escalation by multiplying the competitive axes along which some form of nuclear deterrence may have to be maintained. As both the United States and the Soviet Union understood during their own Cold War rivalry – during which, as noted, they still found it possible to cooperate in drafting and joining the NPT, with the Soviets also becoming part of the NSG in 1974 – even fierce competitors can share an interest in preventing WMD proliferation.

This is not to say that the Nuclear Suppliers Group is working particularly well. On the contrary, it seems today quite stalemated, particularly over the issue of accession by India – a major nuclear technology possessor with a large and dynamic nuclear sector that really *should* be brought within the NSG framework, with New Delhi's potential future nuclear exports being formally subjected to NSG controls. As a consensus-based organization, the NSG has also been unable to agree upon making the state-of-the-art nuclear safeguards of the International Atomic Energy Agency's Additional Protocol ("AP")[36] a regime-wide condition for nuclear supply.[37] This

[36] MODEL PROTOCOL ADDITIONAL TO THE AGREEMENT(S) BETWEEN STATE(S) AND THE IAEA FOR THE APPLICATION OF SAFEGUARDS, INFCIRC/540 (Sept. 1997), https://www.iaea.org/sites/default/files/infcirc540.pdf.

[37] *See, e.g.*, Matt Bowen, *Stronger International Safeguards as a Condition of Supply to Nuclear Energy Programs: Coming to Consensus in the Nuclear Suppliers Group*, COLUMBIA SIPA'S CTR. ON GLOB. ENERGY POL'Y (Aug. 30, 2021), https://www.energypolicy.columbia.edu/research/commentary/stronger-international-safeguards-condition-supply-nuclear-energy-programs-coming-consensus-nuclear; Mark Hibbs, *The Unspectacular Future of the IAEA Additional*

differential approach to the AP makes nonproliferation irresponsibility into a de facto marketing tool for nuclear suppliers that do not require their clients to adopt the Protocol (e.g., China, Russia, and South Korea) vis-à-vis those suppliers that do (e.g., the United States and Japan).[38] The NSG thus clearly has significant problems.[39]

Nonetheless, the basic logic of the WMD-focused export control regimes remains sound and enjoys considerable support even in the current environment of great power competition. For present purposes, there is good reason to continue to support them. This cannot as easily be said, however, beyond the WMD arena, for the ACW-focused control regimes devoted to dual-use conventional technologies (Wassenaar) and missile-related technologies (MTCR).

III. PURPOSE AND CONCEPTUAL FOUNDATION OF WASSENAAR AND THE MTCR

Today's multilateral export control approaches and regimes focused on restricting access to technologies with non-WMD military uses were in some respects built to serve purposes strikingly out of sync with the contemporary security environment. Those regimes are

Protocol, CARNEGIE ENDOWMENT FOR INT'L PEACE (Apr. 26, 2012), https://carnegieendowment.org/2012/04/26/unspectacular-future-of-iaea-additional-protocol-pub-47964; Mark Hibbs, *Nuclear Suppliers Group and the Additional Protocol*, CARNEGIE ENDOWMENT FOR INT'L PEACE, (Aug. 18, 2010), https://carnegieendowment.org/2010/08/18/nuclear-suppliers-group-and-iaea-additional-protocol-pub-41393.

[38] *See e.g.*, Christopher Ford, Assistant Secretary of State, U.S. Dep't of State, The Civil-Nuclear Sector, Nonproliferation, and Great Power Competition: Rebuilding Global Leadership, remarks to the Nuclear Energy Institute Board of Directors (Sept. 16, 2020) (noting U.S. efforts "to solidify IAEA Comprehensive Safeguards Agreements and the AP, together, as the global standard for safeguards – as well as a condition for supply, without insistence upon which . . . a national supplier cannot any more be considered to be a responsible one"), https://www.newparadigmsforum.com/p2775.

[39] *See also, e.g.*, CHAPMAN, *supra* note 16, at 305 ("The NSG is an example of an organization started with good intentions which has proven ineffective in its efforts to stop the proliferation of nuclear weapons technologies. This is due to the conflicting economic, political, and strategic interests of its member states and technical disagreements on topics such as fuel supply assurances and voluntary export control guidelines.").

the offspring of a post-Cold War context in which it was generally assumed that great-power competition had been eliminated and in which the international community felt that it both could and *needed* to refocus upon different priorities. With the major states presumed to be no longer in a state of fundamental competition with each other, the focus of international security policy shifted in the 1990s to two related objectives: one with respect to the *targets* of export control restriction; and one with respect to the use of multilateral export control engagement *itself* as a means by which to achieve post-competitive geopolitical objectives.

First, the international community needed to cope with the security challenges presented on the margins of the great-power system by the continued existence of recalcitrant "rogue" states – that is, belligerent and potentially unstable tyrannies such as North Korea, Iraq, Libya, and Iran. It was felt that technology transfers to such regimes needed to be restrained lest they acquire tools with which it would be possible to perpetrate mischief out of proportion to their relatively small size and status in the international system. As we have seen, this was also the case with regard to WMD-related technologies, but the post-Cold War system attempted to apply this logic far more broadly to essentially *all* of the tools and materiel of conventional military competition, restraining the spread of ACW of all types.

This focus upon outlier, "pariah" states can be seen in the Wassenaar Arrangement's abovementioned focus upon restricting transfers of advanced technologies to what were merely termed "countries of concern," but that clearly meant "Iran, Iraq, Libya, and North Korea."[40] Managing *these* rogue states – and preventing technology acquisition by their even more outlandish non-state compatriots in international terrorist organizations – was felt to be the

[40] U.S. Dep't of State, WASSENAAR ARRANGEMENT ON EXPORT CONTROLS FOR CONVENTIONAL ARMS AND DUAL-USE GOODS AND TECHNOLOGIES Fact Sheet (Mar. 22, 2000) ("There is broad agreement that these states presently are Iran, Iraq, Libya and North Korea. Wassenaar members deal with these "countries of concern" by preventing, through shared national policies of restraint, their acquisition of armaments and sensitive dual use goods and technologies for military end-use.").

defining international security challenge of the era, and the focus of multilateral export control regimes reflected this emphasis.[41]

The ACW-focused multilateral regimes of the period were *not* structured in response to competitive dynamics *between* the major nation-state technology-possessors, for such great power challenges were felt to have disappeared with the end of the Cold War. The post-Cold War architecture of multilateral ACW export controls, in other words, assumed its central challenge to be one arising merely at the figurative "edges" of the global community: that of keeping dangerous tools out of the hands of small, irresponsible, marginal actors. With the partial exception of China, this architecture was not intended to address potential threats from large and sophisticated rivals. In effect, the multilateral export control system was designed around the assumption that great power competitive dynamics were no longer significant features of the international environment.

A second objective of the new multilateral ACW export control framework seems to have been to use the *process* of engagement in these regimes as a means by which to help consolidate and perpetuate the tension-ameliorative and post-competitive nature of the post-Cold War environment. Welcoming the formerly Communist countries of Eastern Europe into these regimes, it seems to have been hoped, would help "socialize" them to the norms and political psychology of the liberal democratic West.[42]

---

[41] *See, e.g.*, Graham Allison, *How to Stop Nuclear Terror*, FOREIGN AFFS. (Jan./Feb. 2004) (noting that U.S. officials have made clear that they feel "terrorist nuclear attacks on the United States as the defining threat the nation will face in the foreseeable future"), https://www.foreignaffairs.com/articles/2004-01-01/how-stop-nuclear-terror.

[42] Such socialization was an important theme at the time, including with regard to the accession of former Soviet Bloc states to the European Union and NATO. *See generally* Frank Schimmelfennig, *Strategic Calculation and International Socialization: Membership Incentives, Part Constellations, and Sustained Compliance in Central and Eastern Europe*, INT'L ORG. (Sept. 22, 2009), https://www.cambridge.org/core/journals/international-organization/article/abs/strategic-calculation-and-international-socialization-membership-incentives-party-constellations-and-sustained-compliance-in-central-and-eastern-europe/A5AA4E2646A2E3C92864D9C3A59B73F7.

Thus, for instance, the MTCR was opened to Bulgaria, the Czech Republic, Hungary, Poland, and Ukraine.[43] Similarly, the Wassenaar Arrangement came to include Croatia, the Czech Republic, Estonia, Hungary, Poland, Romania, Slovakia, Slovenia, and Ukraine, while the Australia Group grew to involve Bulgaria, Croatia, the Czech Republic, Estonia, Hungary, Lithuania, Poland, Ukraine, Romania, the Slovak Republic, and Slovenia.[44] Even the Russian Federation – which, then under President Boris Yeltsin, was widely believed in the West to be in a process not merely of economic reform but of political democratization – was welcomed into the MTCR and Wassenaar.[45]

To be sure, China – which had massacred pro-democracy demonstrators on Tiananmen Square at the beginning of the post-Cold War era[46] and which remained throughout the 1990s a dangerous proliferator of missile and even nuclear-related technology[47] – was *not* brought into the multilateral export control regimes of the era. Even Beijing's exclusion, however, illustrates the system's post-competitive focus, for China was excluded not because it was then seen as a serious competitive threat but rather simply out of distaste for its human rights abuses and concern over its technology transfers to "pariah" governments.[48] And even so, Beijing *was*

[43] MISSILE TECHNOLOGY CONTROL REGIME, *Partners* (providing list of MTCR partners and dates of commencement), https://mtcr.info/partners/.

[44] *A Guide to the Wassenaar Arrangement*, NEW AM. BLOG (Dec. 9, 2003), https://www.newamerica.org/oti/blog/a-guide-to-the-wassenaar-arrangement/; AUSTL. GRP., *Australia Group Participants*, https://www.dfat.gov.au/publications/minisite/theaustraliagroupnet/site/en/participants.html (last visited Apr. 2, 2022).

[45] *A Guide to the Wassenaar Arrangement*, *supra* note 44; AUSTL. GRP., *supra* note 44.

[46] *See, e.g.*, *Tiananmen Square: What happened in the protests of 1989?* BBC (Dec. 23, 2021), https://www.bbc.com/news/world-asia-48445934.

[47] *See, e.g.*, Paul K. Kerr, CONG. RSCH. SERV., IF11737 CHINESE NUCLEAR AND MISSILE PROLIFERATION, (May 17, 2021), https://crsreports.congress.gov/product/pdf/IF/IF11737.

[48] *See generally, e.g.*, Wade Boese, *Missile Regime Puts Off China*, ARMS CONTROL TODAY (Nov. 2004), https://www.armscontrol.org/act/2004-11/missile-regime-puts-china. Over the years, China has repeatedly promised to abide by MTCR standards – at least twice thereby winning U.S. concessions in the form of a relaxation of missile proliferation sanctions – and has repeatedly broken these pledges. *See, e.g.*, Andrew Feickert, CONG. RSCH. SERV. RL31848, MISSILE TECHNOLOGY CONTROL REGIME (MTCR) AND INTERNATIONAL CODE OF CONDUCT AGAINST BALLISTIC MISSILE

welcomed into the World Trade Organization in 2000, on the express expectation that the Chinese people would – in U.S. President Bill Clinton's words – thereby "import one of democracy's most cherished values" and thereafter "demand a greater say" in their own governance.[49]

The prevailing assumption of the period was that of progressive liberalization and democratization, on the basis of which welcoming hitherto problematic countries into the fold and integrating them into the governance mechanisms of the post-Cold War international order was believed to be a better strategy for ensuring good behavior than ostracizing them.[50] Only the "rogues" were left out of this integrative, post-competitive global vision.[51]

PROLIFERATION (HCOC): BACKGROUND AND ISSUES FOR CONGRESS, at 18-19 (Apr. 8, 2003), https://crsreports.congress.gov/product/pdf/RL/RL31848/3; U.S. Dep't of State, ADHERENCE TO AND COMPLIANCE WITH ARMS CONTROL, NONPROLIFERATION, AND DISARMAMENT AGREEMENTS AND COMMITMENTS (2005), at Chapter VII, § A, https://2009-2017.state.gov/t/avc/rls/rpt/51977.htm#chapter7. Years after these cycles began in the early 1990s, China remained "the supplier of choice for many of the world's proliferators, especially with respect to missile technology." Christopher Ford, Assistant Secretary of State, U.S. Dep't of State, Nonproliferation with Attitude: Counterproliferation Tools and U.S. Foreign Policy remarks at the Heritage Foundation (Nov. 14, 2018), https://www.newparadigmsforum.com/p2298; *see also* Kerr, *supra* note 47.

[49] Bill Clinton, U.S. President, Speech at the Paul H. Nitze School of Advanced International Studies (Mar. 9, 2000), https://www.iatp.org/sites/default/files/Full_Text_of_Clintons_Speech_on_China_Trade_Bi.htm.

[50] *See generally, e.g.*, *The end of the Cold War and geopolitical change in Europe*, CVCE.EU ("The aspiration for ownership and modernity embodied by the European Union was a driving force behind the transformation of the countries of Central and Eastern Europe (CEECs). But the European Union, tasked with this historic mission, also had to work to offer these states the prospect of access to its area of peace and prosperity, along with the means and method that would open up this area for them."), https://www.cvce.eu/en/recherche/unit-content/-/unit/02bb76df-d066-4c08-a58a-d4686a3e68ff/812f82eb-0e36-4146-b935-b768901971e6.

[51] *Cf.* Homolar, *supra* note 33. They apparently felt irredeemable, immune, in their tyranny and dysfunction, to the charms of the neoliberal democratic convergence that was otherwise expected to sweep the world. *See generally, e.g.*, Assistant Secretary of State Christopher Ford, *To Tango Alone: Problems of Theory and Practice in the Sociology of Arms Control, Nonproliferation, Disarmament, and Great Power Competition*, ARMS CONTROL AND INT'L SEC. PAPERS, vol. 1, no. 14, at 2-

Another structural aspect of the seemingly post-competitive geopolitical context in which the post-Cold War ACW-focused export control regimes emerged was the then-overriding fact of United States geopolitical predominance. Washington's longtime superpower rival had collapsed and fallen into pieces, even the largest of which (the post-Soviet rump of the Russian Federation) was at the time militarily weak[52] and economically debilitated, and most of the fragments of the Soviet Empire were then scrambling to associate themselves with the Western democracies. China, too, was at the time underdeveloped and weak, and the U.S. military had demonstrated an almost shocking degree of high-technology prowess in quickly crushing the Soviet-modeled and Soviet-equipped armed forces of Saddam Hussein in 1991.[53] And while America's one-time economic rival Japan had entered a "lost decade" of stagnation in the 1990s,[54] the United States economy was picking up speed on a rising tide of information-era innovation and global trade and financial liberalization.

This U.S. dominance of the international system – making America what the French called the global "hyperpower"[55] – underlay Western assumptions that great power competition had become a thing of the past and that the future could be organized on a different

3 (July 30, 2020) (arguing that the post-Cold War international community was entranced by a bowdlerized and flawed version of constructivist theories of international relations, concluding on this basis that it was possible to remake the entire global system along neoliberal democratic lines), https://irp-cdn.multiscreensite.com/ce29b4c3/files/uploaded/ACIS%20Paper%2014%20-%20To%20Tango%20Alone_%20Pseudo-Constructivism.pdf.

[52] *See generally, e.g.*, Pavel Felgenhauer, *Russian Military Reform: Ten Years of Failure*, paper presented to the U.S. Naval Postgraduate School (Mar. 26-27, 1997), https://nuke.fas.org/guide/russia/agency/Felg.htm.

[53] *See, e.g.,* Judy Mann, *The U.S Military Finally Wins One With a Technological Triumph*, WASH. POST (Jan. 18, 1991) ("If [the 1991 war] was a technological horror for Iraq, it was a technological triumph for the United States."), https://www.washingtonpost.com/archive/local/1991/01/18/the-military-finally-wins-one-with-a-technological-triumph/0314432c-f977-40ec-8b55-4bec202433bf/.

[54] *See, e.g.*, Fumio Hayashi & Edward C. Prescott, *The 1990s in Japan: A Lost Decade*, FED. RSRV. BANK OF MINNEAPOLIS, https://www.minneapolisfed.org/research/wp/wp607.pdf (last visited Apr. 2, 2022).

[55] *To Paris, U.S. Looks Like a Hyperpower*, INT'L HERALD TRIB. (Feb. 5, 1999), https://www.nytimes.com/1999/02/05/news/to-paris-us-looks-like-a-hyperpower.html.

basis, with countries working ever more closely and cooperatively together in a security system largely overseen and policed by officials in Washington. President George H.W. Bush had called in 1990, for instance, for the establishment of "a new world order . . . an era in which the nations of the world, east and west, north and south, can prosper and live in harmony."[56] By 1998, Secretary of State Madeline Albright felt it possible to declare of America's role as global overseer that "if we have to use force, it is because we are America; we are the indispensable nation. We stand tall and we see further than other countries into the future."[57] As the interventions of the time showed, however, this policing function was only directed at cleaning up the occasional marginal outlier and exception to the more general trend: small-state dictators or rapacious local ethnic cleansers out of step with the rising tide of post-competitive liberal democratic convergence.[58]

This geopolitical environment – a seemingly post-competitive world of U.S.-centered unipolarity that was suffused by assumptions of progressive political and economic integration into a liberal democratic global order – was the context in which most of the modern multilateral export control framework for ACW was created. It is also that context upon which this system relied for much of its architectural and intellectual coherence. The challenge for these

[56] George H.W. Bush, U.S. President, Address Before a Joint Session of the Congress on the Persian Gulf Crisis and the Federal Budget Deficit (Sept. 11, 1990), https://bush41library.tamu.edu/archives/public-papers/2217.

[57] Madeline Albright, Secretary of State, U.S. Dep't of State, interview on NBC-TV (Feb. 19, 1998), https://1997-2001.state.gov/statements/1998/980219a.html.

[58] This author has elsewhere speculated that – in light of the great power competitive dynamics that were then building behind the scenes, to burst more fully into view in the 2020s – the minor wars and great power interventions of the 1990s and 2000s may in time come to be viewed "much like some later observers looked back on Britain's far-flung Victorian wars – that is, as fascinating and picturesque, if controversial, endeavors that yet turned out to be, in geopolitical terms, merely a sideshow to and even a distraction from the dynamics that shaped the epochal geopolitical contests of the generations that followed." Assistant Secretary of State Christopher Ford, *Arms Control and Disarmament: Adjusting to a New Era*, ARMS CONTROL AND INT'L SEC. PAPERS, vol. 1, no. 7, at 5 (May 20, 2020), https://irp-cdn.multiscreensite.com/ce29b4c3/files/uploaded/ACIS%20Paper%207%20-%20Adjusting%20to%20New%20Era%20in%20Arms%20Control.pdf.

regimes today, therefore, is that the world has changed considerably, and much of that context no longer exists.

IV. POST-COLD WAR ACW-CONTROL STRUCTURES ARE NOT FIT FOR PURPOSE TODAY

In the current security environment, it seems increasingly clear that those assumptions upon which the multilateral ACW export control regime was built no longer apply. From the vantage point of the early 2020s, neoliberal politico-economic convergence has at the very least stalled, and indeed seems in some ways to be in a process of reversal. Moreover, the world has become much more multipolar, its most powerful countries have been adopting increasingly competitive postures against each other, and the revisionist states of China and Russia have had considerable success in expanding the sophistication, potency, and global reach of their military capabilities.[59] The central challenge to international security is no longer primarily a problem of managing the threats presented by small players on the margins of the security system, but of handling those presented by extremely powerful and increasingly militarized authoritarian states pursuing starkly revisionist geopolitical ambitions directed at restructuring the existing international order to their advantage.

Key technical aspects of export control have also changed in ways that problematize traditional approaches. First, ACW technologies with significant military implications have been evolving and changing faster than export control regimes have been able to respond to such developments.[60] This problem is in part simply the

[59] *See, e.g.*, U.S. Dep't of Defense, *Military and Security Developments Involving the People's Republic of China* (2021), https://media.defense.gov/2021/Nov/03/2002885874/-1/-1/0/2021-CMPR-FINAL.PDF; U.S. Defense Intelligence Agency, *Russian Military Power: Building a Military to Support Great Power Aspirations* (2017), https://www.dia.mil/Portals/110/Images/News/Military_Powers_Publications/Russia_Military_Power_Report_2017.pdf.

[60] *See* Assistant Secretary of State Christopher Ford, *The New U.S. Policy on UAS Exports: Responsibly Implementing the MTCR's Presumption of Denial*, ARMS CONTROL AND INT'L SEC. PAPERS, vol. 1, no. 13, at 2 & 4 (July 24, 2020), https://irp-cdn.multiscreensite.com/ce29b4c3/files/uploaded/ACIS%20Paper%2013%20-%20MTCR%20Policy%20Reform.pdf (last visited Mar. 2, 2022) (declaring that "in

result of the collective action challenges inherent in a multilateral organization, but it has been compounded by the degree to which Russia's inclusion in the MTCR and Wassenaar has given the geopolitically revisionist leadership in the Kremlin an opportunity to weaponize consensus-based decision-making procedures in order to *keep* these regimes from evolving with the times.[61]

As a result, the ACW regimes face a twofold challenge. First, they find it difficult to *add* controls on emerging ACW-relevant technologies that need control, or at least to do so fast enough for such controls to make a difference.[62] Second, these regimes struggle to

---

an arena as characterized by the swift advance of technology . . . the passage of time can do damage even to the wisest set of standards if those rules are based upon fixed technological parameters" and noting a "mismatch between MTCR standards and the modern era of UAS [unmanned aerial system] technology"). For this reason, it is sometimes wiser, when one can, to regulate on the basis of behavior or effects, making such rules "technology-agnostic" and able to maintain relevance as technologies change. This is, for instance, "what has traditionally been done in the Law of Armed Conflict for generations, after all, allowing the rules of warmaking to remain fairly constant even as the tools of warmaking change." Christopher Ford, Assistant Secretary of State, U.S. Dep't of State, Complexity and Nuclear Risk Reduction remarks to the Royal Institute of International Affairs (Dec. 13, 2021), https://www.newparadigmsforum.com/complexity-and-nuclear-risk-reduction.

[61] *See* Ford, *supra* note 60, at 3 (". . . [T]he MTCR is a consensus-based organization, in which even a single country – such as, for instance, a bellicose geopolitical revisionist – can hold up even the most sensible reform indefinitely. We are pleased that many of our MTCR partners *have* supported our reform proposal, but it has become clear that thanks to foot-dragging by some, it is not yet possible to amend the MTCR controls by agreement."). The MTCR operates on a consensus basis, with every member therefore enjoying a power within that institution equivalent to the veto wielded by each of the five Permanent Members of the United Nations Security Council. *See* U.S. Dep't of State, MISSILE TECHNOLOGY CONTROL REGIME (MTCR): FREQUENTLY ASKED QUESTIONS FACT SHEET ("All MTCR decisions including decisions on membership require a consensus decision by all current Regime members."), https://www.state.gov/remarks-and-releases-bureau-of-international-security-and-nonproliferation/missile-technology-control-regime-mtcr-frequently-asked-questions/.

[62] It is also the case that such challenges can arise domestically. The U.S. Congress determined that U.S. domestic export control rules need to be reformed and adjusted in order to take better account of rapid developments in "foundational and emerging technologies," for instance, and mandated a review of such controls in legislation in 2018. (This review, however, appears to have stalled.) *See* Emma Rafaelof, *Unfinished Business: Export Control and Foreign Investment Reforms*, U.S.-CHINA ECON. AND SEC. REV. COMM'N (June 1, 2021),

loosen controls upon capabilities that may have been quite sensitive a generation ago, but that have now become widely available and/or the spread of which is actually *needed* in order for smaller states to deter revisionist aggression.[63] Together, these dynamics threaten to create a situation in which the multilateral ACW export control system: (i) fails to control the spread of some destabilizing capabilities; (ii) functions as a source of *de facto* competitive advantage for countries outside the regimes selling such goods, or those within them who

https://www.uscc.gov/sites/default/files/2021-06/Unfinished_Business-Export_Control_and_Foreign_Investment_Reforms.pdf.

[63] Making sure that one's allies and friends have the right sorts of military technology with which to defend themselves has always been a priority for the United States, but it has assumed a special priority in recent years as the comparatively benign post-Cold War environment has given way to an era of uglier great-power competitiveness. *See, e.g.*, National Security Presidential Memorandum-10, at § 2(a) (Apr. 19, 2018) (declaring it the first objective of U.S. arms transfer policy to "bolster the security of the United States and our allies and partners, including by defending against external coercion, countering terrorism, and providing capabilities in support of shared security objectives"), https://irp.fas.org/offdocs/nspm/nspm-10.pdf; Assistant Secretary of State Christopher Ford, *Security Assistance and U.S. Competitive Strategy: Improving our Game*, ARMS CONTROL AND INT'L SEC. PAPERS, vol. 1, no. 3, at 2 (Apr. 21, 2020) ("Critically, however, the [new U.S.] CAT [conventional arms transfer] policy is not just about *our* capabilities. Our transfer policy is also about those who *receive* such transfers, and NSPM-10 directs us to focus also upon how to "better equip our allies and partners to contribute to shared security objectives and to enhance global deterrence." This piece is the key to understanding our efforts systematically to use arms transfers – as well as training and military capacity-building more broadly, though I won't dwell too much on those aspects here – as a means for enhancing partner capabilities in ways that support U.S. competitive strategy and interfere with our *adversaries'* strategies.), https://irp-cdn.multiscreensite.com/ce29b4c3/files/uploaded/ACIS%20Paper%203%20-%20Security%20Assistance%20and%20Strategy.pdf; Assistant Secretary of State Christopher Ford, *Competitive Strategy vis-à-vis China and Russia: A View from the T Suite*, ARMS CONTROL AND INT'L SEC. PAPERS, vol. 1, no. 6, at 5 (May 11, 2020) (describing U.S. policy as including "[e]xecuting arms sales to improve and support our partners' capabilities to directly counter PRC and Russian malign influence and aggression."), https://irp-cdn.multiscreensite.com/ce29b4c3/files/uploaded/ACIS%20Paper%206%20-%20_T_%20Strategy.pdf; Christopher Ford, *Defending Taiwan: Defense and Deterrence*, NAT'L INST. FOR PUB. POL'Y OCCASIONAL PAPER, vol. 2, no. 2, at 22-24 (Feb. 2022) (discussing tailoring of U.S. arms sales to Taiwan to technology needs of defense against China),https://nipp.org/wp-content/uploads/2022/02/Vol.-2-No.-2-Ford.pdf.

disregard the rules; and (iii) actually impedes stabilizing, deterrence-augmenting responses to contemporary security threats. (When last in government, I touched upon some of these challenges in the MTCR context in one of our *Arms Control and International Security Papers* at the State Department.[64])

Even with respect to the traditional post-Cold War problem of controlling transfers to "rogue states" such as North Korea and Iran, recent years have also seen a shift by such proliferators away from direct procurement of items appearing on regime control lists and toward the acquisition of components and materials falling *below* control-list levels, which are then integrated and assembled into sensitive capabilities after arrival.[65] In some sense, this represents a success for the multilateral export control regimes, of course, for the proliferators have adopted this approach in large part because these regimes have made it more difficult to procure controlled items. Nevertheless, the rogues' shift in approach made reliance upon control lists *alone* an inadequate answer. Accordingly, the United States and its like-minded partners have in recent years been focusing increasingly upon expanding the use of so-called "catch-all" export controls, which deny transfers on the basis of their end-use or end-user rather than on the basis of anything intrinsic to the item being transferred.[66]

Another development that is eroding the efficacy of traditional ACW export control approaches – including those taken by the multilateral export control regimes – are various countries' efforts to reduce or eliminate the division between the "civilian" sector of their economy and the defense industrial base. Most prominently, Beijing's "Military-Civil Fusion" ("MCF") strategy seeks to erase this

[64] Ford, *supra* note 60.

[65] *Cf.* Ford, *supra* note 48 (noting the "ongoing trade in which both sensitive technologies and uncontrolled items flow through major transshipment nodes of the global trading economy and end up in the weapons systems of states such as Iran, Syria, or North Korea.").

[66] *See* U.S. DEP'T OF STATE, *Catch-All Controls*, https://2009-2017.state.gov/strategictrade/practices/c43179.htm; Ford, *supra* note 48 ("It is critical to do more against these transshipment threats — such as taking proactive steps to make full use of so-called "catch-all" export controls and implementing the efficient methods of cargo tracking and monitoring that are now available . . . .").

civil/military boundary entirely, with the objective of allowing technologies from the civilian economy to be freely employed in augmenting China's military power, even as military technologies are similarly applied to boost its economic growth and competitiveness.[67]

I first began publicly warning about this problem in July 2018,[68] hoping to draw attention to the problem and its implications,[69] and to help catalyze a U.S. Government response.[70] MCF presents serious challenges for traditional ACW-focused export control approaches that rely upon distinguishing between entities that are civilian end-users and those that are military end-users, for MCF aspires to make such distinctions functionally irrelevant.[71] In response, it is becoming increasingly important to expand export control concepts from narrower, more entity-specific ideas of what counts as a problem "end-user" (e.g., denying transfer of dual-use technology to a Chinese state-owned enterprise in the defense

[67] *See, e.g.*, U.S. DEP'T OF STATE, *Military-Civil Fusion and the People's Republic of China*, https://www.state.gov/wp-content/uploads/2020/05/What-is-MCF-One-Pager.pdf (last visited Feb. 22, 2022).

[68] Christopher Ford, Assistant Secretary of State, U.S. Dep't of State Chinese Technology Transfer Challenges to U.S. Export Control Policy remarks at the Los Alamos National Laboratory (July 11, 2018), https://www.newparadigmsforum.com/p2176. These appear to have been the first public comments by any U.S. official on MCF and the need to tighten national security export controls in response.

[69] *See, e.g.*, Christopher Ford, Assistant Secretary of State, U.S. Dep't of State, Why Technology Transfer Threats Matter remarks at the U.S. Naval Academy (Oct. 24, 2018), https://www.newparadigmsforum.com/p2279; Assistant Secretary of State Christopher Ford, *The PRC's Military-Civil Fusion Strategy is a Global Security Threat*, U.S. DEP'T OF STATE DIPNOTE BLOG (Mar. 16, 2020), https://www.newparadigmsforum.com/p2510.

[70] *See, e.g.*, Christopher Ford, Assistant Secretary of State, U.S. Dep't of State, Coalitions of Caution: Building a Global Coalition Against Chinese Technology-Transfer Threats remarks to an FBI-Dep't of Commerce conference on Counterintelligence and Export Control in Indianapolis, Indiana (Sept. 14, 2018), https://www.newparadigmsforum.com/p2214.

[71] *See* Christopher Ford, Assistant Secretary of State, U.S. Dep't of State, Preventing U.S. Industry's Exploitation by China's Military-Civil Fusion' Strategy remarks to the U.S. Chamber of Commerce (Apr. 2, 2020), https://www.newparadigmsforum.com/p2505.

industry) to broader conceptions that focus upon entire countries (e.g., denying such transfers to China as a whole).[72]

It seems clear to me that more moves toward "destination"-based controls rather than "item"-based controls are needed, but this is not a step that has been taken effectively by most countries even in their national export control systems, let alone by the multilateral regimes. After all, those regimes still cannot formally bring themselves even to name even the small, marginal "countries of concern" they were designed to isolate, much less apply "catch-all" approaches to global revisionists such as Russia and China. The consensus-based nature of these regimes' decision-making and large memberships – and Russia's presence "inside the wire" at the MCTR and Wassenaar – have precluded such responsiveness.[73]

These various developments thus present significant challenges to multilateral ACW export control regimes established on the basis of assumptions rooted in the geopolitical context of an early

[72] One recent example of this was undertaken by U.S. officials in 2019-20 with moves to restrict the flow of advanced semiconductor technology to the Chinese firm Huawei. *See generally, e.g.*, Assistant Secretary of State Christopher Ford, *U.S. National Security Export Controls and Huawei: The Strategic Context in Three Framings*, ARMS CONTROL AND INT'L SEC. PAPERS, vol. 1, no. 8 (May 22, 2020), https://irp-cdn.multiscreensite.com/ce29b4c3/files/uploaded/ACIS%20Paper%208%20-%20Export%20Controls%20and%20Huawei.pdf. U.S. moves against Huawei began in early 2019 with the company's indictment for fraud and sanctions evasion (vis-à-vis Iran). U.S. Dep't of Justice, *Chinese Telecommunications Conglomerate Huawei and Huawei CFO Wanzhou Meng Charged with Financial Fraud* (Jan. 28, 2019), https://www.justice.gov/opa/pr/chinese-telecommunications-conglomerate-huawei-and-huawei-cfo-wanzhou-meng-charged-financial. By August of 2020, the United States had imposed export control restrictions not merely to Huawei itself, but to more than 150 of its affiliates around the world. *US Boosts Sanctions for China Tech Giant Huawei*, DW (Aug. 17, 2020), https://www.dw.com/en/us-boosts-sanctions-for-china-tech-giant-huawei/a-54599763.

[73] One recalls here Santayana's description of consensus-based decision-making in which any party can veto collective action as a process that makes "impotence not only constitutional but expressly intended and prized." George Santayana, *Dominations and Powers: Reflections on Liberty, Society, and Government* at 456 (New York: Charles Scribner's Sons, 1951) (*quoted in* The Essential Santana: Selected Writings at 470 (The Santayana Edition, ed.) (Bloomington, Indiana: Indiana University Press, 2009)).

post-Cold War era now far removed from our own. In some respects, in fact, these changes may even come to make the export control system into a potential source of additional systemic instability.

Being designed around the architectural assumption of a technology-possessing mass of major states that cooperate to deny dangerous technologies to small, marginalized "rogues" while nonetheless trading relatively freely in such goods among themselves, today's multilateral export control regimes may not merely *fail to address* the export control challenges of a great power competitive environment. To some degree, they could even *worsen* security challenges in this modern environment, by impeding efforts to prevent powerful revisionists from acquiring advanced dual-use technologies, permitting such states to leverage intra-regime trade for their own military and economic advantage, and making it harder for technology possessors who are threatened by revisionist aggression to shore up *their* friends and allies (especially if those states are outside the multilateral regimes in question) through cooperation on advanced military capabilities.

In sharp contrast to the WMD-focused regimes – which, as we have seen, still appear to retain their strategic relevance notwithstanding the return of great power competition[74] – the competitive pressures of today's multipolar world create strong incentives for the developed democracies to use ACW-related technology transfers as a means to strengthen the alliance and partnership relationships needed to meet revisionist challenges and deter Russian and Chinese aggression.[75] (Indeed, it might even be argued that a more *pro*-proliferation attitude toward ACW technologies is needed in order to preserve WMD-related nonproliferation equities. After all, sophisticated conventional power

[74] It is, of course, true that the MTCR, in theory, is directed against nuclear weapons proliferation, with its Guidelines having been drawn up in order to restrict commerce in delivery systems capable of delivering nuclear weapons. These rules were established on the basis of the technological understandings of the 1980s, however, and MTCR-class capabilities *without* nuclear warheads are today becoming ever more important in the conventional arena, even while their enabling technology is becoming increasingly ubiquitous through a revolution in uncrewed aerial vehicles across both the civilian and military sectors.

[75] Ford, *supra* note 63.

presents the states of Europe and the Indo-Pacific with their first line of defense in the face of existential threats from Russian and Chinese aggression, without which the temptations to "go nuclear" would be all the greater.) The post-Cold War approach to constraining trade in the ACW capabilities at the core of modern conventional military power – and that are essential to shoring up smaller countries' security postures against revisionist aggression from China and Russia[76] – seems profoundly out of step with the needs of security and stability in the modern security environment.

V. WHAT CAN BE DONE?

What might we need to do differently given that – with the exception, as we have seen, of institutions aimed at restricting trade in WMD-related items and materials – the multilateral post-Cold War export control system seems so out of step with the international security needs of the contemporary world? What rethinking or reimagining is necessary?

To begin, it bears emphasis that simply to point out the mismatch that has developed between the assumptions behind the ACW-focused multilateral export control regimes and the actual circumstances of the modern world is not necessarily to argue for the complete dismantlement of those regimes. While it may be the case that the central post-Cold War problem they were meant to address – namely, the risks attendant to technology acquisition by small, marginal, and irresponsible "countries of concern" – is no longer the *central* security problem of the international community, it remains a significant one. Therefore, these ACW regimes may still be able to provide value in slowing the spread of destabilizing military capabilities to countries such as North Korea and Iran, as well as to terrorists. ACW nonproliferation, in this sense, thus remains very

[76] *See, e.g.*, Jack Detsch, *Ukraine Pins Hopes on Javelin Missiles to Dent Putin's Armor*, FOREIGN POL'Y (Jan. 26, 2022), https://foreignpolicy.com/2022/01/26/ukraine-missile-russia-baltics-biden/.

important, even if great power competitive challenges have ballooned in significance and come to occupy today's center stage.[77]

At the same time, precisely because such great power competitive problems *have* become so central – and because, as described above, current multilateral ACW-focused export control regimes have so little to say about them – it is necessary to rethink U.S. approaches to the broad export control enterprise in significant ways in order to permit more flexibility with regard to: (a) denying ACW-related exports to problematic countries *within* Wassenaar and the MCTR (specifically, the Russian Federation); and (b) being willing to *provide* ACW capabilities to select countries threatened by Russian or Chinese revisionist aggression, irrespective of such countries' formal status vis-à-vis the export control system.

This Article suggests that such a rethinking be guided, at the least, by several fundamental and interrelated principles, as follows:

A. Control by "Destination Jurisdiction" Rather Than Just Item Type.

Irrespective of regime – across the entire export control space, including not only ACW and missiles but also WMD – it is becoming more and more important to control technology transfers on a "destination jurisdiction" basis than simply on that of control lists of sensitive items and materials. As demonstrated by the challenges of China's MCF strategy, and even as "catch-all" controls have already become more necessary against proliferators who support their WMD programs through the acquisition of components just below "controlled" levels, future export control regimes will need to focus upon preventing transfers to *anyone* within or affiliated with any country deemed to be "of concern."

[77] Assistant Secretary of State Christopher Ford, *Export Controls and National Security Strategy in the 21st Century*, ARMS CONTROL AND INT'L SEC. PAPERS, vol. 1, no. 16 (Aug. 19, 2020), https://irp-cdn.multiscreensite.com/ce29b4c3/files/uploaded/ACIS%20Paper%2016%20-%20Export%20Control%20strategy.pdf (last visited Feb. 22, 2022).

B. Supplement Existing Regimes with Like-Minded "Sub-regimes."

With today's key regimes unable to react effectively to events as a result of the collective action challenges associated with having large numbers of participants and consensus-based decision-making by a membership that can include purposeful obstructionists, much of the future of multilateral export controls lies with the creation of "sub-regimes" of smaller numbers of likeminded partners who share strategic perspectives and can leverage that collective vision into conceptual agility, technological impact, and political staying power. The most genuinely successful export control regime in history is arguably the COCOM framework that helped retard the growth of Soviet military power during the Cold War. However, COCOM's success may not be fully replicable today, given the degree of technological sophistication and indigenous innovation already present in China. Nevertheless, unlike Wassenaar, COCOM was specifically designed to permit a group of developed democracies to deal with "a single, relatively monolithic threat" in the form of a predatory great power,[78] and can thus offer us lessons today as the Western democracies struggle with the threats presented by China and Russia. Among these lessons, at the very least, is the conclusion that to the degree that groups of states *can* have export control success in the competitive modern world, this is likely to occur through configurations smaller than the membership of most of today's current regimes, and to involve technology-possessing states having a high degree of geopolitical "likemindedness."[79]

Building and maintaining such coalition-like groups will hardly be easy, and making such sub-regimes effective will place a premium upon involving the "right" players and keeping them

[78] Henshaw, *supra* note 10, at iii; *see also* Ford, *supra* note 77, at 4.

[79] Here lies an additional potential lesson for today from COCOM, inasmuch as during the Cold War, a number of *relatively* likeminded governments (Austria, Finland, Hong Kong, India, Ireland, Singapore, South Korea, Sweden, Switzerland, Taiwan, and Yugoslavia) agreed to track COCOM-controlled items and help enforce restrictions upon their export even though these governments were *not* actually COCOM members. At one point – when its leaders felt threatened by the Soviets – even *China* became one of those countries at least *partially* cooperating with COCOM restrictions. *See* Henshaw, *supra* note 10, at 7.

focused and resolute over time. At least before the remarkable provocations of Vladimir Putin's invasion of Ukraine in 2022, few countries have been willing expressly to identify Russia or China as appropriate subjects for broad denials of dual-use technology. Nevertheless, Putin's moves against Ukraine and Xi Jinping's threats against Taiwan and territorial seizures in the South China Sea and in the Himalayas may be changing this – and in any event it may still be possible to identify groups of key countries able and willing to implement ever stronger controls. If it is possible to find groups of states with a significant degree of likemindedness, and who also together possess asymmetric advantages in key technologies vis-à-vis whatever countries are *now* deemed to be "of concern" – such as by bringing the United States, Japan, South Korea, the Netherlands, Taiwan, and the United Kingdom together on semiconductor technology controls against China, for instance – the "sub-regimes" approach may yet be quite effective.[80]

C. Maximize Flexibility within Existing ACW Regimes.

In a pathbreaking step forward along the path of rethinking ACW controls in light of today's competitive pressures, the United States has already demonstrated that additional flexibility within the MTCR system is possible through the application of national discretion in discerning when that regime's "strong presumption of denial" can appropriately be overcome.[81] This step is one upon which the United States and its allies can build in devising better ways to cooperate with friends and allies in presenting Russia and China with missile-related threats that will help make revisionist aggression less attractive to Moscow and Beijing.

---

[80] *See, e.g.*, Christopher Ford et al., *The National Science Foundation and the Future of S&T Diplomacy*, SCI. & DIPL. (Feb. 23, 2022), (noting that "the United States remains a huge technology power. In collaboration with partners in democratic economies such the European Union, Japan, South Korea, Taiwan, the United Kingdom, Australia, and Canada – which collectively have a gross domestic product more than three times China's and nearly hold their own even vis-à-vis China's torrent of patent applications – there is surely no obstacle we cannot overcome."), https://www.sciencediplomacy.org/article/2022/national-science-foundation-and-new-frontier-st-diplomacy.

[81] *See, e.g.*, Ford, *supra* note 60, at 4-6.

D. Keep a Competitive Focus.

As the COCOM example suggests, success in multilateral export control work in today's environment will also require a reorientation of perspective to focus explicitly upon competitive challenges. This means deeming the great power revisionists to be "countries of concern" alongside the "rogue" states traditionally addressed by export control regimes, and thus inherently means limiting or preventing the involvement of – and indeed, frankly, *targeting* for technology denial – powerful countries that are currently part of the system (e.g., Russia in Wassenaar and the MTCR, and China in the NSG).[82]

Another aspect of building an explicitly competitive focus into the multilateral export control architecture is thinking through when *not* to restrict transfers of sensitive items or material to one's friends and partners in such competitive struggles. The extreme and paradigmatic example of this arises in time of war when a belligerent has strong incentives not merely to try to prevent essentially *any* transfer of *anything* of value to its enemy by *anyone*, but in fact also to *promote* transfers that help make its own allies better partners in the fight. As COCOM illustrates, however, what is true in hypertrophic form in wartime is to some extent still true in peacetime competition, particularly as revisionist challenges mount. For an export control regime, this suggests the need for various "tiers" of destination-based control: very tight restrictions upon transfers to great power competitors; loose ones for one's friends;[83] and considerable scope for strategic and opportunistic adjustment in between these poles in pursuit of competitive advantage. This would mean, for instance, more leniency as reward and support for those who behave more cooperatively with you vis-à-vis competitors, and more stringency for those who incline the other way. It might also be necessary from time

[82] The fact that existing ACW regimes are unlikely to do this points to the importance of principle #3 above: supplementing such regimes with coalitions of key states applying more stringent rules.

[83] This is, perhaps, another lesson from COCOM, which came to include a "Common Standard" for licensing and enforcement, the adoption of which would permit license-free transfers *between* COCOM members. *See* Henshaw, *supra* note 10, at 7.

to time to penalize friends who unwisely choose to provide technological assistance to the adversary.[84]

E. Be Prepared For "Complete Denial" in Response to Provocations.

Learning lessons from the history of COCOM – which was once described as having been "the only effective multilateral restraint on conventional arms transfers"[85] – we must clearly approach export controls with a firm focus upon denying authoritarian adversaries technology-fueled competitive advantage. As recent events have shown with Russia's brutal attempt to invade and dismember the country of Ukraine in 2022, however, even more is sometimes needed.

It is now clear that we must also be able to pivot – on a moment's notice, if need be – into what French Economy Minister Bruno Le Maire has termed "total economic and financial war"[86] against a revisionist geopolitical aggressor. This means organizing export control systems among the developed democracies not merely so that they are able, when required, to cut off such an aggressor's supply of sensitive dual-use technology but also, in effect, all but *entirely* to isolate an aggressor from the rest of the world in economic and technological terms.

At the time of writing, this is being done with Russia, rather on the fly, in response to Vladimir Putin's brutalities in early 2022 against the people of Ukraine.[87] The United States and likeminded partners should learn from this, however, by building into their

---

[84] The threat of U.S. sanctions against those helping the USSR was an important factor in getting the countries of COCOM to agree to its strictures – as well as important in helping persuade them to *keep* them, since formally speaking, COCOM itself lacked an enforcement mechanism. *Id.* at 13, 16.

[85] *Id.* at 31.

[86] Aurelian Breeden, *What Happened on Day 5 of Russia's Invasion of Ukraine*, BLOG, N.Y. TIMES (Mar. 1, 2022) (quoting comment by Le Maire to FranceInfo Radio: "*Nous allons livrer une guerre économique et financière totale à la Russie. Nous allons provoquer l'effondrement de l'économie russe.*"), https://www.nytimes.com/live/2022/02/28/world/ukraine-russia-war.

[87] *See, e.g.*, Becky Morton, *Ukraine: Russia faces war crimes investigation*, BBC NEWS (Mar. 3, 2022), https://www.bbc.com/news/world-60597751.

economic and commercial governance structures the ability to impose draconian penalties quickly and effectively in the event of future aggression of this sort. They should also accompany such preparations with clear declaratory policies and firm signaling of advance intent to gain as much deterrent effect as possible against further Russian aggression in Eastern Europe, or against future Chinese aggression against Taiwan.

CONCLUSION

This Article– already overlong – is not the place to work through these ideas in fine-grain detail. Nevertheless, I do hope that this exploration can at least help begin a conversation in the national security and foreign policy community about how to think through the challenges of multilateral export control in this current era of great power competition. If these suggestions and speculations about how we might be able to develop institutions that serve international security better in the future help catalyze such engagement, I will consider this essay a success.