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REVIEW ESSAY

U.S. EXPORT CONTROLS ACROSS TIME: KNOWLEDGE, TECHNOLOGY, AND CHINA

*By Karen J. Alter**

Knowledge Regulation and National Security in Postwar America. By Mario Daniels and John Krige. Chicago: University of Chicago Press, 2022. Pp. vii, 440. Index.

Trading with the Enemy: The Making of U.S. Export Control Policy Toward the People's Republic of China. By Hugo Meijer. Oxford, UK: Oxford University Press, 2016, Pp. vii, 391. Index.

Today export controls are all over the news. The so-called October rules regulating U.S. advanced semi-conductor chip exports to China[1] represent a significant expansion of U.S. efforts to control the export of upstream advanced technology where the direct military applications remain unknowable. The U.S. sanctions and export control policy against Russia involve the most far-ranging and internationally coordinated export control regime since the end of the Cold War. If the House Foreign Affairs Committee[2] and the Select Committee on the Strategic Competition Between the United States and the Chinese Communist Party[3] get their way, export controls will become even more central to U.S. economic policy vis-à-vis China, and even more trade and research-collaboration restrictive. Not for the first time, U.S. export control policy is being called an act of economic war.[4]

* Norman Dwight Harris Professor of International Relations, Professor of Political Science and Law, Northwestern University. Thanks to Jeffrey Dunoff and Mark Dallas for their helpful feedback.

[1] *See* Implementation of Additional Export Controls: Certain Advanced Computing and Semiconductor Manufacturing Items; Supercomputer and Semiconductor End Use; Entity List Modification (Oct. 7 IFR), 87 FR 62186; Implementation of Additional Export Controls: Certain Advanced Computing and Semiconductor Manufacturing Items; Supercomputer and Semiconductor End Use; Entity List Modification; Updates to the Controls to Add Macau, A Rule by the Industry and Security Bureau on Jan. 18, 2023, 88 FR 2821.

[2] *See* Foreign Affairs Committee – Chairman Michael McCaul, 90-Day Review Report of Commerce Department's BIS (Dec. 7, 2023), *at* https://foreignaffairs.house.gov/press-release/mccaul-releases-90-day-review-report-of-commerce-departments-bis.

[3] The Select Committee on the CCP, Reset, Prevent, Build: A Strategy to Win America's Economic Competition with the Chinese Communist Party (Dec. 12, 2023), *at* https://selectcommitteeontheccp.house.gov/media/policy-recommendations/reset-prevent-build-strategy-win-americas-economic-competition-chinese.

[4] Alex W. Palmer, *"An Act of War": Inside America's Silicon Blockade Against China*, N.Y. TIMES MAG. (July 12, 2023), *at* https://www.nytimes.com/2023/07/12/magazine/semiconductor-chips-us-china.html ("Last October,

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It is in this context that *Knowledge Regulation and National Security in Postwar America* (hereafter *Knowledge Regulation and National Security*) by Mario Daniels, the DAAD-Fachlektor of Duitsland Instituut Amsterdam, and John Krige, the Kranzberg Professor Emeritus at Georgia Tech, is an especially welcome addition to the very limited scholarship on U.S. export control policy. Export controls are a highly specialized field of U.S. foreign relations law, and the topic is extremely challenging to get one's hands around. Day-to-day policy is enacted via Federal Register announcements that like a complicated abacus add and subtract controlled products, move countries across access-to-goods categories, alter the presumption of denial for certain goods and countries, and add or subtract from the Entity List of firms to which U.S. actors cannot export goods. The legal writings that exist explain the structure and/or applications of specific export control categories and laws, perhaps identifying how the current moment presents a change to what came just before. These regulatory and scholarly approaches render it difficult to connect the weedy details to a bigger picture understanding of the contours and dynamics of U.S. export control policy.[5] These challenges are compounded by the absence of a dataset of individual licensing/exemption decisions to study, or even a way to do trend-analysis of decisions and policy changes. Clear explications of the policy direction are also lacking because, as Daniels and Krige note, U.S. policy operates under the controlled unclassified information (CUI) designation, which means that day-to-day decisions and argumentations are often not accessible to scholars or the public.[6] These difficulties help explain why there are so few books and articles on the topic, and why legal scholars have rarely explored this topic.

Knowledge Regulation and National Security is a movie-length history of U.S. export control policy from World War I through the first Trump administration. The existing academic studies of export controls tend to focus on over-time change regarding a single slice of policy. Daniels and Krige, two historians of science, are focused on the knowledge control slice. Their historian methodology means they draw primarily on primary and secondary written accounts, including government and non-government reports, congressional testimonies, and documented policy debates.

Daniels and Krige's historian analysis can be usefully juxtaposed with Hugo Meijer's *Trading with the Enemy: The Making of U.S. Export Control Policy Toward the People's Republic of China,* which focuses on the China slice of U.S. export control politics. Meijer, a CNRS Research Fellow at Sciences Po's Center for International Studies (CERI) and the Founding Director of the European Initiative for Security Studies (EISS), is a political scientist and the book is based on his Ph.D. research, which ended in 2011. Given the lack of

the United States Bureau of Industry and Security issued a document that—underneath its 139 pages of dense bureaucratic jargon and minute technical detail—amounted to a declaration of economic war on China."). As Michael Mastanduno, allies, and adversaries have long argued that certain U.S. policies amounted to economic warfare. *See* MICHAEL MASTANDUNO, ECONOMIC CONTAINMENT: COCOM AND THE POLITICS OF EAST-WEST TRADE 40–47 (1992) (defining the term "economic warfare"). See the book's index for the many references to economic warfare.

[5] The few legal books insiders have published are helpful for those who are compelled to follow the labyrinth of U.S. export-control related rules, regulations, and policies, but they do not explain U.S. export control policy writ large. *See, e.g.*, ERIC L. HIRSCHHORN, BRIAN J. EGAN & EDWARD J. KRAULAND, U.S. EXPORT CONTROLS AND ECONOMIC SANCTIONS (4th ed. 2021).

[6] MARIO DANIELS & JOHN KRIGE, KNOWLEDGE REGULATION AND NATIONAL SECURITY IN POSTWAR AMERICA 13 (2022).

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secondary literature addressing U.S. export control policy vis-à-vis China, Meijer draws on primary sources that include diplomatic cables, archives of background, and working papers, plus 199 interviews, 170 of which occurred in the United States and twenty-nine in Paris, Beijing, and Shanghai.[7]

Before beginning, a word about my perspective. *Knowledge Regulation and National Security* was the first book I read before embarking on a year of research and participant observation working at the agency that designs and implements U.S. dual-use export controls (the Bureau of Industry and Security (BIS)). Reading this book was a baptism by fire experience. The national security argument was eye-popping, yet the book's organization and the topics discussed were confusing.[8] I felt then and now that Daniels and Krige were being presentist—letting the sentiments of the day shape the history that gets told—which for historians is a term of opprobrium. The better historical approach explains the context in which the ideas and debates developed.

This Review draws on context provided by Michael Mastanduno's seminal book *Economic Containment: CoCom and the Politics of East-West Trade.* The first book published on U.S. export controls, Mastanduno is focused on the CoCom slice of U.S. export controls.[9] For me, Mastanduno and Meijer do a better job capturing the larger policymaking and foreign policy context, in large part because these studies draw extensively on interviews with current and former policymakers. In a policy domain as opaque as export controls, interviews are probably the only way to understand how a range of viewpoints shaped or failed to shape export control decision making.

This Review begins with a thumbnail sketch of the larger context of export control politics, after which it summarizes Daniels and Krige's knowledge control findings. Next the review summarizes Daniels and Krige's argument about how a U.S. national security way of seeing shapes U.S. export control policy. I then critique Daniels and Krige's argument by reference to Meijer's explanation for changes in U.S. policy vis-à-vis China. I end by drawing on my own export control research, offering some summing-up conclusions.

I. A Thumbnail Historical Sketch of Export Control Policy Debates to Orient Readers

The statutory authorization for U.S. export controls requires that controls be linked to national security objectives, which means that export control conversations will inevitably be debated using the language of national security. Daniels and Krige suggest that there is a single U.S. national security way of seeing, whereas Mastanduno's analysis is about how U.S. agencies, U.S. political actors, and CoCom allies have different ideas about the best way to use export controls to advance national security objectives. I will use the lower-case term "security hawk" when referring to the viewpoints that Daniels and Krige equate with the

[7] Hugo Meijer, Trading with the Enemy: The Making of US Export control Policy Toward the People's Republic of China 24 (2016).

[8] I now understand that most export control writings move from topic to topic. The strategy is to then provide just enough background to understand each topic, which makes it difficult to reconstruct the larger context and bigger picture of U.S. policy. Also confusing, however, is that Daniels and Krige wanted to hit on all of the major controversies, even when the relationship to knowledge control is indirect or secondary.

[9] Mastanduno, *supra* note 4.

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American national security way of seeing. In the context of export control debates, policy insiders and scholars, including Meijer, use the (upper-case) label of "Control Hawks" to indicate that a subset of U.S. actors have across time advocated for tighter export controls in the name of national security. The difference is important because it indicates that neither security hawks nor Control Hawks are the only U.S. voices defining how export controls should or can be used to advance U.S. national security.[10]

Historical background, including Michael Mastanduno's Cold War study of East-West relations and my own additions, will help readers better contextualize some of the specific arguments raised in the discussion of the books. Today's U.S. export controls are really Cold War and post-Cold War creations. During the Cold War, technology controls vis-à-vis Communist countries dominated U.S. export control policy discussions. Mastanduno, today the Nelson A. Rockefeller Professor of Political Science at Dartmouth University, sees U.S. export control politics as swinging between what today we would label the U.S. domestic Control Hawk preference, brought into the conversation by the Department of Defense and Congress, and the tempering voices of the State Department and Department of Commerce whose arguments more often than not prevailed because export control objectives could only be successfully achieved with CoCom allied support. [11]

During the Cold War, hawkish voices focused on the Communist threat more generally, advocating for policies that would fight communism wherever it was located. By contrast, CoCom allies focused on intentions of a set of leaders who were part of Communist systems yet not monolithic in their foreign policy interests. Throughout the Cold War, the USSR was the most militarily capable Western adversary, and thus the primary country of concern. Americans and U.S. policymakers presumed that technology traded with any Communist country would find its way to the USSR.[12] European and Japanese leaders saw the issue differently. European countries had sizable domestic Communist parties, and fewer sensitive technologies to protect, and perhaps for these reasons they resisted a high-control policy framed to counter a generalized Communist threat. Instead, European and Japanese threat perceptions ebbed and flowed, shaped primarily by Communist leaders' proclivity, or lack thereof, to use military force abroad.

Temporally this means that after the Korean War, China did not appear to be militarily capable or an aggressor state and European governments refused to maintain strict export controls vis-à-vis China.[13] The United States maintained its tight controls, but the lack of serious China-focused national security concerns during the Cold War is the reason why there was no secondary China-focused export control literature for Meijer to draw on.

European countries long maintained greater trade relations with Central European countries. Following World War II, European countries depended on Central European imports, including food imports, and Central European countries insisted that CoCom regulated

[10] Meijer's book goes much deeper into the 1990s policy debates behind the focus on technological leadership. *See* MEIJER, *supra* note 7, Ch. 4 (discussing the Run Faster and the Control Hawks coalitions).

[11] MASTANDUNO, *supra* note 4.

[12] *Id.* at 40–47 (discussing economic warfare as a strategy); 71–74 (discussing U.S. beliefs after World War II); 234–42 (discussing President Reagan's economic warfare grand strategy and European disagreement with the policy).

[13] MEIJER, *supra* note 7. The Review returns to this point in discussing Meijer's book.

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products be part of the exchange bargains.[14] Mastanduno explains that the political balance within CoCom was maintained through exceptions.[15] Since the United States had little trade with Central Europe or China following World War II, U.S.-based actors needed few exceptions. The lack of trade is also why U.S. export control policy could remain strict, and mostly insensitive to economic trade-offs.

By the 1960s, European counterparts (and many U.S. firms) were fed up with the U.S. approach of strict export controls vis-à-vis Central Europe and China, manifested as struggles over the granting of exceptions. Given that Soviet leaders were once again moving troops into Central Europe, European leaders, and much of the U.S. foreign policy establishment, thought that a fresh approach of engagement (aka détente) was a more prudent national security strategy, one that could potentially divide the Communist alliance.[16] History proves that this national security viewpoint was correct.

The U.S. and European embrace of détente sparked major changes in U.S. and CoCom export control politics. Meijer's story about U.S.-China relations takes off because of détente, which led to Nixon's opening to China. Détente-driven economic changes in the 1970s and 1980s built within the United States and Europe a greater economic stake in trade with China, Central European countries, and with the USSR.

The opening of trade and cultural exchanges with the USSR and Central Europe greatly agitated U.S. security hawks in the 1970s, leading to the increase in knowledge controls that Daniels and Krige discuss. Whereas Daniels and Krige see this period as yet another example of U.S. security hawkishness, Mastanduno sees the 1970s and 1980s as a U.S. and European struggle between the national security argument for détente, and a wrong-headed hawkish belief that the United States could force its allies to follow a tighter U.S. export control policy regime. President Reagan's strategy, discussed at length later, can be seen as an effort to accommodate the growing economic stake in trade with Communist countries.

The hawkish export control dream was then further undermined when European countries finally insisted on ending CoCom in 1994.[17] Meijer's theoretical analysis takes off at this point. Whereas Meijer sees the struggles between the Run Faster and Control Hawk coalitions as something new, in my view, the struggles are a continuation of what Mastanduno discussed, using the language of interagency and interbranch politics. Also, whereas Meijer's book imparts a sense that the Run Faster coalition reshaped U.S. interagency conversations,[18] Daniels and Krige are responding to the reality that the debate was, in fact, not

[14] MASTANDUNO, *supra* note 4, at 74–82.

[15] *Id.* at 88. Mastanduno explains that in order to smooth over European concerns about the 1952 Battle Act, a Congressional effort to use U.S. funding to force European countries to implement U.S. export controls, the State Department promised to CoCom partners that they would uphold a generous exceptions policy, and thereby allow critical trade with Central European countries. Mastanduno argues "[b]y legitimizing an exceptions procedure, the allies compromised what had been an unconditional embargo on List I items. In future years CoCom members would request exceptions not only for hardship cases but also to develop export markets in the East or, in the case of the United States, to advance particular foreign policy interests. The politicization of the exceptions procedure contributed to the weakening of CoCom during the 1970s and 1980s."

[16] *Id.*, Ch. 4.

[17] Meijer has an interview-based account of CoCom's demise and U.S. efforts to sustain cooperation through the creation of the Wassenaar Arrangement. MEIJER, *supra* note 7, at 129–34.

[18] Meijer conducted his research at a time when the Department of Commerce, Department of State, and Department of Defense were publicly and vocally aligned around an export controls reform agenda. This collaboration, and Secretary of Defense Robert Gates' public endorsement of the reform agenda, was unusual. Yet the

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settled as moments after Meijer's book was published, Control Hawks returned to seize the export control steering wheel.

Because Daniels and Krige are focused on knowledge control, Meijer on U.S.-China relations, and Mastanduno on CoCom, none of the books pays sufficient attention to the East-West export control developments related to détente. When China detonated a nuclear weapon in 1964, the United States began an effort to create an East-West Nuclear Non-proliferation Treaty (NPT).[19] The NPT limited trade in nuclear-related technologies to members of the NPT, yet it did not create the mechanics to control nuclear related trade. East-West non-proliferation export control regimes arose to fill this gap.[20] The Conference on Security Cooperation in Europe then deepened East-West cooperation, building extensive civil society and artistic cooperation between West and Central Europe, thereby paving the way for European Union expansion after the fall of the Berlin Wall. These developments help explain why President Reagan struggled and ultimately failed to reinvigorate the CoCom export controls strategy.

I mention these developments because the so-called Multilateral Export Control Regimes (MECRs) of today were also détente-related successes, and today they are the foundation of multilateral export control cooperation.[21] When the Cold War ended and CoCom collapsed, U.S., European, and Japanese export control policy shrunk. The United States still used export controls for foreign policy objectives, but multilateral export controls focus primarily on the MECR-defined non-proliferation agenda and (after the September 11 attacks) controlling the supply of weapons to terrorist actors. In short, whereas anti-communism defined Cold War-era export control politics, today's multilateral export control debate builds on the East-West non-proliferation export control cooperation that developed during détente and that expanded in significance in the post-Cold War era.

The situation of today is that the United States is trying to add country-targeted technology controls to a multilateral export control system designed for country-agnostic non-proliferation purposes. China was brought into one MECR, the Nuclear Supplier Group, but China has been excluded from the Missile Control Group, the Australia Group, and the Wassenaar arrangement.[22] Frustrated by its exclusion, and seeing MECRs as institutions that can mobilize an anti-China technology control system, China (with Russian aid) is strategizing through the Peaceful Uses agenda in the UN General Assembly to politicize and undermine today's

Control Hawks viewpoint did not go away. Rather, export control policy reform ended up being an exception that did not prove a rule.

[19] The Treaty was negotiated between 1965 and 1968, and it entered into force in 1970. UNODA, Treaty of the Non-Proliferation of Nuclear Weapons (NPT), *at* https://disarmament.unoda.org/wmd/nuclear/npt.

[20] For more, see Jason Enia, *Greasing the Wheels of the Nuclear Nonproliferation Regime: The Political Economy of Nuclear Suppliers Group Rules*, 3 J. Peace & Nuclear Disarmament 385 (2020). *See also* Andrew Feickert, Cong. Res. Serv. CRS RL31848, Missile Technology Control Regime (MCTR) and International Code of Conduct Against Ballistic Missile Proliferation (ICOC): Background and Issues for Congress (Apr. 8, 2003).

[21] The Nuclear Supplier Group was established in 1975; the Australia Group (linked to prohibitions on the use and spread of chemical and biological weapons proliferation) was established in 1985; the Missile Technology Control Regime was founded in 1987; the Wassenaar Arrangement, established in 1996, was the replacement to CoCom. While lawyers might struggle to understand the legal bases of these institutions, insiders label these informal and mostly untransparent entities multilateral export control regimes. An association of a control and these regimes renders the control "multilateral."

[22] *See* Niels Aadal Rasmussen, *DIIS Brief, Chinese Missile Technology Control – Regime or No Regime?*, Danish Inst. Int'l Stud. (Feb. 2007).

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MECRs.[23] Also, because export control policymakers to this day see the small sliver of export-controlled goods as a necessary and relatively low-economic impact national security exception, there remains too little discussion of how the fact that today's adversaries are part of the global trading system (the World Trade Organization) is consequential and politically complicating.

With this background, I return to the books' discussions of U.S. export control policy across time.

II. Knowledge Control: Yes U.S. Efforts to Control the Export of Knowledge Are Surprising

Knowledge-control is part of U.S. policy regarding export controls for intangible items—in this case, expertise. The early history of knowledge control reminds us that regulation of intangibles has long been part of U.S. export control policy. The key question is whether knowledge control is representative of export control politics, and thus a sort of tail that wags the dog of U.S. export policy. Daniels and Krige forcefully argued that knowledge control is the heart of U.S. export control policy.

Without question, *Knowledge Regulation and National Security* provides the best treatment of U.S. export control policy regarding "deemed exports," the regulatory category that applies to the sharing of sensitive, controlled, U.S.-generated knowledge with foreign nationals from certain countries. The book also persuasively demonstrates that knowledge control is an important part of U.S. export control history, and a window into a national security mentality that is part of U.S. export control politics.

Many readers will be surprised, if not alarmed, at the U.S. government's broad assertions of regulatory authority in the context of deemed exports, which reaches all U.S. citizens and firms, regardless of where the sharing occurs. The authors document a transition from first trying to control the sharing of blueprints and technical manuals, to the realization that what really needed to be controlled is know-how, the expertise needed to translate a blueprint, disassembled machine, or a published paper into a production-at-scale replicable process or product. Whereas intellectual property is an internationally shared category, even if its particulars differ across states, "deemed exports" (e.g., characterizing the sharing of knowledge as an export) are not regulated by most countries in the world, perhaps because most countries neither generate nor export substantial amounts of national security-related knowledge.

Knowledge Control and National Security helpfully contextualizes that knowledge control, and to some extent technology and export control strategies, take a number of different forms. For deemed exports, BIS regulations focus upon two factors: the types of information that is controlled (mostly technical knowledge associated with items that are also controlled) and the country-origin of the nationals with whom the controlled knowledge may not be shared. The government requires universities, labs, and firms to apply for licenses in order to gain approval to work with nationals where information-sharing is controlled. Requiring licenses is a rather blunt whack-a-mole strategy to control pieces of know-how that enter the radar screen of BIS

[23] UN General Assembly, Report of the Secretary General, Seventy-Seventh Session Promoting International Cooperation on Peaceful Uses in the Context of International Security, UN Doc. A/77/96 (June 13, 2022).

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or the security hawks. Also, university leaders have successfully drawn boundaries, demanding that fundamental research, published research, and open-source research be excluded.

The book usefully connects deemed export controls, visa policies (managed by the Department of State), foreign investment screening (the interagency Committee on Foreign Investment (CFIUS) managed by the Treasury department), and more recently the attempt to control out-bound investments (also an interagency process managed by the Treasury Department) as efforts at controlling the spread of U.S. advanced technology knowledge. Said differently, deemed exports are controlled not only by requiring export licenses, but also by screening visa requests and regulating inbound and outbound investment that can allow foreign companies to acquire U.S. know-how.

Security hawks see knowledge control as an important way to maintain the United States' technological and military advantage. Yet policy insiders will rightly take issue with Daniels and Krige's claim that "there has been a shift in the regulatory regime from the control of trade in the first two or three decades after World War II to the regulation of knowledge flows from the 1970s up to the present day."[24] In the grand scheme of things, most export control policy and licensing remains focused on trade in tangible goods, and the regulation of intangible goods generally involves commercial products such as services and digital trade related to controlled products. Security hawks want to deny U.S. technology to adversaries. U.S. debates end up focusing on whether security hawks' desires produce the desired result, especially because over-control can undermine ally support, lead foreign producers to step into markets the U.S. abandons, and thus can end up compromising U.S. technological leadership. Daniels and Krige recognize that U.S. actors are debating this issue, but for them over-control would surely occur if only the United States had the power to do so.

In tracing when and how the deemed export category gets turbo-charged, rather than how the category is more generally used day to day, the authors reveal that in the name of protecting National Security (the capitalization will be explained), the U.S. government claims huge authority to regulate what Americans do with the knowledge in their heads. What Daniels and Krige are really putting their finger on is that in the 1960s, Japan and Europe began investing in science. Private industry and later venture capitalists also became the primary funders of research related to semi-conductors and other dual-use products (e.g., commercial satellites).[25] In 1969, Congress updated the Export Administration Act encouraging export control administrators to avoid unilateral controls, and to consider the foreign availability of controlled items.[26] The U.S. national security establishment was also endorsing the policy of détente, and thus the liberalization of economic relationships with Communist countries. Moreover, starting in the 1970s, the United States' technological dominance started to wane. For all of these reasons, at this time security hawks became more concerned about science knowledge control writ large and policymakers started to debate if, how, and whether they could control how private actors, including but not limited to academics, share the know-how that has made the United States such an innovator and producer of science and technology.

[24] DANIELS & KRIGE, *supra* note 6, at 32.
[25] *Id.* at 104–10.
[26] MASTANDUNO, *supra* note 4, at 132–42.

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Daniels and Krige's excellent discussion of the 1976 Bucy report, a problematic and wrong-in-many-ways Department of Defense report, is important in explaining a U.S. policy shift from focusing primarily on the end use of products, to a focus on controlling the export of critical technologies. Mastanduno also devotes a chapter to this report, which was so problematic in its analysis and recommendations that even the Department of Defense did not fully embrace it.[27] Daniels and Krige are able to access more material and benefit from forty more years of history to see the afterlife of the report's knowledge-control ideas. They argue that the Bucy report began the shift that is central to today's discussion of controlling critical and emerging technologies.[28] While they are right, as Meijer's account makes clear, U.S. export control policy still focuses a lot on the end use of products, and whether or not an importer is a military end user. Also, because most cutting-edge research resembles the situation of quantum research today, where there is a real concern that trying to limit the knowledge-generation participation of foreign scholars will undermine the U.S. research effort, the security hawks desires often do not win the day. Thus the question: is knowledge control the tail that wags the U.S. export control or China policy dog?

III. Daniels and Krige's Main Argument: The National Security State

Daniels and Krige's overview of export control policy offers an extremely helpful policy orientation. Their historical treatment begins with World War I, and thus in a total war context where for understandable reasons, U.S. officials did not want war-time adversaries to learn about the military-related scientific developments supporting the U.S. war effort. Daniels and Krige note that the major categories that define the export control policy space—secrecy classifications, trading with the enemy rules, and basic export categories such as general licenses and visa limitations—were created at this time. Chapters 1 and 2 are extremely useful historical and contemporary primers regarding what are export controls, how BIS works with the other agencies, and how limiting exports of military-related technology makes obvious good sense in the context of hot and cold war.

Their more significant contribution is to contextualize these policies within a larger context of U.S. government efforts to restrict on national security grounds the transfer of scientific and technical knowledge. Daniels and Krige claim that whereas most other countries dismantled their wartime control policies after the fighting stopped, the United States in contrast created a Cold War export control system from its total-war economic policies.[29] In a wartime context, the authors explain, National Security "seeps into every nook and cranny of government and society and into policy fields that as recently as the 1930s had seemed at the fringes of security thinking at best."[30] The National Security mentality creates a tight link between "security, economy, and ceaseless technological innovation."[31] While these quotes are discussing the 1930s and 1940s, the authors go on to show that what they call the national security way of seeing is a constantly reoccurring feature of U.S. politics in general, and of U.S. export control policy in particular. They explain that

[27] *Id.*, Ch. 6.
[28] Daniels & Krige, *supra* note 6, at 133–34.
[29] *Id.*, Ch. 2.
[30] *Id.* at 21.
[31] *Id.*

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> "National Security". . . spelled with capital letters, came to be the dominant concept that shaped America's perception of the world and saturated all actions that the US government took in the international realm. National security was born from the experience of total and global war with its far-reaching mobilization of national manpower, the economy, science, and technology.[32]

They further argue that "[t]he expansion of the concept of national security to embrace economic security is now taken for granted."[33] These are contestable claims.

The book's emphasis on the national security way of seeing implies that Americans are more willing to defer to national security framings, perhaps because Americans are more security conscious, but also because of a fear of provoking a U.S. government response. Daniels and Krige argue:

> Export controls are not invisible because they play a minor and insignificant role in the management of the national security state. They are invisible because they are one of its fundamental, taken-for-granted raisons d'être. Corporations that depend on export markets for their profits and university administrations that hold international cooperation as a core value go out of their way to comply with them on pain of grievous sanction. We don't see them at work because most people impacted by them make sure that they comply with their injunctions.[34]

This national security cooptation, and moments of U.S. government overreach in the name of national security, fascinates and worries the authors.

To put knowledge control into a larger context, one should realize that as the authors note, most often U.S. export control policy is a technocratic enterprise that is narrowly focused on items that are clearly national security related under virtually any understanding of the term.[35] As the previous Part indicated, the less discussed part of U.S. and global export control history is the painstaking international effort to ensure that the knowledge and inputs that go into creating weapons of mass destruction (WMD) do not spread geographically or to non-state actors. This part of U.S. and international export controls is often overlooked because it is uncontroversial in that everyone who matters agrees in principle that we do not want disgruntled and unhinged groups or political leaders to gain the inputs and know-how to produce and launch nuclear, biological, chemical, and pathogen weaponry against civilian populations. Does this viewpoint, which exists also outside of the United States, mean that U.S. actors and industries are co-opted? Is it not also possible that many export controls are clearly national security related, narrowly tailored, and of little financial impact and for this reason they garner university, industry, and international support?

To be sure, the WMD example is not the whole of the story, nor can one defend all U.S. export control policy as merely commonsensical. New technology controls are of a very different nature, as are/were the embargos applied to countries and their nationals that were part of the USSR's Communist alliance even if specific individuals and governments were not

[32] *Id.*

[33] *Id.* at 26. To put my cards on the table, I do think that post-COVID, economic security is emerging as a major new issue.

[34] *Id.* at 18.

[35] *Id.* at 17–18.

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security risks, were themselves anti-Communist, and were clearly not working with Soviet and Chinese Communist Party leaders.

Daniels and Krige are right that at times U.S. actors, usually in Congress and with support that can be found in the extremely large Department of Defense, become concerned about national security threats in ways that feel exaggerated because the threat is rare or unlikely, and the recommended cure is quite a bit worse than the disease. At times, and this is particularly a U.S. phenomenon,[36] security hawks agitate—usually within Congress—and partly succeed in ratcheting up U.S. controls well beyond what industry, researchers, and foreign partners see as necessary or reasonable. These are also moments when congressmen try to reopen the fundamental research exception bargain used to protect university researchers from export controls. It may well be that the episodes when the U.S. government engages in strong-armed knowledge control, especially vis-à-vis universities, *are* moments where Control Hawks manage to grab the export control steering-wheel.

For these moments, Krige and Daniels make an important argument. They claim that security hawks accomplish their goals through intentional overreach, by inducing scientific and industry self-censorship.[37] The book is replete with episodes of lower-level U.S. officials acting in ways that higher-ups then roll back, and with quotes and discussions of the strategies and verbiage that are used to try to amp up enough of a national security-related frenzy to penetrate the otherwise rather boring technocratic process of updating export control rules, and in rare circumstances denying export licenses. For example, one Reagan era episode involved an effort by the Department of Commerce to get a university conference organizer to disinvite Soviet, Eastern European, and Chinese delegates who were set to attend the First International Conference on Bubble Memory Materials and Process technology.[38] Delegates from Hungary, Poland, and the USSR did not then attend, but the Chinese participants who were in transit were allowed (by the State Department) to participate so long as they signed a statement promising not to share the information without first seeking a license from the Office of Export Administration (the predecessor name of BIS).[39] It is a great example, but it is also an exceptional example that was—as Daniels and Krige note—shaped by the shock of the Farewell papers (more on this in a moment). During its first term, the Trump administration launched the China Initiative. Daniels and Krige discuss the legal cases against MIT and Harvard scientists whose Chinese ethnic origin or collaboration with Chinese scientific institutions were seen as suspect.[40] The Biden administration ended the China Initiative, yet supporters for candidate Trump advocated a return to the policy.[41]

Lawyers may emphasize how U.S. laws and statutes do not support the most hawkish policy positions, and political scientists may emphasize that hawkish interventions were either

[36] *Id.* at 23. Daniels and Krige discuss objections to the National Security viewpoint. Given their U.S. focus, Daniels and Krige give short shrift to Mastanduno's arguments about how U.S. officials often embrace the less hawkish positions of U.S. allies.

[37] *See especially id.* at 98.

[38] *Id.* at 143–45. *See* note 46 *infra* (explaining why the Reagan administration took extreme measures).

[39] *Id.*

[40] *Id.* at 321–22.

[41] *See* Michael German, *The "China Initiative" Failed US Research and National Security. Don't Bring It Back*, THE HILL (Sept. 19, 2024), *at* https://thehill.com/opinion/national-security/4886821-china-initiative-restart-harmful.

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never fully implemented, or the policy was quickly phased out. For Daniels and Krige, this type of push-back misses the point. The actual policy objective is to oversell the security risk and threat, to create examples that scare American businessmen, academics, and critics into submission, and to thereby achieve through politics what they might not be able to achieve through statute, law, or compelling persuasion. The Trump administration's legal cases fell apart, as they should have. But insofar as China Initiative prosecutions have made U.S. academics wary of working with Chinese scholars, Chinese scholars wary of working with U.S. government funds and in the United States, and U.S. universities inclined to over-comply with U.S. government mandates, the failed prosecutions succeeded in their goals.[42] With President Trump's re-election, there likely will be a return to policing American cooperation with "adversaries."

IV. Meijer as a Counter-Viewpoint: A China-Focused Way of Seeing

Meijer's puzzle is why does U.S. policy vis-à-vis China vary so much over time and across different types of technology? His argument centers around a change in the 1990s when, according to Meijer, a new "Run Faster coalition" gained ascendency in U.S. export control politics. His singular focus on U.S.-China export control politics leads Meijer to ignore precursor events, such as the brouhaha surrounding the previously mentioned Bucy report. While the Bucy report was not about and did not at the time implicate U.S. export control policy vis-à-vis China, in ignoring this debate Meijer misses how the central ideas that were repackaged into the Run Faster strategy were developed in the 1970s and 1980s by the actors successfully pushing back against the security hawks' counter-détente arguments.

The different ways that the authors discuss the Reagan era reveals how their differing perspectives shapes the story each tells. For Daniels and Krige, President Reagan inaugurated a paradigm shift away from anti-Communist ideology, because President Reagan liberalized trade with China and Central Europe, but not the USSR. Mastanduno sees the Reagan era as creating tension in U.S.-European export control relations. In 1979, Russia invaded Afghanistan. For the United States, and especially for security hawks, the invasion indicated that détente had failed because the USSR had resumed its Communist aggression. Europeans and the Japanese did not share this concern. Daniels and Krige and Mastanduno discuss at length the political shock caused soon thereafter in 1981 by the Farewell papers, Soviet dissident intelligence leaked to the French government that demonstrated how Soviet leaders took advantage of détente to steal U.S. technology. The declassified details are startling indeed, and one can well imagine that the Reagan administration would respond.[43] The Reagan era efforts to interrupt Soviet and Central European participation in the Bubble Memo Materials conference was one reaction. President Reagan and his Control Hawk

[42] An MIT study is highly critical of the China Initiative, noting that it "strayed far from its mission." *See* Eileen Guo, Jess Aloe & Karen Hao, *The US Crackdown on Chinese Economic Espionage Is a Mess. We Have the Data to Show It*, MIT Tech. Rev. (Dec. 2, 2021). A study on how the China Initiative has impacted scholars of Chinese descent, encouraging them to leave the United States and decreasing grant proposals to federal agency sponsored funding. *See* Yu Xie, Xihong Lin, Ju Li & Junming Huang, *Caught in the Crossfire: Fears of Chinese-American Scientists*, 120 Proc. Nat'l Acad. Sci. e2216248120(2023).

[43] Mastanduno, *supra* note 4, at 327. Mastanduno noted that Department of Defense officials saw the thefts as greatly improving Soviet military capability. With greater access to documents, Daniels and Krige list and demonstrate the impact of the leaks. Daniels & Krige, *supra* note 6, at 137–42.

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political base also turned to export controls to limit Russia's military and economic prowess. Mastanduno devotes seventy pages to Reagan's strategy, and his administration's efforts to force European allies to embrace an anti-USSR economic warfare export control policy.[44] Reagan's anti-Soviet policies were effective in ending the Cold War, even if his efforts to force U.S. allies to adopt similar export controls mostly failed. The trade-with-the USSR genie was already out of the bottle; Europeans were focused on building positive relations with Central Europe; and Reagan's strong-arm tactics were resented.[45] Knowing that CoCom collapsed two years after the publication of Mastanduno's book, one can read *CoCom and the Politics of East-West Trade* as evidence that for how and why the security hawk idea of using sanctioning power to force U.S. allies to adopt their preferred export control strategy was a bust in the 1950s, 1970s, and 1980s.[46]

Meijer's chapter-long discussion of President Reagan's China policy is a forgotten piece of U.S. export control history. Meijer discusses President Reagan's enthusiasm for tangibly demonstrating the benefits for China if it worked with the United States to counter the USSR. Meijer discusses how the United States worked directly with Chinese leaders to further the United States' anti-Soviet policy in Afghanistan,[47] how President Reagan began arms cooperation and endorsed arms sales to China,[48] and how after the explosion of the U.S. space shuttle, President Reagan began space cooperation with China.[49] Indeed in Meijer's telling, the satellite launching policies that blew up during the Clinton administration were a direct continuation of the China-focused national security policies that began under President Reagan, and were expanded under President George H. W. Bush.[50]

As Meijer defines the Run Faster argument, in the 1990s there is also a realization that the United States has largely lost its ability to restrict the transfer of defense-related technologies to China, and that the U.S. defense industrial base relies on commercial technologies that themselves depend on access to the Chinese market.[51] Meijer sees the key tenants of this Run Faster coalition as: (1) different strategic threat perceptions have rendered U.S. unilateral controls ineffective; (2) the rapidly increasing technological capabilities of the commercial sector has contributed to a "world wide diffusion of commercially developed technologies and the proliferation of alternative sources of supply"; and (3) the center of gravity has shifted from government R&D funding to the commercial development of technologies like GPS and satellites, and the Department of Defense depends on these technologies.[52] He identifies

[44] MASTANDUNO, *supra* note 4, at 233–308.

[45] *Id.*, Ch. 7.

[46] The State Department managed to never implement Congress's 1950 Battle Act mandate to sanction European partners, and the sanctioning elements of the Bucy Report were also seen as a non-starter. President Reagan was the first U.S. president to threaten sanctions, and it did not go well. *See id.* at 83–89 (regarding the Battle Act); 210–13 (where even Defense Department officials recognized that sanctioning allies was a problem); 243–52 (discussing Reagan's efforts to stop the building of a pipeline to deliver oil from Russia).

[47] MEIJER, *supra* note 7, at 57.

[48] *Id.* at 59–79.

[49] *Id.* at 93–100.

[50] *Id.* at 199–203.

[51] *Id.* at 18.

[52] MEIJER, *supra* note 7, at 151–57. My argument is that the failures of U.S. policy in the 1970s and 1980s created a reception for what were essentially repackaged arguments. Meijer sees the Control Hawks as located in Congress, with some support in think tanks and among former and career Pentagon officials (at 157–61).

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the coalition with the 1990s, but really the idea that unilateral controls do more harm than good gained currency earlier, and is a primary reason why the Export Control Act of 1969 strongly discouraged U.S. unilateral controls, adding a requirement that U.S. policymakers factor foreign availability into U.S. export control decision making. These same arguments were used in the 1970s and 1980s to push back against Control Hawk arguments, and they are used today to counter the anti-China export control sentiment.

An eye-opening synergy from the two books is the brief discussions of how Operation Desert Storm shook the export control policy debate. For Daniels and Krige, the first Gulf War "drove home the limits of the [Department of Defense's] procurement system,"[53] which prioritized the production of bespoke military goods. "The Department of Defense recognized that new technologies critical to military advantage were being driven by commercial, not military demand." From then on, the U.S. military would see U.S. commercial technological developments as necessary to the United States' military superiority.[54] Meijer stresses how the routing of Saddam Hussein's ground forces shook Chinese leaders, and the prowess of the United States' precision-guided missiles exposed a major vulnerability in large ground force strategy of the Chinese military. This was the beginning of China's military-fusion strategy, growing defense budgets, and the China 2025 strategy.[55] This is another example of world events redefining export control politics.

The difference across the two books is that Daniels and Krige believe that the security hawk viewpoint is dominant, whereas Meijer believes that the broad-based Run Faster U.S. coalition is more persuasive and influential. The core of Meijer's argument is that before 1990, the Control Hawks wanted stringent export controls to protect national security, and the other side was Pro-Trade, wanting to liberalize export controls to take advantage of economic opportunity.[56] Meijer believes that a new Run Faster coalition emerged in the 1990s. I would certainly characterize it differently,[57] but the relevant point is that Meijer provides names and affiliations of a set of individuals in the National Security Council, Department of Commerce, Department of Defense, and the Department of State that were part of this Run Faster coalition.[58] In other words, Meijer persuasively demonstrates that there is a U.S. way of seeing that is not the security hawk way of seeing.[59] That said, one can wonder if

He also sees business as "pressing in the same direction as the Run Faster coalition" but mostly for economic-interest reasons (at 161).

[53] DANIELS & KRIGE, *supra* note 6, discussion at 252–57, quote at 252.

[54] *Id.* at 253.

[55] MEIJER, *supra* note 7, at 118–21

[56] *Id.* at 146.

[57] In my view, Meijer's characterization of the Pro-Trade camp plays into the security narrative wherein anyone that disagrees is putting profits over security. Indeed Mastanduno shows that the United States and foreign advocates of détente thought that liberalizing trade would be a better national security strategy (MASTANDUNO, *supra* note 4, at 132–34, 169–70). Given the just discussed Reagan policy, it is also clear that President Reagan saw liberalizing export controls vis-à-vis China and Central Europe as a better national security strategy.

[58] MEIJER, *supra* note 7, at 149–50.

[59] The arguments against unilateral sanctions were present in the 1960s, leading up to the Export Control Administration Act of 1969 that led to the détente liberalization of export controls. Also, the idea that there was now ample foreign supply of important technologies was part of the discussion since the 1970s, when Japan became a major technology exporter. The only thing that was different in the 1990s is that Secretary of Defense Robert Gates took on the hawks in the Department of Defense, and his vocal support for export control reform and the pointlessness of over-control made it much harder for Congressional Control Hawks to resist the reform efforts.

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discussions about reviving the Trump administration's first-term efforts to convert civil service positions into political appointments might be used to rid export control agencies of the actors who have, in the past, slowed down or stymied the maximalist implementation of hawkish export control policies.

V. Conclusion: The National Security Way of Seeing?

Focusing only on the contested parts of U.S. policy, which Daniels and Krige do, leads to a somewhat warped perspective. Far into the book, Daniels and Krige state that "in practice, export controls are no more than guidelines that are negotiated in an intensely political process engaging multiple stakeholders with very different interests."[60] What I am about to say may be an American viewpoint, yet in my mind it is more accurate to say that there are number of consensus points for export control policy, particularly with respect to WMD. To the extent that many every-day commercial exports can be turned into smart and dumb bombs, chemical or biological weapons, there are solid national security arguments in support of guardrails that require companies to conduct due diligence, know their customers, and avoid selling advanced technology that will feed into military end uses. COVID taught us to pay attention to supply chain resilience, and a more recent China shock is the realization that in the enthusiasm for neoliberal trade and globalization we slept-walked our way into a world where China accumulated worrisome levels of market dominance with respect to the supply of some critical inputs (e.g., for green technologies and computer chips). In other words, there is a great deal of national-security related areas where the challenges are formidable but the debates about strategy do not need to be an intensely political process.

This Review has raised a question of when do Control Hawk viewpoints seize the steering wheel? The answer is not "all of the time." My answer would be that the politically fragmented way in which U.S. export control policy gets set, funded, operationalized, and implemented creates multiple access points for hawkish national security concerns to be voiced. Hawkish critics tend to be extremely vocal, loudly singing to a national security choir. Since few want to be accused of not caring enough about national security, the defenses tend to be more muted. Yet what matters is what is actually done. Daniels and Krige admit that the hawkish voices and moments tend not to prevail either at all, or for very long. That said, U.S. export controls are more stringent than those found in the rest of the world, in part but not only because the United States produces and exports more high technology and military goods than other states. Recent electoral politics combine with an anti-China sentiment to produce, yet again, loud export control hawkishness emanating from Congress, and with this sentiment more U.S. unilateral policies. The challenge for American policymakers is to deal with hawkish U.S. voices, without alienating U.S. export control partners or creating a security dilemma response where adversaries then push harder and faster to undermine the export control and financial levers the United States has at its disposal.

My bottom-line review of *Knowledge Regulation and National Security* is that while colored by presentism, Daniels and Krige provide an eye-opening and important window into how the United States controls—or tries to control—how American institutions and citizens share their knowledge and know-how with foreigners. This is a must-read book for anyone

[60] Daniels & Krige, *supra* note 6, at 104.

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interested in debates about protecting research openness.[61] The book's discussion of the national security way of seeing illuminates an element of U.S. politics that is less all-pervasive as the authors imply, but that may become dominant under a second Trump administration. Also helpful is that *Knowledge Regulation and National Security* focuses more than the other two books on the over-time political economy changes that policymakers are reacting to when they seek to tighten U.S. export controls. That said, I do not think the authors truly capture U.S. domestic or foreign policymaking.

My bottom-line review of *Trading with the Enemy* is that it is an impressive dissertation book. Meijer's book fills an important historical gap, reminding us that there was a time when the United States viewed trade and even selling weapons to China as advancing the U.S. national security interest. The evolution of U.S. policy vis-à-vis China is interesting, and an even more interesting contrast is to compare Meijer's analysis to Daniels and Krige's discussion of U.S. policy toward Japan, which is about how economic security gets defined. Meijer, a European to his core, surely believes that the Run Faster coalition has the better argument.[62] Relevant for this review is Meijer's deep documentation of how different camps manifest and act within and through the U.S. government.

Like a moth to light, scholars and pundits are drawn to controversies that spill into the public. U.S. export control policy is a beacon again, and we should pay attention. All of the books adopted an international relations perspective, and they focused more on inter-agency than inter-branch dynamics. While Daniels and Krige think the Department of Defense is very influential, I read Mastanduno's analysis as a window into why the Department of Defense is never put in charge of export control decision making, nor given veto power. Daniels and Krige are correct and far from alone in reminding Americans and the world that there is a U.S.-based security hawk viewpoint that is always arguing for more controls. There are also more reasoned minds always working to temper this over-control impulse, usually in less public fora, and usually with success.

What determines the balance, then, is who is the president. If one considers the larger sweep of U.S. export control history, most often presidents are disengaged, with the result being a "bureaucratic free for all" that ends up shaping U.S. export control policy.[63] Presidents Reagan, Trump, and Biden saw export controls as an essential foreign policy tool. Because the Executive branch defines the national security direction of U.S. national security and foreign policy, an engaged and hawkish president is able to deploy the extraterritorial and coercive powers of the U.S. export control system. The only check becomes the resistance of multilateral partners, since unilateral controls tend to be ineffective.

[61] The reoccurring struggles repeatedly end up in a similar place because university officials constantly push back against control efforts: Fundamental research, published research, and open-source knowledge are not subject to controls. *See id.*, Ch. 6 for more.

[62] Meijer has a newer book that discusses European Perspectives. HUGO MEIJER, AWAKENING TO CHINA'S RISE: EUROPEAN FOREIGN AND SECURITY POLICIES TOWARD THE PEOPLE'S REPUBLIC OF CHINA (2022).

[63] MASTANDUNO, *supra* note 4, at 324.

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