Chairman Crapo, Ranking Member Brown, and Members of the Committee, I am honored to be asked to share my thoughts on a number of critical current issues in U.S. export controls. My involvement in the field spans more than forty years and includes service in the administrations of Jimmy Carter and Barack Obama, with three decades of private law practice in between. Although I provide some export control assistance to private clients these days, my comments here reflect my personal opinions only.

The Chairman’s invitation requests my “assessment of current implementation and enforcement of ECRA, including related regulations, and how the United States may establish controls that address emerging and foundational technologies while preserving domestic innovation,” as well as my thoughts about “recent designations of ZTE, Huawei, and other Chinese technology companies” and, “[w]ith respect to China, including the persistent diversion challenges it poses, [my] perspectives on whether . . . emerging ECRA-related control structures in the United
States will be effective in confronting these challenges.” Finally, you ask for “any other legislative or oversight recommendations” I might have to offer. I will do my best to respond to each of these requests.

When I had the honor of serving as head of the Bureau of Industry and Security, I often described BIS’s job as being the other side of the coin from that of the Department of Defense. DOD’s job is to ensure that if our soldiers have to go onto the battlefield, they carry the most advanced, most reliable weapons and other equipment that we can give them. The job of BIS and its sister agencies is to ensure that our adversaries on that battlefield do not have the very best. That long has been the central aim of our export control system.

We seek this objective by controlling the transfer of sensitive technology to those who might employ it against our interests. The Export Control Reform Act—ECRA—wisely points out, though, that the imposition of controls should come “only after full consideration of the impact on the economy”¹ and on U.S. competitiveness in global markets,² as well as consideration of whether the technology in question is “widely available from foreign sources.”³

Let me note parenthetically that in my forty years of involvement with export controls, I have observed that although there can be vigorous disagreements about control policies, individual licenses, and the like, the disputes are decidedly not

² ECRA § 1752(3) (codified at 50 U.S.C. § 4811(3)).
³ ECRA § 1752(6) (codified at 50 U.S.C. § 4811(6)).
partisan. The Obama administration’s Export Control Reform initiative offers a good example. Some Democrats criticized what we were doing and many Republicans were supportive. Indeed, the chairman of the House Foreign Affairs Committee, a long serving Republican Member, complained to me at one point that we were not moving quickly enough.

**ECRA Implementation and Enforcement**

ECRA was enacted last August. Like most statutes that address ongoing issues, it does not have an expiration date. This means that its passage ended a decades-long pattern in which the Export Administration Act of 1979 would expire, the President would continue the Commerce Department’s export control authorities under the International Emergency Economic Powers Act, renewing the authorities annually, until Congress revived the Export Administration Act, the export act would expire again, and the pattern would repeat itself.

ECRA relates to exports from the United States, as well as to subsequent reexports and transfers abroad. It establishes a control system for so-called dual use items—those having recognized civilian as well as military applications—and low-level military items. That system is administered by the Department of Commerce in consultation with the Departments of Defense, State, and Energy.

ECRA was enacted with a companion statute called the Foreign Investment Risk Review Modernization Act, or FIRRMA, which amends the process for reviewing foreign investments that are inbound into the United States. The

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inbound investment review is conducted by CFIUS—the Committee on Foreign Investment in the United States. One goal of the CFIUS process, which also is a long time goal of the export control system, is to ensure that a foreign person who invests in the United States will not thereby gain access to technology that we would not allow to be exported directly to his or her home country.

The original FIRRMA legislation would have directed CFIUS to draw up a sensitive technologies list that would have been similar, but not identical, to the lists that already are part of the existing export control system. I and others ultimately convinced the sponsors of the FIRRMA bill that rather than have a body without export control expertise set up a potentially duplicative list, the measure should strengthen the existing export control system. Given the already-felt need of many in Congress to enact permanent export control legislation, Congress sensibly came up with ECRA as the solution.

What does ECRA do? To a considerable degree, it codifies the existing Commerce Department control mechanism, including the changes made by the Export Control Reform initiative. For that reason, ECRA requires few substantive regulatory changes aside from those involving emerging and foundational technologies, which I’ll address in a moment.

ECRA sets out a statement of policy that continues the traditional emphasis on military security and foreign policy, including prevention of the proliferation of weapons of mass destruction, strengthening our defense industrial base, and focusing controls “on those core technologies and other items that are capable of
being used to pose a serious national security threat to the United States.”
It also expresses a preference for multilateral controls over unilateral controls, cautions against control measures that will adversely affect the U.S. competitive position in global markets, calls for regular updates of U.S. controls, encourages strong enforcement, and notes the complementarity of the export control and CFIUS processes in “controlling the transfer of critical technologies to . . . foreign persons.”

Substantively, ECRA continues in force the broad existing powers of the Commerce Department to administer and enforce controls on exports of dual-use and lower-level military items, as well as restrictions on activities of U.S. persons in support of foreign military and intelligence activities. ECRA also clarifies and expands considerably the tools available to BIS’s Office of Export Enforcement.

ECRA requires that licensing decisions take into account whether denial of a proposed export will have a significant negative effect on the U.S. defense industrial base, as well as whether approval would engender “significant production of items relevant for the defense industrial base outside the United States.”

**Emerging and Foundational Technologies**

ECRA requires the executive branch to identify, and the Commerce Department to control exports of, “emerging and foundational technologies that . . .

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5 ECRA § 1752(1)-(2) (codified at 50 U.S.C. § 4811(1)-(2)).

6 ECRA § 1752(3)-(10) (codified at 50 U.S.C. § 4811(3)-(10)).


9 ECRA § 1756(d) (codified at 50 U.S.C. § 4815(d)).
are essential to the national security of the United States" and are not already
controlled under one of our existing export control programs. The statute directs
that this effort take into account such criteria as national security, foreign
availability, whether a unilateral control would harm domestic research and
innovation, the effect on our defense industrial base, and the willingness of our
allies to impose similar restrictions. For a host of reasons, I am uncertain whether
this exercise will yield significant results.

The Commerce Department has thus far taken two initial regulatory steps in
carrying out this mission. First, an Advance Notice of Proposed Rulemaking
(ANPRM), seeking comments on possible emerging technology controls, was
published in November 2018.\textsuperscript{11} The comment period closed in January and a
substantial number of comments were received. I’m told that further action on that
rulemaking, as well as on a companion ANPRM on foundational technologies, was
delayed substantially by the government shutdown earlier this year but that
progress is being made on both fronts.

Second, BIS promulgated a number of new and revised export controls on
emerging technology items in May.\textsuperscript{12} These had been agreed to in the Wassenaar
Arrangement, which is a group of about forty countries that agree upon and then
implement “national security” controls. Strictly speaking, the controls promulgated
in May aren’t within the new procedural framework established by ECRA but I

\textsuperscript{10} ECRA § 1758 (codified at 50 U.S.C. § 4817).

\textsuperscript{11} 83 Fed. Reg. 58201 (Nov. 19, 2018).

\textsuperscript{12} 84 Fed. Reg. 23886 (May 23, 2019).
suspect they are indicative of the kinds of controls we will see on emerging technologies.

*Emerging technologies.* I agree wholeheartedly that we should impose appropriate controls on emerging technologies with national security implications and should do so as early in their development as practicable. Indeed, that is what the executive branch has been doing for decades. For controls to be truly effective, they should be adopted by our allies in the four multilateral export control regimes as well as unilaterally by the United States.\(^\text{13}\)

The principal problem with regulating an emerging technology is that until it is being applied in fairly specific ways, it’s difficult to write regulations that are sufficiently precise to be meaningful to regulators and exporters. By way of example, the Commerce Department can’t very well promulgate a regulation that just says, “Don’t send advanced materials technology to China” unless that regulation sets out particular applications and technical parameters. A general or generic prohibition isn’t specific enough to inform exporters what can and cannot be sent to China, or to tell enforcement agents, prosecutors, judges, or juries when an exporter has broken the law.

Less than a month ago, the Supreme Court reminded us that “[i]n our constitutional order, a vague law is no law at all”\(^\text{14}\) and that “[v]ague laws contravene the first essential of due process of law that statutes must give people of

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\(^\text{13}\) In addition to the Wassenaar Arrangement, these are the Nuclear Suppliers Group, the Australia Group (chemical and biological weapons), and the Missile Technology Control Regime.

common intelligence fair notice of what the law demands of them.”¹⁵ In short, due process requires that a regulation set out clearly and specifically the boundary between what is lawful and what is not. That in turn requires the kind of specificity that one sees in entries on the Commerce Control List and the U.S. Munitions List.

And beyond due process considerations, if we unilaterally control any technology too tightly, whether it’s emerging or well on the way to being in common use, there’s a good chance that we will drive research and development, and ultimately production as well, offshore. This is not idle speculation, as we have seen very tight U.S. export controls engender the development of foreign competition in such sectors as machine tools, commercial space, and commercial thermal imaging.

Further, we saw in the course of Export Control Reform how important it is to seek private sector input on proposed controls. The government’s technical experts are knowledgeable but they don’t always have full information on what currently is available in the global marketplace. Input from industry helped ensure that our rules, when published in final form, neither over-controlled nor under-controlled the technologies in question.

So when it comes to controlling emerging technologies, the sensible approach is for the government to do what it already has been doing for decades and what ECRA is telling it to do now: Follow emerging technologies, with a particular eye toward applications that would give an adversary a military or intelligence advantage. If and when those potential applications begin to become concrete (and hence to be suitable subjects for legally enforceable regulation),

¹⁵ *Id.* at 2325 (interior quotation marks omitted).
control those—if at all possible, in the context of the multilateral export control
groups rather than unilaterally. Securing agreement for multilateral control is
difficult, time-consuming work but it is the most promising route to success.

*Foundational technologies.* In a sense, foundational technologies are at the
opposite end of the developmental spectrum from emerging technologies. The
problem with an emerging technology is that it can be too *soon* to control it if
specifics are not available. The problem with foundational technologies, by contrast,
is that it may be too *late* to control them effectively. By definition, their uses are
widespread—so much so that they’re well known and typically available from
numerous sources outside the United States. In many instances, most or all export
restrictions on them—unilateral as well as multilateral—have been lifted or sharply
curtailed.

A frequently cited example is that of semiconductors being exported to
China. Yes, China would love to get its hands on cutting-edge chips and use them for
military purposes. Those high-end chips are subject to tight, multilateral export
controls, however, and China cannot obtain them legally.

But China *also* is very happy to buy large volumes of chips and other
commodities whose technology is several generations old, for use in consumer
products in furtherance of its Made in China 2025 effort. These items, and the
technology needed for their production, no longer are viewed as having significant
military utility and so are subject to reduced controls, or even de facto decontrol, by
the multilateral groups to which the U.S. belongs. The U.S. presumably can recontrol
the U.S.-origin technologies and cut off the sale of the resulting commodities to
China but it’s far from certain that our allies would agree to do the same. China would prefer to purchase the products that use U.S. technology because they know that our goods are the most reliable, but if U.S.-based supplies were to become unavailable, China would shift its purchases to other sources.

The problem with controlling foundational technologies, then, is their ubiquity. Simply put, the U.S. ordinarily isn’t the only potential source, so preventing China from acquiring these items made here or based on our technology may hurt U.S. companies, U.S. workers, and our overall defense industrial base more than it impairs the Chinese effort to dominate us economically.

Underlying the idea of restricting foundational technology exports is the longstanding question whether export controls should be used to address only concerns about military security and foreign policy or should be expanded to address concerns about economic security or economic competitiveness. Since the end of World War II, U.S. export controls have been focused on military and foreign policy concerns. ECRA continues this approach, stating in section 1752(1)\textsuperscript{16} that export controls should be focused on contributions to the military potential of possible adversaries and on furthering the foreign policy of the United States.

Other countries, including not only adversaries but also some of our closest friends, have voiced suspicions over the years that our controls are intended to advance U.S. commercial and economic goals. Successive U.S. administrations of both parties—truthfully, in my view—have denied this forcefully. Although the focus of our controls could be expanded, doing so would represent a sharp break

\textsuperscript{16}Codified at 50 U.S.C. § 4811(1).
from past policy, would be inconsistent with the ECRA legislation that Congress passed less than a year ago, and would make it more difficult to convince our allies to follow our lead.

**China Enforcement Issues**

During my time in the Obama administration, I was involved in the development of the Commerce Department case against ZTE. I also was aware of the beginnings of Commerce’s Huawei investigation. I think it best to avoid specific comments on these two matters or other individual cases that were pending during my tenure. I will comment, though, on the high degree of professionalism among BIS’s enforcement agents and lawyers. I cannot imagine that the cases they developed against these or any other defendants were politically motivated or otherwise not strictly “by the book.” They may not always be right but their motivations are bona fide.

As a policy matter, I don’t think it’s a sound idea to treat export controls—which are imposed for military security and foreign policy reasons—as an element of our commercial trade policy, to be bargained over along with sales of beef, chicken, soybeans, and the like. It is even worse to treat the enforcement of export controls in that manner.

Public horse trading of national security and law enforcement for sales of agricultural commodities sends the wrong message to those who would violate our laws and put our country at risk. Such a course of action places the lives of our uniformed men and women in jeopardy as well as undercutting the mission of our law enforcement agents and public respect for the rule of law.
Other Issues

Like my friend and former Commerce colleague, Kevin Wolf, who testified here about six weeks ago, I think that your best course of action is fourfold.

- First, give ECRA time to work—and I expect that it will work well.
- Second, continue the committee’s valuable oversight of the export control process, including ECRA implementation.
- Third, ensure that existing control categories are reviewed regularly and, with industry input, revised to reflect changing threats as well as evolving technology development and applications.
- Finally, give BIS the resources it needs to do the job that Congress has assigned to it. This final point is important. BIS’s talented and dedicated staff cannot carry out their responsibilities without adequate resources. The budget was too small when I was there and the substantial workload increase since then has greatly outstripped the modest resource increase that has accompanied it. Do not starve this valuable operation, which punches far above its weight.

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Thank you again for your interest in this important topic. I’d be glad to respond to any questions the committee may have.