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REFORMING THE COMMITTEE ON FOREIGN INVESTMENTS OF THE UNITED STATES (CFIUS): THE CHALLENGE OF TECHNOLOGY

ABSTRACT: In 1988 the United States Congress approved the Exon-Florio Amendment to strengthen the Defense Production Act (DPA) of 1950, previously passed at the outset of the Korean War to ensure that United States (US) industrial resources would be made available to meet national security needs. The DPA permits the President to legally compel industry to prioritize the delivery of goods and services to military and civilian agencies, and provides the legal basis for Executive (Presidential) government review of foreign investments in US companies.¹ Ultimately, the review-maker for a major provision of the DPA became the Committee on Foreign Investment of the United States (CFIUS).

Today, the CFIUS is facing the challenge of simultaneously protecting US national security focusing on inward investment and technology acquisition while maintaining an open investment climate. However, the traditional CFIUS assessment mechanism has not been designed to oversee early-stage technology, or to check transactions involving Artificial Intelligence, Machine Learning and other emerging, dual-use technologies. The imperative of restoration of the National Security Innovation Base (NISB), requested in the 2017 US National Security Strategy, may suffice to address that critical strategic challenge even though new and more detailed legislative instruments must be introduced soon.

The paper is organized as follows. Section I briefly describes the history and role of the CFIUS in the National Security Assessment Process. Section II presents an overview of the reform proposals of the CFIUS mechanism aimed at strengthening CFIUS' protective capabilities. Section III introduces the core subject in the CFIUS reforming process, the technological challenge. In that section, the most relevant developments in the technological competition, particularly raised by the Artificial Intelligence, in China and in the United States are also briefly analyzed. Section IV gives some conclusions.

KEYWORDS: CFIUS, reform, technology

Acknowledgement

I would like to thank Dr. James Poma for his willingness to amazingly proof read this paper helping me keep things in perspective, providing me a patient advice and tons of meaningful comments.

¹ Else, D. H. "Defense Production Act: Purpose and Scope". Congressional Research Service. 14 May 2009. <https://fas.org/sgp/crs/natsec/RS20587.pdf>, Accessed on 26 May 2018.

Disclaimer

All ideas, conclusions and opinions expressed in this paper are solely those of the author, and do not necessarily reflect any policy or opinion of the author's employer, the Ministry of Foreign Affairs and International Cooperation of the Republic of Italy.

HISTORY AND ROLE OF THE CFIUS IN THE NATIONAL SECURITY ASSESSMENT PROCESS

As changes in the global security environment warrant, the Executive Branch of the US government issues a National Security Strategy Report (hereafter NSS). President Donald J. Trump released the first NSS of his administration in December 2017.² This NSS identifies four major areas of vital national interest, and departs from precedent by raising the priority of domestic economic risks to national security. Economic interests, under the label “promotion of American prosperity,” are superseded only by the physical defense of the territory, which itself includes fighting of terrorism and defense of cyberspace.

The “promotion of American prosperity” emphasizes among other things the restoration of fairness in trade practices, enhancement of the National Security Innovation Base (hereafter NSIB)³ and maintenance of competitive advantage in outer space and cyberspace. The NSS calls for strengthening the protection of Intellectual Property; and advising the Administration about the risks of “illicit appropriation of US public and private sector technology and technical knowledge by hostile foreign competitors”⁴.

Since 1988, the US has maintained a system to assess the national security implications of proposed foreign investments (in particular, Foreign Direct Investments⁵, or “FDI” or “Covered Transaction”). In a climate of growth for cross-border investments, and particularly in response to concern over impending sizable Japanese investment in US technology companies, Congress enacted the Exon-Florio Amendment to Section 721 of the Defense Production Act of 1950. Exon-Florio provided broad statutory authority to the Executive

² “National Security Strategy of the United States of America”. White House. 2017. <https://www.whitehouse.gov/wp-content/uploads/2017/12/NSS-Final-12-18-2017-0905-1.pdf>, Accessed on 16 May 2018.

³ The NSIB is a term coined by the White House National Trade Council Director, Peter Navarro, to describe what gives the US a strategic, technological and economic advantage in the world. The definition of NSIB in the NSS is as follows, “*the American network of knowledge, capabilities, and people - including academia, National Laboratories, and the private sector - that turns ideas into innovations, transforms discoveries into successful commercial products and companies, and protects and enhances the American way of life. The genius of creative Americans, and the free system that enables them, is critical to American security and prosperity.*” “National Security Strategy...”. 21. The NSIB is a broader institutional conceptualization of the Executive Action signed by President Trump in August 2017, a commitment to defend American Intellectual Property (IP), innovation and technology by foreign countries. With that Executive Action, President Trump directed the United States Trade Representative (USTR), Robert Lighthizer, to investigate, when necessary, China's acts, policies or practices that may be harming the IP, innovation and technology by encouraging or requiring the transfer of American technology to China.

⁴ “National Security Strategy...”. 21.

⁵ In the US, a foreign investment is deemed to be as (1) establishment (or control) of firms, or enlargement of holdings in firms that are already controlled; (2) acquisition of domestic firms, or spin-offs of such firms. Graham, E. M. and Marchick, D. M. *U.S. National Security and Foreign Direct Investment*. Washington D.C.: Institute for International Economics, 2006. Direct investment is made by a resident in one economy to establish a “lasting interest” in an enterprise resident in a different economy. The “lasting interest”, evidenced by an ownership at least 10% of the voting power of the direct investment enterprise, creates a strategic long-term relationship to ensure a significant degree of influence in the management of the direct investment enterprise.

Branch of the US Government to review and, as necessary, block or place conditions on proposed FDI (i.e. acquisition of minority or majority interest) in critical infrastructure or technology. President Reagan immediately delegated the investigation and review functions to the CFIUS (Committee on Foreign Investment in the United States), an interagency group that had been, since its founding in 1975, mostly a monitoring and reporting body without significant advisory or control authority.⁶ National Security reviews of FDI thus became known as CFIUS reviews.⁷ In 2007, the Foreign Investment and National Security Act (FINSA)⁸, signed by President G.W. Bush, ameliorated the CFIUS process enabling greater surveillance by Congress, broadening the definition of National Security for CFIUS purposes and introducing greater scrutiny by CFIUS of certain types of FDI.⁹

Today, CFIUS is a governmental body to contain the National Security threats inside FDIs in the US, as well as an important gatherer and processor of Economic Intelligence¹⁰ (Box 1). Chaired by the

BOX 1: Voting Members of CFIUS

SECRETARY of Treasury (Chair)
 SECRETARY of State
 SECRETARY of Defense
 SECRETARY of Commerce
 SECRETARY of Homeland Security
 ATTORNEY General
 DIRECTOR of the Office of Management and Budget
 U.S. Trade Representative
 CHAIRMAN of the Council of Economic Advisers
 DIRECTOR of the Office of Science and Technology Policy
 ASSISTANT to the President for National Security Affairs
 ASSISTANT to the President for National Economic Policy

⁶ Heifetz, S. *A Brief History of the Committee on Foreign Investment in the United States*. Washington D.C.: Steptoe and Johnson LLP, 2011.

⁷ Graham and Marchick. U.S. *National Security*...

⁸ "One Hundred Tenth Congress of the United States of America". Government Publishing Office. 2007. <https://www.gpo.gov/fdsys/pkg/BILLS-110hr556enr/pdf/BILLS-110hr556enr.pdf>, Accessed on 17 May 2018.

⁹ Jackson, J. K. "The Committee on Foreign Investment in the United States (CFIUS)". 2017. http://bic-us.org/imagens_bic/bic/arquivos/20170508/6b43a133020248fcac6188017655946b.pdf, Accessed on 17 May 2018.

¹⁰ According to the "Committee on Foreign Investment in the United States Annual Report to Congress" (December 2008), "The Treasury Department and the other CFIUS agencies addressed the requirements of Section 721(m)(3) by:

Assessing attempts by governments of major economic competitors to obtain commercial and dual-use critical technologies, recognizing the distinction between espionage and legal economic intelligence gathering."

The comprehension of the distinction between espionage and legal economic intelligence requires a definition of Economic Intelligence. Potter recalls a definition that includes "any relevant economic information related to a national technological, financial, corporate and government asset, whose acquisition by foreign interests could negatively affect the national competitive stance". In an Economic Intelligence strategy, Potter combines (1) the traditional raw data gathering techniques (HUMINT, SIGINT, TECHINT) with (2) confidential documentation notes (also coming from outside the intelligence community) about, for example science and technology issues, competition strategies, or ongoing evolutions in the global financial regulation. The distinction between espionage and legal economic intelligence gathering belongs to the difference between Intelligence Agencies and other Government or Corporate collectors of Economic Intelligence. Potter, *E. H. Economic Intelligence & National Security*. Ottawa: Carleton University Press, 1998. According to Gregory, S., "For the United States, (...) only the intelligence community, (...) has the right to conduct clandestine collection and analysis of the categories of economic information (...)." Gregory, S. "Economic Intelligence in the Post-Cold War Era: Issues for Reform". In Cheng, E. and Snyder, D. C. (eds.) *The Final Report of the Snyder Commission*. Princeton: Princeton University, 1997.

Secretary of the Treasury¹¹, CFIUS is composed by 12 voting members, plus the Director of National Intelligence (DNI) and the Secretary of Labor as non-voting members¹².

The formal CFIUS process begins when parties to a proposed or pending transaction (“covered transaction”¹³) jointly file a notice with the Committee. Even though CFIUS review is not mandatory, if the cross-border deal can be considered as sensitive, foreign investors can voluntarily¹⁴ notify CFIUS in anticipation of placement of conditions on (or a possible Presidential blocking of) the transaction. The CFIUS procedure is in three stages:

1. Initial 30-day¹⁵ review of the “covered transaction”, following receipt of notice;
2. Up to 45-day¹⁶ investigation period for “covered transactions” that need additional review (due to, for example, the complexity of the transactions, concerns raised by a lead agency, additional time required by the due diligence, or the involvement of foreign government-controlled entities or critical infrastructure in the transaction);
3. Presidential Review with decision within 15 calendar days of receiving the formal report.¹⁷

CFIUS can autonomously decide whether a transaction poses a national security concern sufficient to require an investigation or whether, during or after an investigation, the President should be advised about the transaction itself.

During the review or the investigation, the investing parties can withdraw the notice if they perceive that otherwise the transaction will be blocked. The withdrawal may entail conditions on the parties, such as an obligation to keep the CFIUS informed of the future status of the transaction or to re-file the notice to the CFIUS.

¹¹ The Office of Investment Security of the Treasury Department fulfills the statutory responsibilities as chair of the CFIUS.

¹² “Process overview”. U.S. Department of the Treasury. 2010. www.treasury.gov/resource-center/international/foreign-investment/Pages/cfius-overview.aspx, Accessed on 18 May 2018.

¹³ According to the FINSA, a “covered transaction” is “any merger, acquisition, or takeover that is proposed or pending after August 23, 1988, by or with any foreign person which could result in foreign control of any person engaged in interstate commerce in the United States.”

¹⁴ Voluntarily filing avoids the appearance of misconduct. On the other hand, transforming the “voluntary” element in “mandatory” would create congestion in CFIUS work. According to the Treasury, in 2016, CFIUS determined that 172 notices of transactions filed were covered transactions under Section 721. CFIUS also conducted a subsequent “investigation” with respect to 79 of those 172 notices. Twenty-seven of the 172 notices were withdrawn. Leaving the decision to the parties if filing or not a transaction means that if a filing is not made and CFIUS later determines that that transaction adversely affects national security or critical infrastructure, the judgement of the transaction will be worse, and competitors may use political muscle to successfully request that their Congress members urge CFIUS to open its own investigation following the signing or closing of that transaction. Vogel, M. C. “A CFIUS Primer: Important Considerations for Foreign Investors and U.S. Companies”. Quarles & Brady LLP. 3 November 2009. <https://www.quarles.com/publications/a-cfius-primer-important-considerations-for-foreign-investors-and-u-s-companies/>, Accessed on 18 May 2018.

¹⁵ Calendar days. In the Pre-FINSA years (2005–2007), CFIUS cleared within the review period roughly 95 percent of all covered transactions. In the Post-FINSA years (2008–2014), CFIUS’ clearance rate in the review phase fell to approximately 65 percent. The rise in transactions moving into an investigation phase suggests that (i) CFIUS is being overwhelmed by the increased case load, or (ii) CFIUS is investigating an expanding set of perceived national security concerns. “Delays in Annual Reporting: Is CFIUS Buckling Under Pressure?”. Freshfields, Bruckhaus, Deringer. 1 June 2017. http://knowledge.freshfields.com/h/Global/r/3500/delays_in_annual_reporting__is_cfius_buckling_under, Accessed on 18 May 2018. However, both hypotheses bring to think about an insufficient timetable available.

¹⁶ Calendar days.

¹⁷ Graham and Marchick. *U.S. National Security...*

It is uncommon for the President to have to make a decision. There was one such case during the G.W. Bush's administration, two during the Obama administration and one so far during the Trump administration (see Box 2).

The issue before CFIUS is to detect, eliminate, or mitigate any perceived threat from the investment and make any necessary recommendation to the President. Where the CFIUS has elected not to refer a transaction to the President, or where the President has decided not to block it, the transaction is in "safe harbor"¹⁸ and may remain.

STRENGTHENING CFIUS' PROTECTIVE CAPABILITY

CFIUS assessment mechanism represents a whole-of-government approach. Every filed transaction is analyzed by experts at each of the CFIUS member departments according to each department's own competence. Other departments may be called upon case-by-case, depending on circumstances. For example, CFIUS may have to involve other federal government agencies, such as the Departments of Transportation, Health and Human Services, Agriculture, Interior, Veterans Affairs, the Environmental Protection Agency (EPA) or the National Aeronautics and Space Administration (NASA).

Among the CFIUS members, the role of reviewer for national security issues has been assumed, though informally, by the Department of Defense (DoD). Both the NSS, that stated the need of a major focus on national security in CFIUS assessments, and the National Defense Authorization Act ("NDAA")¹⁹, released in December 2017 for Fiscal Year 2018, emphasize the roles of the DoD and the intelligence community (via the Office of the Director of National Intelligence) as dominant in the interagency screening of foreign investments. According to Section 1069 of the NDAA²⁰, "the Secretary of Defense, in concurrence with the Secretary of State, the Secretary of Treasury, and the Director of National Intelligence, shall assess and develop a plan and recommendations for agencies of the US Government, other than the Department of Defense, to improve the effectiveness of the interagency vetting of foreign

BOX 2. Transactions Blocked by Presidents

1990: President Bush directed the CATIC (China National Aero-Technology Import and Export Corporation) to divest its acquisition of MAMCO Manufacturing.

2012: President Obama directed the Ralls Corporation to divest itself of an Oregon wind farm project.

2016: President Obama blocked the Chinese firm Fujian Grand Chip Investment Fund from acquiring Aixtron, a German-based semiconductor firm with U.S. assets.

2017: President Trump blocked the acquisition of the Oregon-based Lattice Semiconductor Corporation by the Chinese Canyon Bridge Capital Partners.

SOURCE: Jackson. "The Committee on Foreign Investment in the United States (CFIUS)".

¹⁸ In Law, the term "safe harbor" means a legal provision to reduce or eliminate liabilities in transactions if certain conditions are met.

¹⁹ "H.R. 2810: National Defense Authorization Act for Fiscal Year 2018" congress.gov. 12 December 2017. www.congress.gov/bill/115th-congress/house-bill/2810/text, Accessed on 18 May 2018.

²⁰ "Recommendations for Interagency Vetting of Foreign Investments affecting National Security".

investments that could potentially impair the national security of the US".²¹ The recommendations required shall be based, among other things, upon analysis of "whether and to what extent industrial espionage is occurring against private US companies to obtain commercial secrets related to critical or foundational technologies" and "whether and to what extent foreseeable foreign investments have the potential to reduce any technological or industrial advantage of the US". The emphasis on safeguarding the technological competitiveness is the same recalled in the NISB definition. Through the activities requested by the NDAA to the DoD, the Congress is willing to make the collaboration with the CFIUS closer. This aspect will undoubtedly improve the strength of the overall foreign investment screening.

In June 2017 US Secretary of Defense Gen. James N. Mattis, testified to the US Senate Armed Services Committee, affirming that CFIUS was to be considered "clearly outdated", and that change was "warranted". In this regard, more recently, DoD recommended to Congress that CFIUS consider the following actions²²:

- adding certain military-critical technologies to those requiring protection²³;
- making improvements to military counterintelligence;
- retaining high-skilled foreign graduate students, allowing them to stay in the US after completing their studies.

**BOX4: United States foreign Investment Review Act (FIRA)
(BROWN - Grassley Bill, S. 1983)**

The bill directs the Secretary of Commerce to consider "any relevant economic factor," such as:

- the "long-term strategic economic interests of the US";
- the "history of distortive trade practices in each country in which a foreign party to the transaction is domiciled";
- the "control and ownership of each foreign person that is a party to the transaction";
- the "impact on the domestic industry, considering any pattern of foreign investment in the domestic industry";
- "any other factors the Secretary considers appropriate."

SOURCE:

"THE Elephant in the Room...".

²¹ The Secretary of Defense shall submit not later than March 2018 to the appropriate committees of Congress a report on the progress of the Secretary in developing the recommendations, and not later than September 2018 to the appropriate committees of Congress a report setting forth the recommendations developed. The term "appropriate committees of Congress" means the Committees on Armed Services of the Senate and the House of Representatives; the Committee on Foreign Affairs of the House of Representatives; the Committee on Foreign Relations of the Senate; the Committee on Financial Services of the House of Representatives; the Committee on Finance of the Senate; the Permanent Select Committee on Intelligence of the House of Representatives; and the Select Committee on Intelligence of the Senate.

²² Stewart, P. "U.S. weighs restricting Chinese investment in artificial intelligence". Reuters. 13 June 2017. <https://www.reuters.com/article/us-usa-china-artificialintelligence-idUSKBN1942OX>, Accessed on 18 May 2018.

²³ That list was delivered – privately for national security reasons – from the Secretary of Defense, Gen. Mattis, to Senator Peters (D-Michigan) after an Hearing about the DoD Budget after the Senate Committee on Armed Services. "Hearing to Receive Testimony on the Department of Defense Budget Posture in Review of the Defense Authorization Request for Fiscal Year 2018 and the Future Years Defense Program". U. S. Senate Committee on Armed Services. 13 June 2017. <https://www.armed-services.senate.gov/hearings/17-06-13-department-of-defense-budget-posture>, Accessed on 23 May 2018.

The DoD's recommendations to Congress have received an encouraging response.

In October 2017, Senators Sherrod Brown (D-Ohio) and Charles (Chuck) Grassley (R-Iowa) introduced the Foreign Investment Review Act ("FIRA")²⁴ (Box 4).

FIRA proposes to give the Secretary of Commerce the power to review FDIs for their "economic effect."²⁵ It is proposed that Commerce Department reviews be pursued together with CFIUS but, unlike CFIUS reviews, the Commerce Department assessments would be mandatory²⁶, and subject to minimum notification thresholds²⁷. The Commerce Department reviews would cover foreign investments that create de novo entities or take over an existing US "legal person" (CFIUS, differently, scrutinizes acquisitions related to a US "business" which may or may not be a legal person).²⁸

Similarly, on November 2017, Senator John Cornyn (R-Texas) with a bi-partisan group of co-sponsors, has proposed the Foreign Investment Risk Review Modernization Act ("FIRRMA")²⁹ in the Senate (Box 5.) while a companion bill (H.R. 4311³⁰) has been proposed at the House by Representatives Robert Pittenger (R-North Carolina) with a bi-partisan group of co-sponsors.

The bill addresses transactions that currently lie outside CFIUS jurisdiction, such as investments involving sensitive technology but not entailing "control" of a US business. Cornyn's legislation does not single out specific technologies to be scrutinized by the CFIUS, but it provides a mechanism for the DoD to lead that identification effort.³¹ Senator Cornyn's bill has garnered significant support outside of Congress, notably from the

²⁴ "S. 1983: United States Foreign Investment Review Act of 2017". congress.gov. 12 December 2017. <https://www.congress.gov/bill/115th-congress/senate-bill/1983/text>, Accessed on 23 May 2018.

²⁵ "Four Things You Need to Know About the CFIUS Reform Legislation". Stroock & Stroock & Lavan LLP. 8 November 2017. <https://www.stroock.com/siteFiles/Publications/FourThingsToKnowCFIUSReformBill.pdf>, Accessed on 23 May 2018.

²⁶ The Secretary of Commerce initiates an economic review if the Chairman and Ranking Member of the Senate Finance Committee or of the House Ways & Means Committee request such review. Initial reviews last 15 days, but if not resolved, could be extended for an additional 45-60 days. "The Elephant in the Room: Senate Legislation Would Make "Economic Security" a Factor in Foreign Investment Reviews". Stroock & Stroock & Lavan LLP. 4 December 2017. <https://www.stroock.com/siteFiles/Publications/TheElephantInTheRoom.pdf>, Accessed on 23 May 2018.

²⁷ The Secretary of Commerce must be notified of every transaction (a) resulting in "foreign control" of U.S. businesses and (b) meeting specific value thresholds: \$50 million or more (if the foreign buyer is a state-owned enterprise); \$1 billion or more (for any other foreign buyer). Hunter, R. "The Grassley-Brown Bill, a New Approach to Foreign Investment Reviews". 25 October 2017. <http://tradedblog.bakermckenzie.com/the-grassley-brown-bill-a-new-approach-to-foreign-investment-reviews/> Accessed on 23 May 2018.

²⁸ "The Elephant in the Room...".

²⁹ "S. 2098: Foreign Investment Risk Review Modernization Act of 2017". congress.gov. 11 August 2017. <https://www.congress.gov/bill/115th-congress/senate-bill/2098/text>, Accessed on 23 May 2018.

³⁰ "H.R. 4311: Foreign Investment Risk Review Modernization Act of 2017". congress.gov. 11 August 2017. <https://www.congress.gov/bill/115th-congress/house-bill/4311/text>, Accessed on 23 May 2018.

³¹ Stewart. "U.S. weighs restricting...".

BOX 5. United States Foreign Investment Risk Review Modernization Act” (FIRMA) (CORNYN Bill, S. 2098)

Key Highlights

1. Expansion of the CFIUS jurisdiction

MORE transactions subject to CFIUS review (Joint ventures involving technology transfers to a foreign entity; Minority position investments; Real estate transactions near military bases or other sensitive national security facilities; and any non-passive foreign investment in a “United States critical technology company” or “United States critical infrastructure company.”)

2. Consideration of additional risk factors in the CFIUS analysis

INTRODUCTION of the “Frequent Filers” (expedited reviews of notices deemed routine or low-risk); mandatory filings for (i) acquisitions of a 25% or greater voting interest in a U.S. business by a foreign person in which a foreign government owns, directly or indirectly, at least a 25% voting interest, and (ii) select transactions (as determined by the Committee) based on certain factors, including “technology, industry, economic sector, or economic subsector.”

3. More information shared

SHARING information with domestic and foreign governmental entities “to the extent necessary for national security purposes and pursuant to appropriate confidentiality and classification arrangements.”

4. Increase of the review period

EXTENSION of the first review period from 30 to 45 days, allowance for a further 30-day extension for “extraordinary circumstances”, enabling the review to last up to 120 days.

5. Authorize exemptions

AUTHORIZATION to CFIUS to exempt certain transactions to reduce the burden on CFIUS’ resources.

SOURCES:

MAYS, L. C. and Whitten, R. “The Future of CFIUS...”
“Four Things You Need to Know...”

Secretaries of Treasury, Commerce, Defense, and the Attorney General.³² Secretary Mattis in his endorsement³³ noted that the bill if enacted “would help close related gaps that exist in both the CFIUS and export control processes, which are not presently keeping pace with today’s rapid technological changes”.

³² Support the legislation also has lent from the business community, such as Oracle Corporation (“*FIRMA strikes a balance of protecting national security while not chilling the benefits of foreign investment in the United States.*”) and from leading former government officials, such as the former Director of National Intelligence and Commander of U.S. Pacific Command, Adm. Dennis C. Blair (“*by expanding the scope of CFIUS reviews, FIRMA provides better tools to analyze foreign investments and thus will strengthen the protection of American intellectual property from theft by foreign actors.*”). “Update: CFIUS Reform Bill Proposed by U.S. Senator Cornyn and U.S. Rep. Pittenger Has Garnered Significant Support Outside of Congress”. 20 December 2017. https://www.wileyrein.com/newsroom-articles-Trade_Alert-UPDATE-CFIUS_Reform_Bill_Proposed_by_US_Senator_Cornyn_and_US_Rep_Pittenger_Has_Garnered_Significant_Support_Outside_of_Congress.html, Accessed on: 26 May 2018.

³³ Mattis, J. N. “Letter to John Cornyn”. 15 Dec 2017. <https://comms.wileyrein.com/8/1873/uploads/sec-mattis-cfius-bill-support-letter.pdf>, Accessed on 26 May 2018.

THE CHALLENGE OF TECHNOLOGY IN REFORMING CFIUS

During its risk assessment of the covered transaction, CFIUS considers two kind of threats strictly connected to “technological risk”: a possible leak of sensitive technology to a foreign company or government that might deploy it so as to be harmful to US national interests; and the potential that the acquisition of a US company might allow a foreign company or a government to penetrate the US company’ systems so as to monitor, conduct surveillance, or place destructive malware within those systems. The relevance of Cornyn’s bill is to bring up other new “technological risks”, such as, for example losing technologies critical to national security because of “countries of special concern”;³⁴ exposing biological DNA data; and aggravating existing weaknesses in cybersecurity³⁵.

In assessing transactions, the DoD considers, among other things, the nature of the technologies and products involved³⁶, particularly critical technologies, like Artificial Intelligence (AI) and Robotics that represent the breakthrough in military research. The Secretary of Defense, General Mattis, recognized the strategic challenge of China’s advances in such technologies during his testimony to the Armed Services Committee, and undertook a commitment to pose a more vigorous response.³⁷

A similar emphasis was given by the Congress to the problem. During a previous hearing, Senator Peters (D-MI) had already affirmed how “the intelligence community CFIUS workload (...) is marked by increased Chinese investment in the very technologies that are the key to U.S. innovation and military advantage, including autonomous vehicles, Artificial Intelligence, robotics, Virtual Reality, as well as gene editing.”³⁸

China’s emergence as the main geopolitical and economic competitor to the US, together with a series of high-profile breaches of US export controls by Chinese companies in the late 1990s and early 2000s, had already raised the CFIUS’s concern.³⁹

³⁴ A concern, acknowledged in Senator Cornyn’s press release, is “*the perception that China is degrading the United States’ military edge by acquiring and investing in U.S. companies*”. “New CFIUS legislation introduced in Congress” 2016. www.lexology.com. Although China is not singled out in the bill as a “country of special concern,” the increase in information requirements to file transactions involving foreign government interests would impact many Chinese acquisitions subjecting them to mandatory reviews. “Four Things You need to Know...”.

³⁵ Describing the use of cyberattacks against the US, the NSS made an explicit connection between cybersecurity and economic prosperity that is worth noting. “National Security Strategy...”. 18. and Sulmeyer, M. “Cybersecurity in the 2017 National Security Strategy”. Lawfare. 19 December 2017. <https://www.lawfareblog.com/cybersecurity-2017-national-security-strategy>, Accessed on 26 May 2018.

³⁶ Other factors are whether the firm being acquired is a DoD supplier and the existence of classified contracts between the US company and the US government. “Issues in Acquisitions of Defense Industry Contractors”. FindLaw. <http://corporate.findlaw.com/corporate-governance/issues-in-acquisitions-of-defense-industry-contractors.html>, Accessed on 26 May 2018.

³⁷ Kania, E. “Beyond CFIUS: The Strategic Challenge of China’s Rise in Artificial Intelligence”. Lawfare. 20 June 2017. <https://www.lawfareblog.com/beyond-cfius-strategic-challenge-chinas-rise-artificial-intelligence>, Accessed on 26. May 2018.

³⁸ “Hearing to Receive Testimony on the Department of Defense Budget Posture in Review of the Defense Authorization Request for Fiscal Year 2018 and the Future Years Defense Program”.

³⁹ Although China may be a concern, the U.S. also considers the importance of Beijing as a domestic direct investor. In 2016, China made the US the top destination for its FDI with \$45.6 billion in acquisitions and greenfield investments. In the first five months of 2017, investments amounted to \$22 billion, a 100 percent increase against the same period in 2016. Stewart. “U.S. weighs restricting...”.

BOX 3. Case Study: AppLovin - OHC transaction

Palo Alto, California-based AppLovin is a mobile marketing platform, ranked #10 on the 2016 Deloitte Technology Fast 500 North America list.

1. September 2016: AppLovin agreed to be acquired by the Shanghai-based buyout firm Orient Hontai Capital (OHC), for \$1.42 billion. CFIUS expressed concerns about the security of the company's data under a foreign owner.
2. January 2017: AppLovin abandoned plans to sell a majority stake in OHC. Instead, OHC completed a 9.98 percent investment in AppLovin for \$140 million. The \$140 million equity investment implies a valuation for AppLovin of about \$1.4 billion, the same price as the deal it struck with OHC more than a year ago.
3. November 2017: AppLovin got \$841 million from OHC in a debt financing agreement.

AppLovin turned a \$1.4 billion agreement to sell itself to OHC into a debt financing. Parties have notified CFIUS the new arrangement as a follow-up of a withdrawn transaction, but the new deal shouldn't be scrutinized because OHC doesn't gain control of the AppLovin capital.

SOURCES: Baker. "Exclusive: AppLovin tweaks...".

Among the latest issues, also emerged in a recent White Paper commissioned by the DoD⁴⁰, there are the investments of Chinese companies – with close government ties – in American start-ups specializing in Artificial Intelligence (hereafter AI) and Machine Learning to advance China's military capacity as well as its economy. According to the same White Paper, US government controls, that are supposed to protect potentially critical technologies, are falling short.

Concerns posed by the DoD also related to the access of Chinese firms to sensitive U.S. technology, misusing specific contract structures that do not trigger a CFIUS review, for example in joint ventures, or early-stage investments in startups. Box 3 offers a case study about the AppLovin – Orient Hontai Capital (OHC) transaction, an example about how to bypass the CFIUS procedure.⁴¹ Basically, CFIUS do not review any debt agreements. This should be an issue. Without a scrutiny in the AppLovin – OHC transaction some specific questions remain without an answer regarding, for example, the access to any sensitive information by OHC (putting up \$841 million and being involved for a 9.98 percent holding or potentially more if the bonds are convertible).

It can be of interest to have a brief overview of two among the major advanced military projects of Beijing and Washington that may have consequences in the future work of the CFIUS.

China: The Civil-Military Fusion Concept

China is showing a strong will to become the premier global developer of AI technology. In July 2017, the Chinese government launched the "New Generation Artificial Intelligence

⁴⁰ Mozur, P. and Perlez, J. "China Bets on Sensitive U.S. Start-Ups, Worrying the Pentagon". *The New York Times*, 22 March 2017. <https://www.nytimes.com/2017/03/22/technology/china-defense-start-ups.html>, Accessed on 26 May 2018.

⁴¹ Stewart. "U.S. weighs restricting...".

Development Plan,” focusing on independent innovation in emerging technologies with the long-term goal to become a global leader in AI by 2030⁴².

According to the guidelines issued by the Chinese State Council, the trajectory planned for the total output value of AI industries expects a growth over \$22 billion by 2020, \$59 billion by 2025 and \$150 billion by 2030. Key development areas include AI software and hardware, quantum communications and computing, intelligent robotics and vehicles, virtual and augmented reality. China’s strategy is designed to drive progress in cracking key topics such as big data, swarm intelligence⁴³ and human-machine hybrid intelligence, and ingenerating an advanced range of paradigm-shifting AI technologies, such as brain-inspired neural network architectures and quantum-accelerated machine learning⁴⁴.

The Chinese political leadership is willing to accomplish a “military-civil fusion”, pairing civilian advances in AI to a corresponding military use. To oversee the strategy, the Chinese government established a Civil-Military Integration Development Commission (the “C-M Commission”) in 2017, under the leadership of President Xi Jinping⁴⁵ and involving the Chinese intelligence community. People’s Liberation Army (PLA) could leverage civilian advances in AI in its evolution from the current informatized warfare⁴⁶ into an “intelligentized warfare”⁴⁷, increasing the use of AI in command decision-making, war-simulation, and training⁴⁸.

In civilian society, Beijing has taken important steps in the AI sector through Baidu, the Chinese search engine giant. Examples can be the AI Lab that Baidu launched in collaboration with the National Development and Reform Commission, the acquisition of xPerception, a US developer of vision perception software and hardware with applications in robotics and virtual reality and the establishment, under Baidu’s leadership, of the National Deep Learning Lab (deep learning⁴⁹, computer vision and sensing, computer-listening, biometric identification, and forms of human-computer interaction).⁵⁰

⁴² Kania. “Beyond CFIUS...”.

⁴³ Rosenberg, L. “New Hope for Humans in an A.I. world”. YouTube. 17 September 2017. https://www.youtube.com/watch?v=Eu-RyZt_Uas, Accessed on 26 May 2018.

⁴⁴ Kania, E. “Battlefield Singularity: Artificial Revolution, and China’s Future Military Power”. Center for a New American Security” 28 November 2017. <https://www.cnas.org/publications/reports/battlefield-singularity-artificial-intelligence-military-revolution-and-chinas-future-military-power>, Accessed on 26. May 2018.

⁴⁵ Kania. “Beyond CFIUS...”.

⁴⁶ The Revolution in Military Affairs (RMA) were studied and converted for use by Andy Marshall at the Pentagon in the 1970s, ‘80s, and ‘90s. RMA served as a basis for many of the US advanced technology achievements. The Chinese drew on (and are currently drawing on) the work of Andy Marshall and other Americans to develop their “informatized warfare” construct and strategy. Rybeck, C., Cornwell, L. and Sagan, P. “A National Security Enterprise Response: Digital Dimension Disruption”. Prism 7/2. 2017. 40–51.

⁴⁷ Kania, E. “Battlefield Singularity...”. According to Lt. General Liu Guozhi, director of the Science and Technology Commission of the Central Military Commission, the current era of “intelligentization” is due to rapid advances in AI and its impactful military applications, with fundamental changes to military programming, operational modes, and models of combat power generation. Kania, E. “AlphaGo and Beyond: The Chinese Military Looks to Future “Intelligentized” Warfare”. Lawfare. 5 June 2017. <https://www.lawfareblog.com/alphago-and-beyond-chinese-military-looks-future-intelligentized-warfare>, Accessed on 26. May 2018.

⁴⁸ Kania. “Beyond CFIUS...”.

⁴⁹ Deep learning is an advanced form of AI and a dynamic form of computerized decision-making.

⁵⁰ Stewart. “U.S. weighs restricting...”.

Aside from building its own capacity for innovation, China is also leveraging foreign expertise.⁵¹ Chinese tech giants such as Baidu, Tencent and Didi Chuxing have opened AI labs in Silicon Valley, and launched their own startups.⁵² According to the DoD, over the past six years, Chinese investors helped finance 51 American A.I. companies, contributing to the \$700 million raised. Further, in November 2017, Yitu Tech, a Chinese facial recognition start-up, took first place in the Facial Recognition Prize Challenge hosted by the Intelligence Advanced Projects Agency (IARPA), an agency under the US Office of the Director of National Intelligence.⁵³

United States: Project Maven

In response to the Chinese challenge to US technological dominance, branches of the US military are collaborating with the private sector to aggressively invest in new hi-tech capabilities. Specifically in the AI sector, the DoD is directing investment to learning and intelligence, advanced computing, and AI systems (grown in average during last five years by 13.7 percent, 11.6 percent and 16.4 percent, respectively)⁵⁴.

BOX 6. Stages of AWCFT (Project MAVEN)

- Integration of machine learning and computer vision algorithms (1) to augment and assist U.S. Special Operation Command intelligence capacity to identify objects in Full-Motion Video data collected by small DoD's Unmanned Aerial Vehicles; (2) to go through the millions of data points collected by airborne, ground, maritime and overhead intelligence, reconnaissance and surveillance platforms sensors;
- Expansion to larger class Unmanned Aerial Vehicles such as MQ- 1 Predators and MQ- 9 Reapers as instruments of data collection;
- Establishment of a DoD Machine Learning Center.

SOURCES:

- Caulfield. "AI and Machine Learning to Revolutionize U.S. Intelligence Community..."
- Magnuson. "DoD making..."

⁵¹ Recently, China has started to issue long-term (between five and 10 years) multi-entry visas to attract highly skilled people from abroad to work in the country. Visa holders will be allowed to remain in the country for up to 180 days at a time, and will be eligible to bring partners and children. "China offers 10-year visas to 'high end talent'". BBC. 5 January 2018. <http://www.bbc.com/news/business-42575436>, Accessed on 26 May 2018.

⁵² Robert Kimmitt (previously Deputy Secretary of the Treasury under President G.W. Bush), before the House Financial Services Committee in December 2017, affirmed the importance to better educate tech startups on CFIUS oversight issues raised by their early stage investments. While tech startups are seeking venture financing, they may not always be aware of the potential threat by foreign companies. According to Kimmitt, Silicon Valley still has not well understood how closely CFIUS looks at investments in startups and how many issues in equity ownership and governance rights (board seats, observer status, accumulation rights, special voting rights) can easily trigger a CFIUS-covered transaction rule. Stanley, C. "Startups Need Education On CFIUS Triggers, House Panel Told". Law360. 14 December 2017. <https://www.law360.com/articles/994522/startups-need-education-on-cfius-triggers-house-panel-told>, Accessed on 26 May 2018.

⁵³ Kania. "Battlefield Singularity..."

⁵⁴ "DoD AI, Big Data and Cloud Taxonomy". 2018. http://www.govini.com/research-form/?post_title=DoD+ARTIFICIAL+INTELLIGENCE%2C+BIG+DATA+AND+CLOUD+TAXONOMY&post_link_redirect=http%3A%2F%2Fwww.govini.com%2Fresearch-item%2Fdod-artificial-intelligence-and-big-data-taxonomy%2F&post_id=4026, Accessed on 26 May 2018.

According to the military's quest for a combination of new technologies to maintain America's military supremacy for the 21st century, designed in 2014 by Defense Secretary Chuck Hagel⁵⁵ and known as "Third Offset"⁵⁶, the focus on human-machine teaming⁵⁷ and the strong demand of acquiring an algorithmic aptitude in Defense issues has given birth to the Algorithmic Warfare Cross-Functional Team (AWCFT), also known as Project Maven⁵⁸ (Box 6).

Project Maven has been established, under the oversight of the Under Secretary of Defense for Intelligence, in April 2017⁵⁹:

- to automate Processing, Exploitation, and Dissemination (PED) for tactical Unmanned Aerial System (UAS) and Mid-Altitude Full-Motion Video (FMV)⁶⁰;
- to provide computer vision technology for object detection, classification, and alerts for FMV PED.

Inside the US Intelligence community, one of the main beneficiaries of that Project is the National Geospatial-Intelligence Agency (NGA), whose goal is to automate about 75

⁵⁵ Hagel, C. "Memorandum for Deputy Secretary of Defence Secretaries of the Military Department". Scribd. 15 November 2014. <https://www.scribd.com/document/246766701/SecDef-Hagel-Innovation-Memo-2014-11-15-OSD013411-14>, Accessed on 26 May 2018.

⁵⁶ Work, B. "The Third U.S. Offset Strategy and its Implications for Partners and Allies". Defense.gov. 28 January 2015. <https://www.defense.gov/News/Speeches/Speech-View/Article/606641/the-third-us-offset-strategy-and-its-implications-for-partners-and-allies/>, Accessed on 26 May 2018. Inside the Pentagon, the "Offset Strategy," is a military-industrial term of art for a cluster of technological breakthroughs that can give the US its edge over potential enemies. In the 1970s the term described a situation where the US couldn't match Soviet numbers, so it would have to "offset" them with superior quality and technology. The idea was then applied retroactively to President Eisenhower's "New Look," which offset Communist numerical superiority not by building up conventional forces but by threatening to nuke any aggressor to oblivion — at a time when America's atomic arsenal far outweighed any competitor's. Freedberg, S. J. "We'll Unveil Third Offset Details In FY17 Budget, Except The Black Part: Bob Work". Breaking Defense. 3 November 2015. <https://breakingdefense.com/2015/11/well-unveil-third-offset-strategy-in-fy17-budget-except-the-black-part-bob-work/>, Accessed on 26 May 2018. The "First Offset" was the US military's use of nuclear weapons to counter Soviet numerical superiority during the Cold War. The "Second Offset" involved the use of long-range guided weapons, stealth and new intelligence, surveillance and reconnaissance technology as demonstrated during the Gulf War. When the Soviets caught up on nukes, the US turned to conventional but precision-guided weapons. The "Third Offset", as described in 2014 by US Secretary of Defense Charles Hagel, is focusing on "*the fields of robotics, autonomous systems, miniaturization, big data, and advanced manufacturing, including 3D printing.*" AI is included among the potential technologies that may offer the US military its third offset. Gunnar, U. "The US and the Global "Artificial Intelligence" Arms Race". Neo. 3 December 2017. <https://journal-neo.org/2017/12/03/the-us-and-the-global-artificial-intelligence-arms-race/>, Accessed on 26 May 2018.

⁵⁷ Kania. "Beyond CFIUS...".

⁵⁸ "Maven" is a Yiddish word used in American English as a lighthearted term for a particularly smart, capable person. A "maven" is someone who knows everything in his area of expertise, be it art, economics, or, in the case of DoD's Algorithmic Warfare Cross-Functional Team (AWCFT), machine learning algorithms.

⁵⁹ "Memorandum for Establishment of an Algorithmic Warfare Cross-Functional Team (Project Maven)". 26 April 2017. http://www.govexec.com/media/gbc/docs/pdfs/edit/establishment_of_the_awcft_project_maven.pdf, Accessed on 26 May 2018.

⁶⁰ Full-motion video (FMV) is the next frontier for intelligence analysis. With UAVs, wireless webcams, 24x7 security cameras and a host of other sensors gathering thousands of hours of video a day, the challenge is turning terabytes of footage into real-time tactical knowledge. ScanEagle is a clear example of FMV collector being able to carry several types of electro-optical or infrared cameras to take photographs or full-motion video. ScanEagle has been successful as a portable Unmanned Aerial System (UAS) for autonomous surveillance in the battlefield, and it was deployed since August 2004 in the Iraq War. "Boeing Insitu ScanEagle". Wikipedia. https://en.wikipedia.org/wiki/Boeing_Insitu_ScanEagle, Accessed on 26 May 2018.

percent of the analytical tasks⁶¹, making data collection times, warnings and information management more efficient in order to manage the critical flood of FMV data effectively.

CONCLUSIONS

Technological innovation, and in particular AI, is going to be vital in the race for hegemony in the next global order. The NSS acknowledges this assessment by recommending protecting American advantages in research and technology, what it calls the National Security Innovation Base (NISB).

The NISB concept is also subtly recalled in the National Defense Strategy, released in January 2018 by the Secretary of Defense, where the DoD's commitment is to provide the defense industry long-term investments with critical skills, infrastructure, research and development. Changes to industry culture, investment sources, and protection across the NISB are vital, according to the sense of the document, for maintaining the DoD's technological advantage.

The new definition of "critical technology" is encompassing far more transactions than under current institutional practice, less effective for AI and other emerging, dual-use technologies, and traditional CFIUS assessments to secure technological dominance were not designed to handle the complexities of rapidly developing early-stage sensitive technology.

Several initiatives have already been undertaken with the NSS, the NDAA and the NDS, seeking the broadest involvement of influential CFIUS members (Pentagon, Treasury, intelligence community), other government agencies involved in the CFIUS decision making and selected committees of the Congress with the purpose of providing an enhanced review authority to the CFIUS. Bill proposals are also on the Congress' plate aiming to significantly alter the regulatory landscape for future inbound foreign investment. Despite the path forward for CFIUS, reforms could be uncertain in an election year, every institution involved in this process is aware of how much an update of the CFIUS competencies would be a helpful step to enable the Committee to catch technology transfers that could harm national security and deteriorate domestic economic growth.

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"Boeing Insitu ScanEagle". Wikipedia. https://en.wikipedia.org/wiki/Boeing_Insitu_ScanEagle, Accessed on 26 May 2018.

⁶¹ Magnuson, S. "DoD Making Big Push to Catch Up on Artificial Intelligence". *National Defense Magazine*. 13 June 2017. <http://www.nationaldefensemagazine.org/articles/2017/6/13/dod-making-big-push-to-catch-up-on-artificial-intelligence>, Accessed on 26 May 2018. While the National Reconnaissance Office (NRO) is responsible for the satellites that collect earth imagery and data, NGA makes imagery analysis plotting the information on maps for military use, even about places where it is near-impossible to send in human sources. For example, currently NGA is one of the biggest contributors of intelligence on North Korea. McLaughlin, J. "Shake-Up at Pentagon Intelligence Agency Sparks Concern". *Foreign Policy*. 12 January 2018. <http://foreignpolicy.com/2018/01/12/shake-up-at-pentagon-intelligence-agency-sparks-concern/>, Accessed on 26 May 2018.

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