



**SHIELD**

by SOURCEREE



## What's Inside

The rapid evolution of America's use of coercive economic tools, increasing international challenges.

Technology-based innovation warfare- importance for economic competitiveness and national security.

China's Military-Civil Fusion Strategy

Export controls reevaluation and redesign- increasingly counterproductive to U.S. national security.

# National Security Newsletter

**December 2020**



Authors: Adam Murphy & John Lash



## America's Use of Coercive Economic Statecraft

Center for a New American Security (CNAS)

*Authors: Elizabeth Rosenberg, Peter Harrell, Paula J. Dobriansky & Adam Szubin*

**This report addresses the rapid evolution of America's use of coercive economic tools.**

America's expanding use of coercive economic statecraft reflects a number of factors. First, the United States faces an increasing range of international challenges, particularly related to a tech-savvy, economically powerful, and militarily ambitious China. Global interconnectivity in the cyber domain, while providing global benefits, increases U.S. vulnerability to cyberattacks, intellectual property theft, and the collection of sensitive information.

U.S. policymakers will have to keep in mind that many allies and partners have critical economic relations with both China and Russia that they will be wary of disrupting.

Select excerpts from the report:

America's expanding coercive economic toolkit serves a growing array of policy objectives. For decades, U.S. sanctions have been deployed to target the proliferation of weapons of mass destruction (WMD); military aggression by adversaries; terrorism; narcotics trafficking; and mass atrocities, repression, and other serious violations of human rights. But the United States has begun to use sanctions to pursue a wider range of targets, including cybercrime, intellectual property theft, and even the International Criminal Court. More notably, the country has begun to use its growing array of non-sanctions coercive economic measures to pursue a wide array of objectives, such as: tariffs, export controls, import restrictions, and review of inbound investments (CFIUS).

Key Takeaways:

- U.S. policymakers will continue to intensively use a growing array of coercive economic tools, including tariffs, sanctions, trade controls, and investment restrictions. The growing use reflects a desire by policymakers to use coercive economic tools in support of a growing range of policy objectives.
- Diplomacy around these tools has long been challenging and can require hard choices. To use these tools effectively, policymakers should focus on articulating clear objectives and measuring effectiveness and costs. U.S.-China competition raises the stakes for getting the use of coercive economic statecraft right.
- Policymakers in the next presidential administration and Congress would be well served to spend at least as much effort focusing on the positive tools of statecraft. These include domestic economic renewal, international finance and development incentives, and positive trade measures, among others.
- The collateral costs of coercive economic measures against China—which is home to some of the world's largest banks and companies, is a vital supplier and market for U.S. firms, and has grown in importance as a supplier during the COVID-19 pandemic—have the potential to be enormous.
- Over the longer term, China also may have a greater ability than other targets of U.S. economic coercion to reduce its reliance on key U.S. sources of leverage, such as U.S. semiconductors, and, potentially, the international financial system.

Economic power, as an engine of national security, will form a basis for leverage for American leaders to advance foreign policy goals in an array of domains; however, these tools need to be deployed carefully.

## Innovation Warfare

**North Carolina Journal of Law & Technology, Volume 22, Issue 2: December 2020**

*Authors: Jeanne Suchodolski, Suzanne Harrison, & Bowman Heiden*

*Author Profile: Jeanne Suchodolski is an attorney with the United States Navy Office of General Counsel where she currently serves as Patent and Intellectual Property Counsel for the Naval Undersea Warfare Center Division Keyport*

Innovation, in particular, technology-based innovation, is the key driver for both economic competitiveness and national security. Other nations, with interests adverse to the United States, recognize this fact. In an increasingly interconnected world, nation states seek to accumulate innovation prowess, and hence economic strength as a key element of their geopolitical power.

### Select excerpts:

America must urgently articulate and execute a defensive Innovation Warfare counterstrategy. At its core, Innovation Warfare strategies are about seizing control of the technological future(s), thereby securing a dominant economic and security position from which to accomplish other geopolitical aims. In view of that central observation and the necessity for a coherent response, this Article proposes a four-step approach to crafting and executing the needed Innovation Warfare counterstrategy:

- 1) Future-Oriented Technology Intelligence – Develop machine learning tools that identify the possible technological future(s) and drive towards the preferred future(s);
- 2) Strategic Technology Development – Optimize and scope federal research and development (“R&D”) spending to seed the innovations necessary to attain the preferred future(s);
- 3) Secure Technology Control Positions – Identify and secure control positions along the preferred future technology implementation path, including deploying and protecting intellectual property as an armament in the Innovation Warfare battlespace; and
- 4) Organize to Win – Develop cross-functional capabilities and inter-organizational coordination both within the government and across the public-private interface.

The capability to implement the Innovation Warfare counterstrategy already exists within the Department of Defense and among key U.S. public and private stakeholders. **The missing link is a strategic plan and organization that brings together these existing capabilities.** Such a plan not only neutralizes the Chinese Innovation Warfare efforts but maintains the global technology leadership that is critical to U.S. national security and economic competitiveness.

### Intellectual Property

Intellectual property is a useful concept for the development of technology-based control positions. The first and most obvious means of using patents as control positions is to obtain them at all. Every such control position a U.S. entity obtains is one that its adversaries do not obtain.

In an Innovation Warfare race with China to secure control positions on the technological future, a numbers game is being played over time. Chinese nationals currently file more patent applications than nationals of any other country.



### Approximate number of patents issued to the U.S. Government in 2019 is as follows:

	DOD			Other			
	Army	Navy	Air Force	DOE	NASA	DHS	Other
Issued Patents	160	351	58	20	45	9	426
Totals	569			500			
Total U.S. Government	1069						

### Compilation of Existing Recommendations and Their Strategic Alignment

STRATEGIC OBJECTIVE		TACTIC
STRATEGY	OUTPERFORM	Restore Federal R&D Funding
		Increase funding to 1.1 % of GDP consistent with historical average
		Commit \$20B to fund university research in critical technologies
		Executive branch initiatives & multi-stakeholder efforts to select & execute R&D on society wide and national security problems
	OUTPERFORM	Office of Science and Technology Policy to use increases in federal R&D funding to sponsor AI research
		Establish a 21 <sup>st</sup> Century National Defense Education Act and other incentives to boost STEM pipeline
		Private- Public efforts to address under-representation of minorities in STEM fields
		Private-public efforts towards debt forgiveness for students in STEM fields
	OUTPERFORM	Green cards for foreign nationals earning advanced STEM degrees
		Enable immigrants to live and work in US if they start a business
		Targeted efforts to prevent knowledge theft from universities
		Federal Agencies and DOD to devote between 0.5 and 1% of budgets to rapid technology integration
STRATEGY	THWART	Hire domain specialist deputy for integration of key technologies from outside government
		Establish new Digital Service Academy and ROTC programs for advanced technologies
		Enable rotations of private sector employees into government temporary assignments
		Drive IT adoption to levels seen in private sector throughout government
	THWART	Pro-growth and productivity enhancing policies
		Create unified Innovation and Investment Tax credits for: workforce training, equipment and machinery; expand R&D tax credit
		Create a National Innovation Foundation to help establishments become more innovative and competitive
		Promote development and adoption of next generation wireless
	THWART	Establish industry consortiums for collaborative research
		CFIUS reforms
		Continuously update and enforce export control laws
		Increased vigilance and awareness of university and faculty relationships
STRATEGY	COST IMPOSITION	Promote industry adoption of NIST cybersecurity best practices
		Govt. and industry cooperation in supply chain risk management processes and supply chain transparency
		Enforce more at WTO and create tax incentives for companies bringing cases
		Increased use of tariffs and enforcement of § 232 of the Trade Expansion Act of 1962 and §301
	COST IMPOSITION	State and Treasury to create international technology alliance for use and control of emerging technologies
		Dept. of Commerce and major trading partners to develop common technology standards and free flow of data
		Dept. of Commerce to encourage American investment in emerging tech ecosystems overseas
		Executive agencies to form international cooperative research partnerships to apply frontier technologies to global challenges
	POLITICAL LEVERAGE	Bolster Technology Alliances and Ecosystems
		Increased utilization of USPTO IP Attaché Program and use of Technological Diplomats

## China's Military-Civil Fusion Strategy: Building a Strong Nation with a Strong Military

Centre for Land Warfare Studies, Winter 2020

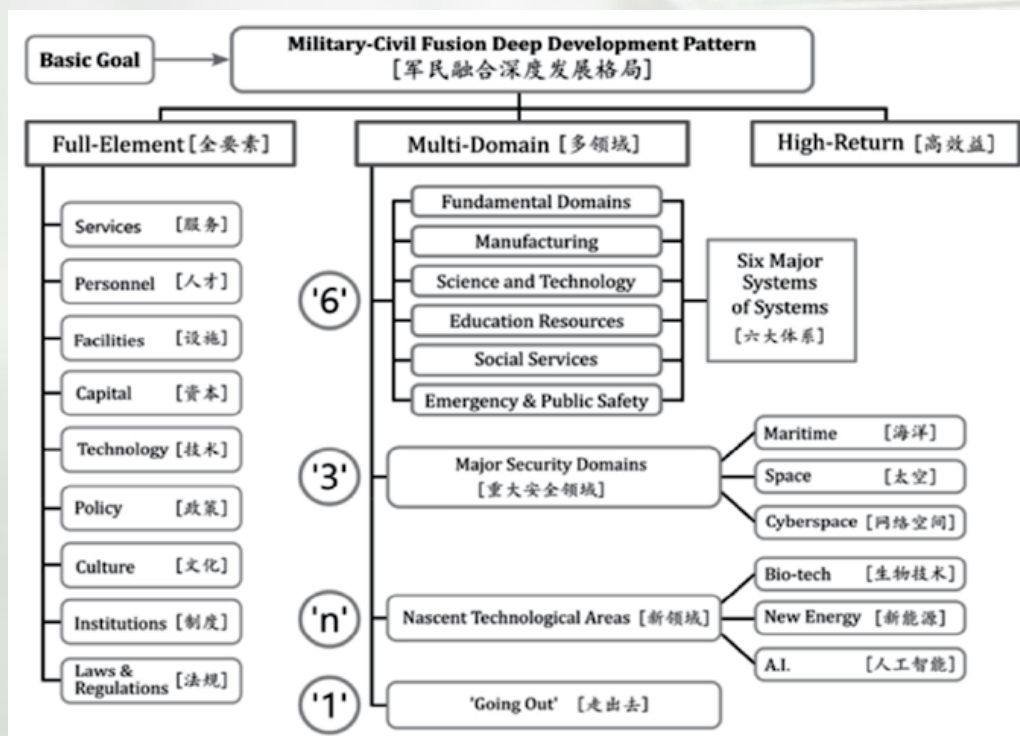
Authors: Amrita Jash, Research Fellow

What America terms as 'Civil-Military Integration' (CMI), the People's Republic of China (PRC) under the command of President Xi Jinping has named it "Military-Civil Fusion" (MCF, 军民融合). In general, CMI in the United States represents cooperation between the government and the private bodies in research and development; PRC's MCF is 'state-led, state-directed program to leverage all levers of state and commercial power' to strengthen the Communist Party of China's (CPC) armed wing the People's Liberation Army. **Here, the objective is to promote military development through coordinated efforts in sci-tech innovation in key areas between the military and the civilian sector, with integrated and deep development of the military and the people acting as the bottom line of the MCF.**

### Select excerpts:

The CPC is systematically reorganizing the Chinese science and technology (S&T) enterprise to ensure that new innovations simultaneously advance economic and military development. As a result, the key technologies that China is targeting to excel under MCF includes quantum computing, big data, semiconductors, 5G, advanced nuclear technology, aerospace technology, and AI -- with the ultimate aim to exploit the inherent 'dual-use' nature of many of these technologies, which have both military and civilian applications. Arguably, the pressing concern balancing the imperative of economic development with increasing requirements for national defense has motivated Xi's drive for MCF - thus, enabling China to become both an economic and military superpower.

### Military-Civil Fusion Deep Development Pattern





## Rethinking Export Controls: Unintended Consequences

### Center for a New American Security

*Author: Martijn Rasser, Senior Fellow*

Current export controls are increasingly counterproductive to U.S. national security. They are in need of reevaluation and redesign. The implications of global technology-related trends and growing impact of unintended consequences as a result of export controls mean that changes are in order.

#### Select excerpts:

#### **Policymakers should evaluate a series of questions:**

- How much economic harm to U.S. technology developers and manufacturers is tolerable in the service of U.S. national security?
- At what point would such harm undermine U.S. national security by fundamentally eroding U.S. technological advantages?
- In what ways can the United States work with like-minded nations to coordinate investments in, and regulatory, tax, and policy support for, technology entrepreneurship and competitiveness?
- What are the particular technology areas or types of technology services that the United States should target with proactive investments in order to increase U.S. competitiveness?
- How should the United States coordinate with like-minded tech-leading countries to manage technology transfers that might threaten their shared security interests?
- What new legal arrangements and compliance architecture will such coordination require and how should the United States best support its partners in its development?

#### **The unintended consequences of export controls:**

- 1) **Eroding U.S. company competitiveness and market share.** Export control compliance can be onerous both in terms of the cost associated with navigating the process successfully and the time it takes to do so. The waiting period and complex administrative procedures required to receive approval for a sale can be such that opportunities are lost to foreign competitors, putting downward pressure on employment growth. Smaller companies may forego producing export-controlled goods altogether because the cost of doing business is too high.
- 2) **Avoiding U.S.-origin items in the supply chain.** Companies may design out U.S. technology or components altogether. Chinese telecommunications firm Huawei set out to build smartphones without American semiconductors after the company was targeted with export controls. Companies in allied and partner countries, while not directly targeted, are also affected by U.S. export controls as part of globalized supply chains. They too are considering ways to reduce or eliminate U.S. technology inputs to decrease the risk of collateral damage
- 3) **Capitalizing on U.S. export controls.** Unilateral U.S. actions to restrict technology present opportunities to foreign competitors. The Government Accountability Office determined that U.S. policy on restricting sales of semiconductor manufacturing equipment to China was ineffective, in large part because European and Japanese companies continued selling equipment that was less than two generations behind the commercial state-of-the-art. Similarly, in response to semiconductor-related sanctions, Huawei is seeking to set up a chip plant that would not use American technology.
- 4) **Posing barriers to joint R&D.** Export controls can hinder collaborative research efforts with allies and partners and constrain routine academic activity. International Traffic in Arms Regulation (ITAR) again provides illustrative examples of such hurdles. ITAR's definition of "defense services" is broad and vague. It also encompasses information out in the public domain.

- 5) **Accelerating tech indigenization efforts.** Restricting access to technologies is likely to increase the urgency for the affected entity to try to end its reliance on foreign inputs. Chinese chipmakers, for example, are doubling down on methods to manufacture semiconductors with homegrown or non-U.S. foreign equipment
- 6) **Generating uncertainty for U.S. companies.** Unclear and unpredictable export control policies can hinder a company's ability to conduct long-term planning in a range of areas including R&D, mergers and acquisitions, capital expenditures, and supply chain management. In one case, Micron, a U.S semiconductor firm, noted that the lack of decisions on its license applications for exports to China was hurting long-term sales.



## SHIELD VISION

Software platform  
for on-demand  
supply chain risk  
assessments and  
financial intelligence

## SHIELD SQUAD

Analytical Support

## SHIELD INTEL

Business  
intelligence reports  
on critical suppliers

# Protected by



SHIELD  
by SOURCEREE

Sourceree's SHIELD program is a comprehensive supply chain risk management (SCRM) solution designed to help answer questions about supply chain disruptions and risks, particularly foreign investment.



downloaded from ptc-wallpapers.com