Battle Lines
Technology Rivalry and the Rise of Nationalism

The world is at the advent of a 4th Industrial Revolution. Advances in artificial intelligence, machine learning, Big Data and the so-called Internet of Things, among other things, promise to upend business models around the world and change the way we live in unimaginable ways. But the re-emergence of nationalism as a potent force in geopolitical rivalry threatens the global spread of this new technological transformation. Asia will be an important battleground in this looming ‘technology war.’

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The US, China and Technology War

By Darren Lim

The typical fury and noise of President Donald Trump’s “trade war” against China is all just a prelude to a longer and more significant drama. China and the United States are competing for technological dominance in the 21st century, setting the stage for an emerging ‘technology war,’ writes Darren Lim.

From Huawei’s exclusion from the US 5G network to the blocking of Google and Facebook in China, the battle is far from over and national security issues are raising the stakes with potentially hazardous consequences.

ALTHOUGH DONALD Trump’s “trade war” against China has consumed much of the world’s attention throughout 2018 and into 2019, policy communities on all sides appear to agree that old-fashioned trade frictions are really just an appetizer ahead of the main course: a looming “technology war” between the two great powers. Front-page news items covering technology issues, such as Huawei’s participation in 5G infrastructure, China’s “Made in 2025” industrial policy, economically motivated cyberespionage, the race to master artificial intelligence (AI), and even the arrest for extradition of Huawei’s executive Meng Wanzhou by Canadian authorities, are increasingly viewed through the lens of great power competition.

From Washington’s perspective, each of these topics raises serious questions about whether China can be a trusted and reliable partner in the building of a 21st century international order that will rely heavily on advanced technology and enmesh nation-states and peoples in historically unprecedented ways.1 For Beijing, these concerns are exaggerations, overreactions and even fabrications, lacking concrete proof or even plausibility. Facing pressure to protect struggling industries and save jobs, imposes protectionist barriers. This triggers retaliation from the other side that spirals into a tit-for-tat conflict in which neither side wants to back down first. Yet just as politics starts trade wars, politics also ends them, as the economy-wide pain builds and establishes the impetus for compromise.

The problem is that trade war is arguably not the most helpful analogy for thinking about the dynamics of a technology war. Rather, what might more accurately be termed “technology competition” is not a discrete period of heightened tension that, one day, will suddenly end — it is an enduring feature of world politics. Recognizing the importance of advanced technology both to military supremacy and economic dynamism, powerful states have long sought to dominate the leading industrial sectors of their era, and prevent adversaries from doing the same.

“Technology is an especially prominent vector in the current US-China relationship as a result of two important developments. First, China’s spectacular economic rise has positioned Chinese industry to be a major player in the invention and utilization of new technologies, the mastery of which will influence the dynamics of great power politics for decades. Second, the deep level of existing interdependence between the US and China leaves both sides vulnerable to strategic maneuvering by the other, such that a competitive dynamic of move and counter-move could persist for a lengthy period of time.

The means used by governments to engage in technology competition resemble those used in trade wars. Fundamentally, they involve policy...
interventions that affect the operation of free markets, meaning actions that disrupt or divert international flows of goods, services, capital and information. For example, export controls, such as those recently expanded by the Trump administration with a view to capturing “emerging and foundational technologies,” limit the movement of certain goods or transfer of know-how across national borders. Industrial policies to promote indigenous innovation, such as Made in China 2025, may give an unfair competitive advantage to national firms and reduce imports. Bans on certain foreign investment, or prohibitions on foreign companies participating in national markets — whether Huawei’s exclusion from the US 5G network, or constraints on technology platforms such as Google and Facebook in China — similarly prevent mutually beneficial cross-border transactions that, in a free market, would otherwise occur. Sponsoring or simply condoning the forced transfer or outright theft of technology or related intellectual property, as Washington alleges Beijing has done, is another example of national governments sidestepping ordinary market processes.

Conceptually similar in their market impacts, trade wars and technology competition diverge in their underlying motivations. Whereas trade wars are usually driven by well-organized vested interests wielding outsized political influence, technology competition is sustained by appeals to a broader yet perhaps more elemental set of interests grounded in national security. The introduction of national security justifications for what is, in effect, a more statist and less market-driven approach to managing economic policy, raises a complex array of issues and trade-offs. It may even portend a surprising alignment of ideological positions between two poles that would otherwise conceive of the state’s role in managing the economy quite differently.

NATIONAL SECURITY AS AN EXCUSE FOR GOVERNMENT INTERVENTION

The argument that national security justifies government intervention in technology markets rests on both narrow and broad logics. The narrow logic centers around the notion of control. For a technology-exporting country like the US, trade and other forms of (civilian) co-operation in technology pose “dual-use” risks — the possibility that ostensibly commercially valuable technology may be used for military purposes, thereby offering a battlefield advantage to an adversary. While governments employed export controls throughout the Cold War, the 21st century twist is that the universe of what is considered potentially dual-use is expanding, especially in emerging sectors such as AI, biotechnology and robotics, where the range of potential applications is not yet fully understood. Given the risk-averse nature of policy-making in the national security domain, strict supply-side controls could be imposed even when the motivating security risk is speculative or imprecise.

A technology-importing state like China faces the converse problem. Being heavily reliant on foreign suppliers for core technologies exposes the economy to the risk that those supplies will be cut off. Beijing has already experienced this first hand with the temporary ban imposed by the Trump administration on component sales to Chinese telecommunications firm ZTE in 2018 for violations of a sanctions-related legal settlement. ZTE was almost put out of business, which demonstrated to Beijing how its telecommunications industry’s reliance, in this case on American-made semiconductors, created significant vulnerabilities. Regardless of whether the ZTE case directly touched on national security concerns (more on this below), it at least revealed the potential risks for an importing state that has no control over its supplies of technology and related inputs. In the words of President Xi Jinping, “Heavy dependence on imported core technology is like building our house on top of someone else’s walls: no matter how big and how beautiful it is, it won’t remain standing during a storm.”

The broader national security logic rests on the premise — explicitly stated in the Trump Administration’s first National Security Strategy (NSS) in 2017 — that “economic security is national security.” In remarks given at the launch of the NSS, Trump stated that “economic vitality, growth, and prosperity at home [are] absolutely necessary for American power and influence abroad.” While the major focus of the Trump White House in the aftermath of the document’s release has been growing the defense industrial base and responding to perceived economic threats emanating from China, the concept is broad enough that almost any policy believed to be economically beneficial could, in principle, be justified on the grounds of economic security. Importantly, the logic of economic security expands the scope of legitimate government intervention far beyond the export

For Chinese policymakers, an activist industrial policy is already central to their model of economic development. In the technology domain, however, national security concerns provide extra impetus for state involvement. As a middle-income economy, China faces an “innovation imperative” — the need to move up the value chain and produce on the technological frontier as a critical pathway to achieving high-income status.
control of militarily sensitive technologies. Instead, it potentially justifies a broad-based and activist industrial policy — in the name of safeguarding national security.

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In the short term (had ZTE gone out of business in 2018, up to 75,000 employees could have lost their jobs) — incentivizing the types of behavior that brought Beijing into technological competition with Washington in the first place. But it also gives rise to similar logic to that found in the 2017 NSS, by justifying (as a matter of national security) a state-led whole-of-nation effort, such as that mapped out in the Made in China 2025 policy, to foster indigenous development of the technologies of the future in order to reduce the vulnerability more substantially. It should go without saying that there are significant ideological differences between the United States and China on the question of how best to organize political and economic affairs within their sovereign borders. It is therefore notable that national-security logics are seemingly causing a degree of convergence between the two on how broad threats to national security in the technology domain can be conceptualized, and the appropriateness of activist state policies in response. It suggests that the exigencies of great power competition flatten the range of policy responses from both sides, regardless of underlying organizational structure and ideologies. Technology competition, in other words, may manifest in relatively homogenous behavior from its participants.

**Dramatic Consequences**

While national security imperatives may cause a blurring of governments and markets at the domestic level, they may equally initiate greater separation between national markets at the international level. Such separation is perhaps the major risk posed by long-term technology competition — the undoing of the deep interdependence that has served to soften competitive frictions between the two great powers.

High-end technologies are increasingly embedded within complex transnational supply chains, in which multiple countries contribute value toward the manufacturing of a final good. If the two major powers seek to exclude the other from participating in the physical manufacture of goods and services employing sensitive technologies — the notion of “decoupling” — the result will be the formation of parallel trade and investment networks. Physical separation could also beget social separation, through restrictions on educational exchanges, foreign PhD student enrollments, worker secondments and other forms of cross-national collaboration in research and development.

Decoupling would also place the remaining states in the system in an invidious position, as the two great powers compete to bring smaller economies into their own systems. A “with me or against me” strategic mentality could see direct political or economic pressure being applied to compel states into making firm commitments across areas of commercial, scientific and defense policy domains. Pressure apparently applied by the Trump Administration on some European governments in recent months to keep Huawei out of their 5G infrastructure, including threats of reduced intelligence or other security co-operation, exemplifies the types of hard decisions that may regularly be faced by national governments.

Yet the decoupling debate is a complex one. On the one hand, deep interdependence contributes to mutual perceptions of vulnerability that seed competitive instincts, whether it is China exploiting the openness of the US system, or the US leveraging its control over high-tech inputs. It may be that some degree of unwinding at the margins, the concept of “managed interdependence,” could help both sides feel more secure. Moreover, vigorous efforts to promote the development of indigenous technologies could have wider positive impacts. Just as the Cold War space race gave humanity products as diverse as artificial limbs, water purifiers, stronger car tires and freeze-dried food, the pursuit of technological advancement in the 21st century promises to yield equivalent spillovers. Restrained technology competition can therefore both reduce fears of insecurity, and overall be a positive sum enterprise.

Taking separation too far, however, would be gravely risky. Economic co-operation and collaborative innovation give both sides a stake in working together toward a common goal — to create the technologies that will power the global economy. The multitude of technologically motivated commercial, scientific and person-to-person links that currently connect the two powers serve as vital ballast to the overall political relationship. Undoing those will silence those moderate voices urging for the peaceful resolution of disputes, and leave the field clear for hawkish perspectives that view the other with innate skepticism and mistrust.

Can these competitive instincts regarding technology be mollified? Success would have to involve severing the perceived link between technology and national security — no easy task. Both sides have entrenched their positions, meaning even if one wanted to change its behavior it might be nearly impossible to convince the other side they were genuine. Still, recent developments in negotiations suggest that Trump’s trade war may be nearing its conclusion, and perhaps the final agreement can lay the foundations for a way out — simultaneously addressing some of Washington’s concerns while reassuring Beijing that no grand containment strategy is afoot.

The most consequential impacts of technology competition between the US and China may, however, not lie in the race to develop or protect some specific technology, but in how the heavier burdens of national security policy-making affect the political systems within which they are nested. The contest between the two great powers is assumed to include a battle of ideas and contrasting models of political order and economic organization — the awesome potential of the technologies on the horizon might result in five sides playing the same game.

Darren Lim is a Senior Lecturer in the School of Politics and International Relations at the Australian National University. The author would also like to acknowledge the assistance of Victor Ferguson in preparing this article.