# 1AC

### 1AC – Innovation

#### Platform companies facilitate transactions between two sets of users – the *Amex* decision made it extremely difficult to challenge anticompetitive conduct in those markets

Hovenkamp, James G. Dinan University Professor, University of Pennsylvania Carey Law School and The Wharton School, ‘21

(Herbert, “Antitrust and Platform Monopoly,” 130 Yale L.J. 1952)

A. Against Platform Exceptionalism

In *Amex*, the Supreme Court disregarded a basic principle about markets, which is that they consist of close substitutes.212 Instead, it lumped production complements into the same market, and in the process, it stymied coherent economic analysis of the problem. To be sure, power in one side of a two-sided market cannot be assessed without determining what is occurring on the other side. But one does not need to group the two sides into the same “market.” Rather, a relevant market should be determined by reference to the side where anticompetitive effects are feared. Then, assessing power requires the fact finder to consider offsetting effects, some of which may occur on the other side.213

Second, the Court ignored an important distinction between fact and law. Disputes about market boundaries involve questions of fact. Nevertheless, the majority wrote—as a matter of law—that two-sided platforms compete exclusively with other two-sided platforms. These dicta have already produced mischief in lower-court decisions. For example, it led one court to conclude that a merger between a two-sided online flight-reservation system and a more traditional system could not be a merger of competitors.214

Third, without argument or evidence, the Court required litigants to show market power indirectly in vertical restraints cases by reference to a relevant market, even though superior techniques are available. Direct measures are particularly useful in digital markets, where the necessary data are easy to obtain and product differentiation makes traditional market definition unreliable.215 This was another breach of the boundary between fact and law.

Fourth, the Court misunderstood the economics of free riding, ignoring the fact that when a firm is able to recover the value of its investments through its own transactions, free riding is not a problem.

Fifth, the Court failed to perform the kind of transaction-specific factual analysis that has become critical to economically responsible antitrust law. Rather, it simply assumed, without examining the actual transactions before it, that losses on one side of a two-sided market are inherently offset by gains on the other side.216 Amex’s antisteering rule produced immediate losses for both the affected cardholder and the affected merchant. The only beneficiary was Amex, the operator of a platform able to shelter itself from competition. That competition, in turn, would have benefitted both cardholders and merchants.

Markets differ from one another.217 This is why we apply mainly antitrust law to some markets, regulation to others, and some mixture of the two to yet others. It is also why antitrust is so fact intensive, particularly on issues pertaining to market power or competitive effects. Indeed, the biggest advantage that antitrust has over legislative regulation is its fact-driven methodology. Antitrust courts do and should avoid speaking categorically about market situations that are not immediately before them and avoid making cursory conclusions based on inadequate facts. Within the antitrust framework, there is no reason to think that digital platforms are unicorns whose rules as a class differ from those governing other firms. Every market has its distinct features, but the ordinary rules of antitrust analysis are adequate to consider them. The *Amex* decision is a cautionary tale about what can happen when a court is so overwhelmed by a market’s idiosyncrasies that it makes grand pronouncements, abandoning well-established rules for analyzing markets in the process.

#### *Amex* set high burdens for Plaintiffs—forcing them to prove harm to users on both sides of the platform

Krikwood, Professor of Law, Seattle University School of Law; American Law Institute; Executive Committee, AALS Antitrust and Economic Regulation Section; Advisory Board, American Antitrust Institute, ‘20

(John, “Antitrust and Two-Sided Platforms: The Failure of *American Express*,” Cardozo L. Rev. Vol. 41)

In sum, the Court's most fundamental error in *American Express* was its ruling that in a two-sided platform case, the plaintiff must show, in the first step of the rule of reason, that the defendant's conduct caused net harm to customers on both sides of its platform combined. This requirement, unprecedented in the Court's decisions, is not only substantively wrong, it will force plaintiffs in two-sided platform cases to address market power, anticompetitive effects, and justification all at once, at the beginning of their cases. This is inefficient and will result in more false negatives.75 To take advantage of this new framework, moreover, numerous defendants are likely to claim that they operate twosided platforms, further inhibiting antitrust enforcement.76

[Begin fn76]

76 See Hovenkamp, supra note 9, at 48 ("[U]nder the AmEx standard, we can expect an

outpouring of defendants emphatically claiming to be two-sided .... ).

[End fn76]

The Court overlooked all of these problems. 77

#### Amex’s platform rule is theoretical nonsense—that spills over to stymie enforcement in numerous sectors

Rozga, JD, Counsel, Davis Wright Tremaine LLP, former Federal Trade Commission attorney, Guest Lecturer, Boston University School of Law, ‘20

(Kaj, “Antitrust After American Express: Down a Competitive Effects Rabbit Hole,” September 21, <https://techlawdecoded.com/antitrust-after-american-express-down-the-competitive-effects-rabbit-hole/>)

What does make American Express unique, and the reason it has pushed the trajectory of antitrust even further into a competitive effects abyss, are the implications on the modern tech-based economy of the Supreme Court’s views on the proof that is required in cases involving two-sided markets.

Two-sided platforms are at the core of wide swaths of the online ecosystem, including retail (Amazon’s marketplace), social media (Facebook), online advertising (Google Ads), the internet of things (Apple’s HomePod), search (Microsoft’s Bing), and the gig economy (Uber), to name a few examples. The American Express decision has significantly raised the evidentiary bar for proving up an antitrust case in such markets. It will no longer be enough to show that a platform harmed competition on one side of the market—as difficult and burdensome as that task already is. Now “substantial anticompetitive effects” must be shown across both sides of the market, accounting for all the participants and users of a multi-sided platform in something akin to the “credit card transactions” market proposed in American Express.

But the logic underlying the American Express decision does not stop at multi-sided platforms. It is not difficult to imagine how creative defendants and laissez faire-inclined judges could spin a web of ever-increasing complexity in any case about a sprawling market with interconnections and interrelationships among different users, partners, and participants. This is a natural consequence of falling down the competitive effects rabbit hole. If it is not reined in, the competitive effects machinery tends towards entropy, especially in complex digital markets where a single player can be interacting with various segments of a broader digital ecosystem.

#### Scenario one is AI – dominant platforms stifle innovation via nascent acquisition and exclusion

Allensworth, Professor of Law at Vanderbilt Law School, ‘21

(Rebecca, “Antitrust’s High-Tech Exceptionalism,” 130 Yale L.J. 588)

American competition policy has a big problem. Actually, it has four big problems: Amazon, Apple, Facebook, and Google. What was once a dynamic pool of smaller start-ups, the high-tech sector has now coalesced around just four companies that together reported over $773 billion of revenue in 2019.1 Each reigns over its own segment of the high-tech marketplace: Amazon controls the retail sector, Apple dominates devices and apps, Facebook owns social media, and Google virtually governs the internet itself. To the extent Silicon Valley still churns out a steady stream of startups, it is more to feed these beasts by acquisition than to produce meaningful rivals to their empires.2

Of course, not everyone agrees that this state of affairs is a problem at all. To some, the size of these firms is merely a symptom of their success. Relentless innovation, a customer-is-king mentality, network effects that benefit consumers, and economies of scale have made these firms ever larger and their products ever better for American consumers. Some even contest the idea that they are large at all by arguing that in a properly defined market, each firm faces significant rivalry and thus lacks market power. Some think that American antitrust law should pat itself on the back for fostering the competitive conditions that let these innovative companies thrive.3

However, this view is increasingly unpopular, and for good reason. Each of these companies, in its own way, holds the keys to competitive entry in many important online markets. To bring an app to market, a developer must deal with Apple; to reach online shoppers, retailers must use Amazon, and so on. Without a meaningful choice between platforms, independent sellers, developers, and websites must pass through a privately maintained bottleneck often on unfavorable terms. These restrictions on competition harm consumers by reducing the output and raising prices for goods that must pass through the bottleneck, and by reducing firms’ incentives to innovate—if they know a large portion of their profits will be appropriated by the platform, they have less incentive to bring new products to market. And by controlling the throttle of technological innovation, each dominant firm can stave off the possibility that one of these nascent companies will build a rival network—a platform that can break the bottleneck itself.4 Long-term, stable platform dominance means consumers likely will not see the kind of Schumpterian innovation associated with great technological leaps forward.5 Rather, consumer welfare depends on these platforms’ internal incentives to innovate, which are weakened in the absence of true rivalry.6 In short, there is a growing recognition that as much as these companies have innovation to thank for their success, their current tactics are making it hard for the next generation of disruptive innovators to take over. If antitrust law continues to stand by, consumers will pay the price.

#### Only nascent firms foster transformative tech innovation

Hemphill and Wu 20, Moses H. Grossman Professor of Law, New York University School of Law, , Julius Silver Professor of Law, Science and Technology, Columbia Law School.

(C. Scott, and Tim, “Nascent Competitors,” 168 U. Penn. L. Rev. 1879)

Over the last century and a half, small, innovative firms have played a particularly important role in the process of innovation and competition. This is not to discount the important history of innovation at big firms with large research laboratories, such as Bell Labs, Xerox PARC, and research labs at General Electric and Merck.30 However, over the same period, a significant number of disruptive innovations—those that transform industry—have come out of very small firms with new technologies unproven at the time: examples include the Bell Telephone Company, RCA, MCI, Genentech, Apple, Netscape, and dozens of others.31

There is a particular competitive significance of the big innovations at the smaller firms, for they also represent competitive entry, and sometimes completely transform the industry.32 New, unproven innovators are a key source of disruptive innovation.33 Consider that Bell’s telephone did not improve the telegraph, but replaced it, or the impact of Apple’s personal computer on the computing industry. As this suggests, nascent competitors can hold the promise of offering fresh competition for the market, not just in the market. They have the capacity to displace an incumbent through a paradigm shift—for example, a new platform for developing software or decoding a genome. Nascent competition tends to be important in industries marked by rapid innovation and technological change. Software, pharmaceuticals, mobile telephony, e-commerce, search, and social network services are leading examples.

Future potency. Second, a nascent competitor is relevant due to its promise of future innovation. Its potency is not yet fully developed and hence unproven. Whether that innovation will make a difference in the marketplace is subject to significant uncertainty. That is due to the unpredictable rate and direction of technological change. This uncertainty stems from the same forces of technological progress that make innovation so valuable. The nascent competitor may fail in various ways: the unproven cure, despite highest hopes, may flunk its clinical trials; the technologies thought to be the future might, in fact, be overrated. This uncertainty may not be a quantifiable risk, like the odds in a casino, but closer to Knightian true uncertainty—in other words, not readily susceptible to measurement.34 The unpredictable path of innovation often results in product plasticity, in which products evolve and are used for purposes different than the original. For example, in the 1990s, mobile telephones gained popularity as a complement to a wired telephone, as a means for making calls on the go.35 Today, they compete with land lines, cameras, computers, televisions, and credit cards. General purpose technologies such as computing and Internet connectivity act as powerful fuel for unpredictable change.36 Uncertainty about what products the incumbent and the nascent competitor will actually offer in the future has a further consequence—uncertainty about the degree to which those products will actually compete.

#### Key to out-compete China—targeted remedies are key

Wheeler 20, visiting fellow in Governance Studies at The Brookings Institution, Chairman of the Federal Communication Commission (FCC) from 2013 to 2017, ‘20

(Tom, “Digital Competition With China Starts With Competition At Home,” <https://www.brookings.edu/wp-content/uploads/2020/04/FP_20200427_digital_competition_china_wheeler_v3.pdf>)

The United States and China are engaged in a technology-based conflict to determine 21st-century international economic leadership. China’s approach is to identify and support the research and development efforts of a handful of “national champion” companies. The dominant tech companies of the U.S. are de facto embracing this Chinese policy in their effort to maintain domestic marketplace control. Rather than embracing a China-like consecration of a select few companies, America’s digital competition with China should begin with meaningful competition at home and the allAmerican reality that competition drives innovation.

America’s dominant tech companies have seized upon the competition with China as a rationale for why their behavior should not be subject to regulatory oversight that would, among other things, promote competition. “China doesn’t regulate its companies” has become a go-to policy response. When coupled with “of course, we support regulation, but it must be responsible regulation,” it throws up a smokescreen that allows the dominant tech companies to make the rules governing their marketplace behavior.

At the heart of digital competition — both at home and abroad — is the capital asset of the 21st century: data. Initiatives such as machine learning and artificial intelligence are data-dependent, requiring a large data input to enable algorithms to reach a conclusion. China’s immense population of almost 1.5 billion gives it an advantage in this regard. By definition, a population that approaches five times the size of the U.S. population produces more data. The previously “backward” nature of the Chinese economy has resulted in another Chinese data advantage: New smartphone-based apps, created in place of the digital integration that China previously lacked, produce a richer collection of data. This bulk and richness of Chinese data creates an inherent digital advantage when compared to the United States.

If the United States will never out-bulk China in the quantity and quality of data, it must out-innovate China. Here, the United States has an advantage, should it choose to take it. The centralized control of the Chinese digital economy is an anti-entrepreneurial force. In contrast, innovation is the hallmark of a free and open market. But the domestic market must, indeed, be free, open, and competitive.

Currently, the American digital marketplace is not competitive. A handful of companies command the marketplace by hoarding the data asset others need to compete. As innovative as America’s tech giants may be, they represent a bottleneck that starves independent innovators of the mother’s milk of digital competition. If America is to out-innovate China, then American innovators need access to the essential data asset required for that innovation.

The nation’s response to Chinese competition must not be the adoption of China-like national champions, nor the “China doesn’t regulate its companies that way” smokescreen. American public policy should embrace the all-American concept of competition-driven innovation. This begins with breaking the bottleneck that withholds data from its competitive application. This does not necessarily mean breaking up the dominant companies, but it does mean breaking open their mercenary lock on the assets essential for competition-driven innovation.

#### China will overtake the U.S. in AI by 2030 – national policies to maintain our lead are key

Allison 21 – Professor of government at Harvard University. Former director of the Belfer Center for Science and International Affairs.

Graham Allison, “China Will Soon Lead the U.S. in Tech,” *The Wall Street Journal*, 7 December 2021, https://www.wsj.com/articles/china-will-soon-lead-the-us-in-tech-global-leader-semiconductors-5g-wireless-green-energy-11638915759.

Central Intelligence Agency Director Bill Burns announced in October that the agency is establishing two new major “mission centers,” one focusing on China and the other on frontier technologies. This action reflects his judgment that China is the “most important geopolitical threat we face in the 21st century” and that the “main arena for competition and rivalry” between China and the U.S. will be advanced technologies. The question Americans should be asking is: Could China win the technology race?

A new report on the “Great Technological Rivalry” from Harvard’s Belfer Center answers: Yes. The report isn’t alarmist but nonetheless concludes that China has made such extraordinary leaps that it is now a full-spectrum peer competitor. In each of the foundational technologies of the 21st century—artificial intelligence, semiconductors, 5G wireless, quantum information science, biotechnology and green energy—China could soon be the global leader. In some areas, it is already No. 1.

Last year China produced 50% of the world’s computers and mobile phones; the U.S. produced only 6%. China produces 70 solar panels for each one produced in the U.S., sells four times the number of electric vehicles, and has nine times as many 5G base stations, with network speeds five times as fast as American equivalents.

In the advanced technology likely to have the greatest effect on economics and security in the coming decade—artificial intelligence—China is ahead of the U.S. in crucial areas. A spring 2021 report from the National Security Commission on AI warned that China is poised to overtake the U.S. as the global leader in AI by 2030. U.S.-born students are earning roughly as many doctorates each year in AI-related fields as in 1990, while China is on track to graduate twice as many science, technology engineering and mathematics Ph.D.s as the U.S. by 2025. The Harvard report adds that China now clearly tops the U.S. in practical AI applications, including facial recognition, voice recognition and fintech.

The U.S. still has a dominant position in the semiconductor industry, which it has held for almost half a century. But China may soon catch up in two important arenas: semiconductor fabrication and chip design. China’s production of semiconductors has surpassed America’s, with its share of global production rising to 15% from less than 1% in 1990, while the U.S. share has fallen from 37% to 12%.

In 5G, the Pentagon’s Defense Innovation Board reports that China is on track to replicate the economic and military advantages America gained from being the global leader in 4G. China has installed 950,000 base stations to America’s 100,000. By the end of last year, 150 million Chinese were using 5G mobile phones with average speeds of 300 megabits a second, while only six million Americans had access to 5G with speeds of 60 megabits a second. America’s 5G service providers have put more focus on advertising their capabilities than on building infrastructure.

The Chinese Communist Party has made no secret of its ambitions: China intends to become the global leader in the technologies that will shape the decades ahead. The party’s 2013 economic reform plan highlighted technological innovation as the way to avoid the trap of getting stuck as a middle-income country. The celebrated “Made in China 2025” program aims to dominate domestic production of 10 emerging technologies, including 5G, AI and electric vehicles.

China also plans to extend its lead in robotics to sustain its position as the manufacturing workshop of the world. In May, Xi Jinping clearly stated his judgment that “technological innovation has become the main battleground of the global playing field, and competition for tech dominance will grow unprecedentedly fierce.” It is striking how successful China has been in meeting its ambitious technology targets.

In sum, although the U.S. remains the global leader in many important races, including aeronautics, medicine and nanotechnology, China has emerged as a serious competitor. Fortunately, Americans are beginning to wake up to this reality. In June the Senate passed the Innovation and Competition Act with bipartisan support, authorizing $250 billion of investment in science and technology over the next five years. Unfortunately, that legislation has stalled in the House and faces an uncertain future as part of the annual defense bill.

More recent congressional spending proposals, such as the $1.2 trillion infrastructure bill and the $1.7 trillion social-spending package, have included investments in research and development in areas like green technologies and energy storage. While these investments are greatly needed, it will take more attention and investment in strategic technologies to compete with China. Unless the U.S. can organize a national response analogous to the mobilization that created the technologies that won World War II, China could soon dominate the technologies of the future and the opportunities they will create.

#### Maintaining our innovative lead solves nuclear war

Kroenig and Gopalaswamy 18 – Associate Professor of Government and Foreign Service at Georgetown University and Deputy Director for Strategy in the Scowcroft Center for Strategy and Security at the Atlantic Council; Director of the South Asia Center at the Atlantic Council

Matthew Kroenig and Bharath Gopalaswamy, "Will disruptive technology cause nuclear war?," Bulletin of the Atomic Scientists, 11-12-2018, <https://thebulletin.org/2018/11/will-disruptive-technology-cause-nuclear-war/>

Rather, we should think **more broadly** about how new technology might affect global politics, and, for this, it is helpful to turn to scholarly international relations theory. The dominant theory of the causes of war in the academy is the “bargaining model of war.” This theory identifies rapid shifts in the balance of power as a primary cause of conflict.

International politics often presents states with conflicts that they can settle through peaceful bargaining, but when bargaining breaks down, war results. Shifts in the balance of power are problematic because they undermine effective bargaining. After all, why agree to a deal today if your bargaining position will be stronger tomorrow? And, a clear understanding of the military balance of power can contribute to peace. (Why start a war you are likely to lose?) But shifts in the balance of power muddy understandings of which states have the advantage.

You may see where this is going. New technologies threaten to create potentially destabilizing shifts in the balance of power.

For decades, stability in Europe and Asia has been supported by US military power. In recent years, however, the balance of power in Asia has begun to shift, as China has increased its military capabilities. Already, Beijing has become more assertive in the region, claiming contested territory in the South China Sea. And the results of Russia’s military modernization have been on full displayin its ongoing intervention in Ukraine.

Moreover, China may have the lead over the United States in emerging technologies that could be decisive for the future of military acquisitions and warfare, including 3D printing, hypersonic missiles, quantum computing, 5G wireless connectivity, and artificial intelligence (AI). And Russian President Vladimir Putin is building new unmanned vehicles while ominously declaring, “Whoever leads in AI will rule the world.”

If China or Russia are able to incorporate new technologies into their militaries before the United States, then this could lead to the kind of rapid shift in the balance of power that often causes war.

If Beijing believes emerging technologies provide it with a newfound, local military advantage over the United States, for example, it may be more willing than previously to initiate conflict over Taiwan. And if Putin thinks new tech has strengthened his hand, he may be more tempted to launch a Ukraine-style invasion of a NATO member.

Either scenario could bring these nuclear powers into direct conflict with the United States, and once nuclear armed states are at war, there is an inherent risk of nuclear conflict through limited nuclear war strategies, nuclear brinkmanship, or simple accident or inadvertent escalation.

This framing of the problem leads to a different set of policy implications. The concern is not simply technologies that threaten to undermine nuclear second-strike capabilities directly, but, rather, any technologies that can result in a meaningful shift in the broader balance of power. And the solution is not to preserve second-strike capabilities, but to preserve prevailing power balances more broadly.

When it comes to new technology, this means that the United States should seek to maintain an innovation edge. Washington should also work with other states, including its nuclear-armed rivals, to develop a new set of arms control and nonproliferation agreements and export controls to deny these newer and potentially destabilizing technologies to potentially hostile states.

These are no easy tasks, but the consequences of Washington losing the race for technological superiority to its autocratic challengers just might mean nuclear Armageddon.

#### Aff is a nuanced understanding of competition policy – competition policy is key to tech progress, but doesn’t require total deregulation

Coniglio, antitrust attorney in the Washington, DC office of Sidley Austin LLP, ‘20

(Joseph V., “Economizing the Totalitarian Temptation: A Risk-Averse Liberal Realism for Political Economy and Competition Policy in a Post-Neoliberal Society,” 59 Santa Clara L. Rev. 703)

The implication of the foregoing is that the most pressing task for competition policymakers may not involve a rethinking of first principles. The principles of neoliberal competition policy may have ultimately been proven justified by an unprecedented period of economic growth, technological progress and reductions in poverty, and should presumably remain operative as long as they remain the best framework for bringing about these ends. Neither, as we have suggested, must the capitalist entrepreneur be lost in the process. The totalitarian temptation to submit to general state control of the economy-whether it be in the form of communism from below or fascism from above should be resisted so as to preserve and build upon the great prosperity Western Civilization has managed to achieve.

This statement will no doubt be highly unsatisfactory to many critics of neoliberalism who seek more fundamental and revolutionary changes. Surely, they suggest, there must be some principled basis for critiquing the neoliberal status quo with which so many are frustrated. Indeed, there very well may be, and none of the arguments in this article should be understood to the contrary. The goal of this article has been limited to a tailored defense of neoliberal principles only as they relate to competition policy, broadly understood. It does not suggest that neoliberal monetary, trade, and fiscal policies are also sound-let alone a neoliberal social order, where all the core institutions within society are organized according to the neoliberal principles of wealthmaximization, empiricism, and the rest.129 This is to say that even if neoliberalism is a sound theory as applied to the area of competition policy, neoliberal monetary policy, for example, may be problematic and a just target for contemporary critics. Similarly, claiming that competition policy should be enforced using a consumer welfare standard does not mean that all the organs of law and civil society should be oriented to maximize wealth or consumer welfare, even if this economic inquiry is nonetheless informative. 30 It is well known that several prominent neoliberals have expanded the neoliberal policy apparatus beyond the regulation of market capitalism with which antitrust is concerned to domains typically understood to be beyond a purely utilitarian purview.' 3 ' However, whatever the merits of these broader neoliberal policy programs, the competition policy baby, so to speak, should not be thrown out with the bathwater.

Consider the charge that neoliberal policies have increased wealth inequality in the United States. Some commentators attempt to link this increased inequality with a decline in competition'3 2 and, by implication, consumer welfare competition policy. Notwithstanding the interest such theories appeared to have garnered from highly distinguished economists and policymakers, such as Nobel Laureate Joe Stiglitz,133 one might alternatively consider whether increasing wealth inequality and the resultant social strife are far more a result of policies in other areas, such as monetary policy. 134 At the same time as Chicago School antitrust policy took root, the American economy began to undergo sustained expansions in the money supply and reductions in interest rates that, at least in theory, disproportionately reward the owners of financial assets, who are more likely to be wealthy. 135

#### Markets are the only sustainable way to structure production – pointing out there are problems with markets doesn’t justify the alt because we can contingently change how markets operate

Posner and Weyl 18 – Eric A. Posner is Kirkland and Ellis Distinguished Service Professor of Law and Arthur and Esther Kane Research Chair at the University of Chicago. E. Glen Weyl is an economist and researcher at Microsoft Research New England.

Eric A. Posner and E. Glen Weyl, “Epilogue: After Markets?” *Radical Markets: Uprooting Capitalism and Democracy for a Just Society*, Princeton University Press 2018, Epub (email [arg5180@gmail.com](mailto:arg5180@gmail.com) for relevant text).

Markets as Miracles

As we saw in chapter 1, many economists who were committed to the market economy also considered themselves “socialists.” Yet in the early twentieth century, socialism became identified with central planning, thanks to the role of Marxism and the French Revolution in inspiring and justifying the economic policies of the Soviet Union. Central planning also received a boost from World War I, where national control of the economy for the purpose of war production was more successful than advocates of laissez-faire could ever have imagined. This led to a heated debate about whether central planning should be used in peacetime as well.

In the popular imagination, central planning could not succeed because it provided individuals with no incentives to work. People needed the prospect of riches, or at least wages, to get them out of bed in the morning. Yet incentives were quite strong in the Soviet Union, stronger, in many ways, than they are in capitalist countries. While there was less chance under Communism to grow rich, any prisoner of the Gulag knew the fate of those who “malingered.”

Another popular argument against central planning was advanced by Nobel Laureate Friedrich Hayek in 1945. Hayek argued that no central planner could obtain information about people’s tastes and productivity necessary to allocate resources efficiently.1 The genius of the market was the way that the price system could, in disaggregated fashion, collect this information from everyone and supply it to those who needed to know it, without the involvement of a government planning board.

A related version of this argument, less well-known than Hayek’s but actually more compelling, was made a few decades earlier. The brilliant economist Ludwig von Mises argued that the fundamental problem facing socialism was not incentives or knowledge in the abstract but communication and computation.2 To see what Mises meant, consider an illustrative parable proposed by Leonard Read in his 1958 essay, “I, Pencil.” 3

Read tells the “life story” of a pencil. Such a simple thing, one would at first think. And yet as you begin to reflect, you realize the enormously complex layers of thought and planning it would require to make a pencil from scratch. The wood must be chopped, cut, shaped, polished, and honed. The graphite must be mined, chiseled, and shaped. The ferrule—the collar that connects the wood shaft and the eraser—is an alloy of dozens of metals, each of which must be mined, melted, combined, and reformed. And so forth.

Yet what is most remarkable about the pencil is not its complexity but the complete lack of understanding that anyone involved in the manufacture of the eventual pencil has about any of these steps in the process. The lumberjack knows only that there is a market for his wood and some price that induces her to buy the needed tools, cut down trees, and sell lumber down the line of production. The lumberjack may never even know that the wood is used for a pencil. The pencil factory owner knows only where to purchase the needed intermediate materials and how to run a line assembling them. The knowledge and planning of the pencil’s creation emerge organically from the process of market relations.

Now suppose that we were to try to replicate the market relationships with a central planning board. The board would determine how much wood to chop and when, the number of workers to employ at each stage of production, the correct places and times to produce, ship, and build. Yet, to do this effectively the board would have to understand a great many things. It would have to learn from each of these specialized producers the unique knowledge of her domain of expertise that allows her to earn a living—for example, whether the lumber would have a more valuable use elsewhere in the economy (to build houses or ships or children’s toys) than as an input for pencils. Absorbing all this information and constantly receiving and processing the necessary updates to keep abreast of evolving conditions in each of these steps of the process, would overwhelm the capacity of even the most skilled managers.

And even if the board somehow had an unlimited capacity to absorb this information, it would still have the unmanageable problem of trying to act on this sea of data. Prices, supply and demand, and production relations in markets arise through a complex interplay of individuals each helping to optimize a tiny part of a broad social process. If, instead, a single board had to plan this entire dance, it would force a small number of individuals to contemplate an endless sequence of choices and plans. Such elaborate calculations are beyond the capacity of even the most brilliant group of engineers.

Mises wrote decades before the rise of the fields of computer science and information theory and lacked any way to formalize these intuitive ideas. Many of Mises’s arguments were dismissed by mainstream economists, whose increasingly narrow mathematical approach to the field Mises disdained. Mises’s critics, including Oskar Lange, Fred Taylor, and Abba Lerner, argued that the market mechanism was but one of many ways (and far from the most efficient way) to organize an economy. They viewed the economy purely mathematically, rather than computationally, and saw no difficulty in principle with solving a (very large) system of equations relating the supply and demand of various goods, resources, and services.

In a simplified picture of the economy, ordinary people perform dual functions as producers (workers, suppliers of capital, etc.) and consumers. As consumers, people have preferences regarding different goods and services. Some people like chocolate, others like vanilla. As producers, they have different talents and capacities. Some people are good at doing math, others at mollifying angry customers. In principle, all we need to do is figure out people’s preferences and their talents, and assign jobs to people who do them best, while distributing the value created by production in the form of goods and services that people really want. Rewards and penalties need to be determined to give people incentives to reveal their preferences and talents, and to ensure that they actually do what they are supposed to do. All of this can be represented mathematically and solved. That’s why socialist economists viewed the economy as a math problem the solution of which only required a computer.

Yet the later development of the theory of computational and communication complexity vindicated Mises’s insights. What computational scientists later realized is that even if managing the economy were “merely” a problem of solving a large system of equations, finding such solutions is far from the easy task that socialist economists believed. In an incisive computational analysis of central planning, statistician and computer scientist Cosma Shalizi illustrates how utterly impossible “solving” a modern economy would be for a central planning board. As Shalizi notes in his essay, “In the Soviet Union, Optimization Problem Solves You,” the computer power it takes to solve an economic allocation problem increases more than proportionately in the number of commodities in the economy.4 In practical terms, this means that in any large economy, central planning by a single computer is impossible.

To make these abstract mathematical relationships concrete, Shalizi considers an estimate by Soviet planners that, at the height of Soviet economic power in the 1950s, there were about 12 million commodities tracked in Soviet economic plans. To make matters worse, this figure does not even account for the fact that a ripe banana in Moscow is not the same as a ripe banana in Leningrad, and moving it from one place to the other must also be part of the plan. But even were there “merely” 12 million commodities, the most efficient known algorithms for optimization, running on the most efficient computers available today, would take roughly a thousand years to solve such a problem exactly once. It can even be proven that a modern computer could not achieve even a reasonably “approximate” solution—and, of course, today there are far more goods, services, transport choices, and other factors that would go into the problem than there were in the Soviet Union in the 1950s. Yet somehow the market miraculously cuts through this computational nightmare.

Markets as Parallel Processors

But all of this raises a question. If the problem is so hard to solve, how is it possible for the market to solve it? Consider Lange’s quote from our epigraph.5 The market is just a set of rules enforced by the government—not much different from a computer algorithm, although a very complex one. It’s true that no single person invented the market. Yet the rules of the market are well understood, and economists are constantly telling people to implement them. Imagine that a new country is created, and its leaders ask a western economist how best to create an economy. The economist will tell them how to set up a market—the rules of contract and property law, for example. (Indeed, economists have been running around the halls of government of developing countries and the floors of start-ups for decades doing just this.) Aren’t the economists just supplying a kind of computer program to the leaders, who by implementing it are engaging in a style of centralized planning?

To understand how the market solves the “very large system of equations,” you need to know the key ideas of distributed computing and parallel processing. In these systems, complicated calculations that no one computer could perform are divided into small parts that can be performed in parallel by a large number of computers distributed across different geographic locations. Distributed computing and parallel processing are best known for their role in the development of “cloud computing,” but their greatest application has gone unnoticed: the market economy itself.

While the human brain is wired differently from a computer, computational scientists estimate that a single human mind has a computational capacity roughly ten times greater than the most powerful single supercomputer at the time of this writing.6 The combined capacity of all human minds is therefore tens of billions of times greater than this most powerful present-day computer. The “market” is then in some sense a giant computer composed of these smaller but still very powerful computers. If it allocates resources efficiently, it does so by harnessing and combining their separate capacities.

Adopting this perspective, we must ask how the market is “programmed” to achieve this outcome. The economy consists of a variety of resources and human capacities at a range of locations, along with a system for transmitting data about these resources among individual human beings. A standard approach in parallel processing is to take information local to one location in, say, a picture or puzzle and assign this to one processor, integrating these inputs on still other processors in a hierarchical fashion. Now apply this image to the economy. In every place, we take one of the computers (humans) available to us and assign it to collect information about that location’s needs and resources and report some parsimonious “compressed” summary of all that data to other computers. For example, there might be a hierarchical arrangement of computers, with those responsible for particular locations on the ground reporting to a higher “layer” that integrates local areas and then upward from there.

Consider the following example. A person works on a farm and is in charge of ensuring that the farm is productive and that her family is happy. This person sends information about the farm and her family, not in its full richness and complexity, but in broad strokes, to district managers. One manager specializes in understanding the resources that farms need to operate—seeds, fertilizer— while another understands the resources that people living on farms need in order to be happy, including food and clothing. These managers would then aggregate these data and convey them to the next layer, perhaps a national wheat distributor or a regional supplier of products for use on farms. At every level of this chain, some information would need to be lost for the parallel processing to remain parallel and tractable: the farm manager could not detail every way in which a slightly better paved road would help in conveying goods to market or how slightly cleaner water would protect her crops. But at least she could report the largest and most important needs and hope that the loss of information only slightly reduces the efficiency of the resulting solution.

This arrangement has a flavor of central planning but also resembles a market economy. People specialize in different parts of the production chain and operate under limited information, yet are able to coordinate their behavior because the information takes a certain form. While people are experts on local conditions, they know little about economic conditions elsewhere. They know that grain prices are high and tractor prices are low, but not why this is the case. When they buy a tractor or sell grain, they don’t tell the vendor or purchaser their life story, all the conditions on their farm, and so forth. They just place an order or offer so much grain at the going price.

This “price system” thus greatly simplifies communication between different parts of the economy. In fact, economists have shown that prices are the minimum information that a farmer needs to plan her operations effectively. So long as every important way that the farm could benefit or draw down resources from the outside world has a price attached to it, this is all the information the farmer needs to make economic decisions. Any greater information would be a waste, from a purely economic efficiency perspective, though it might be interesting from time to time to develop personal relationships. Conversely, if these prices were not available, there would be no way for a farmer to know whether it pays to use new tractors or rely instead on more labor, nor would she know how many seeds to plant for next season. The farmer without such prices could easily produce too little or waste resources on a tractor that could be better used for more labor, seed, or even consumption.

In this sense, prices are the “minimum” information necessary for rational economic decision-making.7 No other system of distributed computing can be equally productive and yet require less communication.

Markets elegantly exploit distributed human computational capacity. In doing so they allocate resources in ways that no present computer could match. Von Mises was right that central planning by a group of experts cannot replace the market system. But his argument was mistakenly taken as implying that the market is “natural” rather than a human-created program for managing economic resources. In fact, there is nothing natural about market institutions. Human beings create markets—in their capacity as judges, legislators, administrators, and even private business people who frequently set up organizations that create and manage markets.

Markets are powerful computers, but whether they produce the greatest good or not depends on how they are programmed. We advocate “Radical Markets” because we believe that in the present stage of technological and economic development, when cooperation has grown too large to be managed by moral economies, the market is the appropriate computer to achieve the greatest good for the greatest number. If we see it as such, we can fix the bugs in the market’s code and enable it to generate more wealth that is distributed more fairly.

By sharpening our understanding of the role and value of markets, the computational analogy clarifies our claim that the solutions we propose are based on extending the reach of markets. The COST on wealth radicalizes markets as it puts greater responsibility on individuals to articulate their values and gives them greater ability to claim things they value highly. QV does the same in the political sphere. Our ideas on migration give individuals more scope for determining the best path for where they live and work. Our proposals on antitrust and data valuation break up centralized power and place greater responsibility on individuals and small firms to compete, innovate, and make rational economic choices to allow for the distributed computation of optimal economic allocations. But all these proposals raise the question: if the market is just a computer program that harnesses the power of individual human intellects, will it still be necessary as computer power increases?

#### Scenario two is Fintech – Fintech’s disruptive startups have been squashed by large financial institutions

Loo ’18 – Associate Professor at BU Law [Rory Van; Associate Professor, Boston University School of Law and Affiliated Fellow, Yale Law School Information Society Project; 2018; "Making Innovation More Competitive: The Case of Fintech"; UCLA Law Review; https://heinonline.org/HOL/Page?handle=hein.journals/uclalr65&div=7&g\_sent=1&casa\_token=&collection=journals; accessed 8-18-2021]

Fintechs can be of any size. Four of the ten largest U.S. companies, Google, Apple, Amazon, and Facebook, all have built payment systems and made other inroads into finance.36 Despite the participation of large technology companies, the main drivers of fintech innovation have been the thousands of startups attracting billions of dollars in investment each year. Startup business models are novel, diverse, and shifting. One of the earliest fintech areas was peer-topeer lending, in which companies link individuals who have money to those who want it.37 Most of the original peer-to-peer companies have already grown beyond their origins and now engage in more familiar "marketplace lending."38 They receive money from banks to lend to individuals, and their innovations have spread to other areas, such as sophisticated analytic tools for estimating borrowers' creditworthiness.39

Unlike the other categories of consumer fintechs, advisory fintechs do not need to directly receive any money from consumers to offer their basic product. The goal of Credit Karma, NerdWallet, Mint, and other advisory fintechs is to help people make all of their financial decisions through a single app.4" These companies learn about users-with permission-by accessing personal bank accounts, credit scores, credit card records, tax returns, and other similar sources of financial information. Users then receive recommendations about credit cards or mortgages with lower fees, savings accounts that pay higher rates, and other products that better meet their needs.41

While the term "fintech" is used here to exclude traditional banks, all major financial institutions have become highly technological. The leading banks are each purchasing fintech startups, forming strategic partnerships, or internally building whiz teams to design new products.42 JP Morgan Chase's Intelligent Solutions Group has over 200 analysts and data scientists and produced about fifty technologies in 2015 alone.43 Goldman Sachs, which has more engineers than Facebook or Twitter, is launching an online lender.44 In light of Wall Street's increasing launch of digital products and adoption of artificial intelligence,45 regulating fintech amounts to regulating the future of finance.

B. Private Sector Institutional Dynamics

Fintechs could in theory pose a threat to traditional banks. Almost threequarters of millennials say they would prefer to receive their financial services from technology companies such as Google and Amazon, rather than big banks.46 Convenience, trust, and price all could play important roles in driving customer switching. Individual users, including small businesses, increasingly find dealing with big banks to be time-consuming and frustrating compared to the ease of tailored startup apps.47 In recent years, consumers have grown distrustful of large financial institutions, whose reputations have been battered by subprime mortgage lending, the financial crisis, the LIBOR scandal, and Wells Fargo opening millions of fake accounts in customers' names. 48

Innovation helps explain why publicly traded companies are disappearing at a faster rate today than ever before-six times as fast as forty years ago.49 Online startups have even thrived in other heavily regulated industries, such as transportation and gambling." Convenience and lower costs have driven some of this success, and many fintechs offer similar advantages.51 Furthermore, unlike some industries that Silicon Valley has invaded, finance lacks a meaningful physical component. This makes the base products inherently vulnerable to digital competition. Traditional banks' infrastructures-including their legacy information systems and physical branches-inhibit their ability to rapidly respond to disruption.

Since Dimon's 2015 warning, however, the dynamics between fintech and traditional firms appear to have shifted. Entrepreneurs who started out wanting to do to banks what Amazon did to retail have wound up licensing their technology to banks.52 As one industry observer puts it: "What was once perhaps an adversarial relationship has warmed .... Many no longer see an existential threat in fintech. Instead, they believe that "[i]t is most likely that the small fintech companies will be subsumed" by large financial institutions. 4

Ii. The Competition Shortcomings

A given fintech's decision of whether to challenge or join banks will depend in part on whether regulations and market dynamics give it a real chance to compete. Competition is extremely difficult to measure, and economic models inadequately consider important factors, such as innovation.5 To assess the hypothesis that a lack of competition inhibits fintech, this Part surveys the evidence related to entry barriers, customer switching, anticompetitive prices, and the relative pace of U.S. innovation.

A. Entry Barriers

When firms face excessive barriers to entering a market, competition can stagnate, raising prices and lowering innovation. 6 Although part of the problem is simply the large amount of regulation, 7 fintech has faced two further entry barriers: traditional firms' ability to block market access and the difficulty in obtaining a federal bank license.

Legacy financial institutions can limit some fintechs' operations through control of data. Most notably, advisory fintechs rely on access to both personal and general product data. 8 Some banks' response has been to block or limit fintechs' access to customer accounts, thereby making it harder for fintechs to provide tailored advice. 9 Legacy institutions can also block fintechs from collecting online product information by using laws never intended for such a purpose, including trespass to chattel, the Digital Millennium Copyright Act,6 " and the Computer Fraud and Abuse Act.61 As a result, advisory fintechs cannot on their own provide comprehensive financial advice to their users. In order to access crucial data, fintechs may need to prioritize big banks' interests over helping consumers switch.

Some legacy firms can also limit market access through their dominant market positions. Over 99 percent of all credit card transactions run through the Visa, American Express, Mastercard, and Discover networks.62 Many commentators have documented credit card companies' ability to engage in exclusionary conduct, such as vertical restraint clauses that prevent merchants from using other payment methods.63 Although credit card companies may not be able to use those same tactics against payment fintechs, their strong market positions could enable them to deploy other tactics. They have, for instance, instituted "Honor All Cards" rules requiring merchants to accept their contactless payments as a condition of accepting plastic cards. These rules arguably "foreclose entry to those digital wallets that.., do not use the credit card networks for payments. 64

#### That means US fintech will lose to international competitors.

Loo ’18 – Associate Professor at BU Law [Rory Van; Associate Professor, Boston University School of Law and Affiliated Fellow, Yale Law School Information Society Project; 2018; "Making Innovation More Competitive: The Case of Fintech"; UCLA Law Review; https://heinonline.org/HOL/Page?handle=hein.journals/uclalr65&div=7&g\_sent=1&casa\_token=&collection=journals; accessed 8-18-2021]

C. International Competitiveness

Less efficient and innovative U.S. financial services are problematic not only in isolation, but also from an international perspective. Scholars and regulators have inconclusively debated whether banks need to be big to maintain their international competitiveness. 12' Less well-recognized is how a lack of domestic competition may undermine U.S. financial firms' global competitiveness. Foreign financial firms may gain an edge by being subject to greater competition in their home markets, thereby being forced to innovate more and operate leanly. This creates two potential problems. First, reduced domestic competitiveness may make the United States less able to enter foreign markets. The U.S. economy has benefited in recent years from billions of dollars in revenues earned abroad by Google and other leading digital companies. 126 Given the growing portion of the global economy taken up by finance, the fintech lag could constitute a large-scale missed opportunity for U.S. firms to strengthen the economy by bringing in revenues earned abroad.

Second, in the long term, American financial firms may become more vulnerable to international competition even in domestic markets. Although U.S. licenses can shield banks from foreign fintech challengers today, distributed ledger technologies may change this. Americans are already increasingly using Bitcoin, Ethereum, and other unregulated virtual currencies based on blockchain technology.127 Much is unknown about how such technologies will develop, and the trust offered by a governmentally overseen financial system may prove difficult to replicate. 128 If, however, an era of wide-open global finance arrives, U.S. financial institutions could find themselves suddenly exposed to international competition as never before. Without U.S. regulators to insulate them, U.S. financial institutions made soft by lesser competition would be more prone to lose significant market share to foreign financial institutions than they would be if domestic markets were more competitive.

#### Fintech innovation is key to the effectiveness of U.S. economic sanctions

Harrell and Rosenberg 19 – Peter E. Harrell is an adjunct senior fellow at the Center for a New American Security; former Deputy Assistant Secretary for Counter Threat Finance and Sanctions at the U.S. State Department. Elizabeth Rosenberg is a senior fellow and director and director of the Energy, Economics, and Security Program at the Center for a New American Security.

Peter E. Harrell and Elizabeth Rosenberg, “Economic Dominance, Financial Technology, and the Future of U.S. Economic Coercion,” *Center for a New American Security*, 2019, pp. 25-26, http://files.cnas.org.s3.amazonaws.com/documents/CNAS-Report-Economic\_Dominance-final.pdf.

Developments in financial technology also have the potential to affect the availability and strength of coercive economic measures over the longer term. The movement to develop blockchain-based, decentralized payments platforms and new digital currencies or tokenized assets that feature anonymity can undermine the strength of coercive economic measures. However, financial technology developments, such as the development of artificial intelligence/machine learning (AI/ML) compliance technologies, also present potential means to better detect and stop evaders and avoiders of U.S. economic coercion throughout global chains of financial interconnectivity.

Financial technologies are not themselves the drivers of potential future changes to the sources of coercive economic leverage. However, they may enable foreign governments to develop better tools to insulate transactions from U.S. jurisdiction. And, regardless of the actions of foreign governments as they spread commercially, they may help evaders duck U.S. coercive economic power in limited but meaningful ways. Conversely, new AI/ML or other technologies may help U.S. policymakers implementing economic coercion to better do their job.

Financial technology can be a facilitator of rapid transformation in the financial services sector. Importantly, financial technology developments will not happen just in the United States; a number of other countries, from China to Singapore to Switzerland, are promoting themselves as financial technology leaders. There is no guarantee that financial technology innovators and investors will be centered in the United States in the future—which represents a vulnerability to U.S. economic prominence.

Maintaining U.S. Leverage

The extent to which the United States will maintain coercive economic leverage in a world where financial technology disrupts aspects of the traditional financial architecture will depend to a significant degree on the extent to which U.S. firms, and large global firms, continue to play a dominant role in the development of the technology. To put it bluntly, a blockchain-based clearing mechanism that enables trade between foreign countries without financial transactions touching the dollar would likely undermine U.S. leverage if the technology were developed and operated by a foreign company that had no need to adhere to U.S. law. The United States would maintain at least some leverage if the technology were developed or operated by a U.S. company obliged to adhere to U.S. sanctions, technology-export restrictions, and other relevant laws, or a foreign company with significant U.S. exposure.

#### Iran’s an emerging global hub for Bitcoin mining. Absent our internal link, they’ll obviate the role of financial institutions and effectiveness of sanctions.

**Erdbrink 19** --- Dutch journalist who is the Northern Europe bureau chief for The New York Times

Thomas, 1-29-2019, "How Bitcoin Could Help Iran Undermine U.S. Sanctions,” New York Times, https://www.nytimes.com/2019/01/29/world/middleeast/bitcoin-iran-sanctions.html

Iran’s economy has been hobbled by banking sanctions that effectively stop foreign companies from doing business in the country. But transactions in Bitcoin, difficult to trace, could allow Iranians to make international payments while bypassing the American restrictions on banks.

In the past, the threat of United States sanctions has been enough to squelch most business with Iran, but the anonymous payments made in Bitcoin could change that. While Washington could still monitor and intimidate major companies, countless small and midsize companies could exploit Bitcoin and other cryptocurrencies to conduct business under American radar.

The United States Treasury, well aware of the threat, is attempting to bring Bitcoin and the others into line. In recent weeks, in response to an internet fraud case originating from Iran, the Treasury imposed sanctions on two Iranians and the Bitcoin addresses, or ‘‘wallets,’’ they had used for trading in the currency.

The Treasury also has warned digital marketplaces that buy and sell Bitcoin and companies that sell computers used to process Bitcoin transactions that they should not provide services to Iranians. Several well-known trading sites are now blocking buyers and sellers from Iran. Some have confiscated money belonging to clients based in Iran.

“Treasury will aggressively pursue Iran and other rogue regimes attempting to exploit digital currencies,” the department said in a statement.

But by their nature, cryptocurrencies are uncontrolled by any person or entity. At best, efforts to regulate or monitor trade in them are episodic, whack-a-mole affairs. With Bitcoin and other cryptocurrencies, there is simply no way to duplicate the banking sanctions that have proved so damaging to the Iranian economy.

Bitcoin transactions are recorded on a digital ledger or database known as the blockchain, maintained communally by many independent computers. The system is designed explicitly to avoid central banks and large financial institutions. Like emails delivered without going through a central postal service, the computer network maintaining Bitcoin records enables the movement of money without going through any central authority.

The Iranian government has been slow to recognize the potential sanctions-evading possibilities of Bitcoin. But it is now considering the establishment of exchanges to facilitate trading, one official, Abdolhassan Firouzabadi, said recently. Despite the failure of Venezuela’s state-backed cryptocurrency, the Petro, Iran’s central bank said recently that it was seriously considering creation of something similar, possibly called the Crypto-Rial, named after the national currency, the rial.

Still, Iran’s venture into Bitcoin pales in comparison to what has been happening the former Soviet republic of Georgia, where thousands of people have jumped into the cryptocurrency business.

At the computerized processing operation in the Iranian desert, no one seemed particularly concerned with the geopolitical implications of Bitcoin.

The operation consisted of 2,800 computers from China, fitted into eight containers, which when linked are called a farm. It makes intense mathematical calculations, known as mining, needed to confirm Bitcoin transactions. Miners collect fees in Bitcoin for their services.

Ignoring the rain, the European visitor used the calculator on his mobile phone to determine how much money could be made from this particular farm, multiplying computer power and deducting electricity and operational costs.

He estimated about five Bitcoins a month, which at roughly $4,000 per Bitcoin at current price levels, would be about $20,000.

“Not too bad,” he said.

The currency fluctuates like any other, though it has proved particularly volatile, sinking to slightly less than $4,000 a unit from nearly $20,000 about a year ago.

“We’ll have two engineers on site to keep everything running, that’s it,” said Behzad, the chief executive of IranAsic, the company running the site. He, like the European investor, did not want to provide his family name, out of fear of penalties from the United States.

The Chinese computers, called Antminer V9s, were regarded as outdated by the European visitor. Still, he said, “I guess this is the last place on earth where they are still profitable.”

That helps explain why Iran seems to be taking its first baby steps toward becoming a global center for mining Bitcoins. Because of generous government subsidies, electricity — the energy for the computers needed to process cryptocurrency transactions — costs little in Iran. It goes for about six-tenths of a cent per kilowatt-hour, compared with an average of 12 cents in the United States and 35 cents in Germany.

In recent months, dozens of foreign investors from Europe, Russia and Asia have considered moving their mining operations to Iran and other low-cost countries like Georgia. “We have to be flexible in this industry and go where prices are the lowest in order to survive,” said the European investor.

#### Tracking solves Iranian evasion – US lead key.

**Robinson 21** --- Ph.D., Co-founder and Chief Scientist discusses cryptocurrency forensics, investigations, compliance, and sanctions.

Tom, "How Iran Uses Bitcoin Mining to Evade Sanctions and “Export” Millions of Barrels of Oil," Elliptic, <https://www.elliptic.co/blog/how-iran-uses-bitcoin-mining-to-evade-sanctions>

The Iranian state is therefore effectively selling its energy reserves on the global markets, using the Bitcoin mining process to bypass trade embargoes. Iran-based miners are paid directly in Bitcoin, which can then be used to pay for imports - allowing sanctions on payments through Iranian financial institutions to be circumvented.

This has become all but an official policy, with a think tank attached to the Iranian president’s office recently publishing a report highlighting the use of cryptoassets to avoid sanctions.

Many of those making the Bitcoin transactions and paying the fees to Iran-based miners will be located in the United States - the very country spearheading the sanctions. As the US government considers whether to lift some sanctions on Iran in exchange for a return to a nuclear deal, it will need to consider the role that Bitcoin mining plays in enabling Iran to monetise its natural resources and access financial services such as payments.

In the meantime, financial institutions should consider the sanctions risk they are exposed to due to Iranian Bitcoin mining - particularly those that are beginning to offer cryptoasset services. If 4.5% of Bitcoin mining is based in Iran, then there is a 4.5% chance that any Bitcoin transaction will involve the sender paying a transaction fee to a Bitcoin miner in Iran. Financial institutions should also be on the lookout for crypto deposits originating from Iranian miners that are seeking to cash-out their earnings.

Solutions for Sanctions Risks

However as we discuss in more detail our new sanctions guide, solutions to these challenges exist and are already used by financial institutions engaging in cryptoasset activity.

For example, blockchain analytics solutions such as those provided by Elliptic can be used by regulated financial institutions to detect and block cryptoasset deposits from Iran-based entities including miners. Techniques can also be employed to ensure that transaction fees are not paid to miners in high risk jurisdictions.

#### Effective sanctions key to prevent Iranian nuclear acquisition.

**Morrison 21** --- Master of Arts of Political Science, University of Waterloo.

Kallen, 2021, “Economic Sanctions and Nuclear Non-proliferation: A Comparative Study of North Korea and Iran, “University of Waterloo, Fulfilment of the thesis requirement for the degree of Master of Arts, https://uwspace.uwaterloo.ca/bitstream/handle/10012/16666/Morrison\_Kallen%20.pdf?sequence=3

Economic sanctions have been successful in stopping Iran from pursuing their nuclear program thus far. Iran has conceded multiple times to the United States and the international community to halt the enrichment of uranium and the advancement of their nuclear program. The most notable example of Iran’s concessions has been the signing of the Joint Comprehensive Plan of Action in which Iran agreed to halt and greatly reduce their nuclear program in return for substantial easing of economic sanctions. The second criteria has been met as Iran’s economy has significantly worsened due to continued economic pressure from the United States and the international community. Iran’s economy has significantly worsened due to continued economic pressure from the United States and the international community. Continued economic pressure has been paramount to bringing Iran to the negotiating table. While the United States and its regional allies do pose a military threat to Iran, that is unlikely a sufficient factor in dissuading Iran.

We have established that the level of political contestation in the targeted countries, their economic and security vulnerabilities, and the degree of international cooperation are important factors in determining if economic sanctions are effective at limiting nuclear proliferation. In Iran’s case the regime, while authoritarian, allows for limited political contestation. The general public gets to elect the president (even if candidates are handpicked by the supreme leader). Iranians have been able to protest against the government. One goal of economic sanctions is to galvanize the general public against the government and their policy decisions. Iranians have indeed been frustrated by the sanctions and voiced their discontent with the government policies targeted by the sanctions.

Iran’s international environment is also conductive for economic sanctions to be effective. Iran is a regional power with an impressive arsenal of missiles and extensive network of proxy forces. Therefore, nuclear weapons are not imperative for Iran’s defence. On the other end, Iran’s economy is largely based on oil and gas exports. Integration into the global market is very important for Iranians and a vital source of revenue for the government. Economic sanctions have hurt the Iranian economy and therefore have hurt Iranians. The economic squeeze has brought Iran to the negotiating table in the past and will likely do so in the future. The international approach to Iran has been encompassing with the European Union and the United Kingdom taking a common stand with the United States in preventing Iran from acquiring nuclear weapons. Even after the United States left the JCPOA the EU and UK have attempted to develop mechanisms to provide Iran with economic incentives to keep Iran abiding to the JCPOA. Even though China has given Iran an economic lifeline there is tension within Iran over concerns of becoming too economically dependent on China.

#### Israel would preempt before the nukes come online. Sparks a wider regional conflict that draws in all the major powers.

Scheinman 18 – Security Studies Chair, Nat’l War College; Nuclear Nonprolif Rep. for Obama

Adam M. Scheinman, What if Iran leaves the NPT?, 8 June 2018, <https://thebulletin.org/2018/06/what-if-iran-leaves-the-npt/>

Not to diminish the immensity of North Korea’s nuclear challenge, but Iran’s withdrawal from the NPT carries weightier risks. It would likely mean that Iran’s Supreme Leader had given the green light to an Iranian nuclear weapon, opening the floodgates to NPT withdrawals by other Arab states—Saudi Arabia, the UAE, and Egypt head that list. These and possibly other Sunni governments, none of whom can rely on a major power for defense, may conclude that they require their own nuclear weapon to check Iran’s rise. The Saudis are very clear and public on this point.

More immediately, Israel may feel compelled to strike Iranian nuclear facilities before they become fully operational. This raises the specter of a regional war that may draw in several of the nuclear weapon states—the United States, the UK, France, and Russia—and reshape the Middle East in ways we cannot predict. Whether the NPT could survive such a shock is another unknown.

#### Can’t stay contained—multiple pathways to global nuclear war.

Avery 13 – Lektor Emeritus & Associate Professor, U of Copenhagen

John Scales Avery, Lektor Emeritus, Associate Professor, at the Department of Chemistry, University of Copenhagen, since 1990 he has been the Contact Person in Denmark for Pugwash Conferences on Science and World Affairs, An Attack On Iran Could Escalate Into Global Nuclear War, 11/6/13, http://www.countercurrents.org/avery061113.htm

Despite the willingness of Iran's new President, Hassan Rouhani to make all reasonable concessions to US demands, Israeli pressure groups in Washington continue to demand an attack on Iran. But such an attack might escalate into a global nuclear war, with catastrophic consequences. As we approach the 100th anniversary World War I, we should remember that this colossal disaster escalated uncontrollably from what was intended to be a minor conflict. There is a danger that an attack on Iran would escalate into a large-scale war in the Middle East, entirely destabilizing a region that is already deep in problems. The unstable government of Pakistan might be overthrown, and the revolutionary Pakistani government might enter the war on the side of Iran, thus introducing nuclear weapons into the conflict. Russia and China, firm allies of Iran, might also be drawn into a general war in the Middle East. Since much of the world's oil comes from the region, such a war would certainly cause the price of oil to reach unheard-of heights, with catastrophic effects on the global economy. In the dangerous situation that could potentially result from an attack on Iran, there is a risk that nuclear weapons would be used, either intentionally, or by accident or miscalculation. Recent research has shown that besides making large areas of the world uninhabitable through long-lasting radioactive contamination, a nuclear war would damage global agriculture to such an extent that a global famine of previously unknown proportions would result. Thus, nuclear war is the ultimate ecological catastrophe. It could destroy human civilization and much of the biosphere. To risk such a war would be an unforgivable offense against the lives and future of all the peoples of the world, US citizens included.

### 1AC – Solvency

The United States federal government should prohibit platform practices that fail under rule of reason without imposing heightened burdens on plaintiffs.

#### The aff removes *Amex*’s increased burdens for platform challenges – that solves because well-plead cases go forward and courts will reject anticompetitive conduct

Hovenkamp, Assistant Professor, USC Gould School of Law, ‘19

(Erik, “Platform Antitrust,” 44 J. Corp. L. 713)

That is no longer the case, however, as the Supreme Court recently confronted platform commerce head-on in AmEx 111.13 In June of 2018, the Court issued its first decision on how antitrust's rule of reason 14 is to be applied in cases involving platform defendants. 15 It was superficially a question of how to define the "relevant market" for purposes of an antitrust adjudication. 1 6 In particular, the question was whether the market definition must include both groups of users, which would require a plaintiff to prove a net injury to competition across both user groups-not just to win on the merits, but simply to carry its initial burden. The Supreme Court held that it does. 17

Most of the important complexities arising under two-sided competition center on the juxtaposition of countervailing effects-that is, pro and anticompetitive effects-arising within the separate sides of the market. In fact, even outside the platform context, such a juxtaposition of plausible effects is very common in antitrust disputes. And the rule of reason ordinarily divides the burdens of establishing them; it bifurcates them into separate stages, delaying the need for potential balancing or "netting out" of the effects (which is notoriously difficult) until the final stage of the adjudication. By evaluating the effects carefully and independently, a court is better equipped to determine whether such balancing is genuinely necessary; and, if so, the court is at least in a better position to compare the relevant effects. However, the Court's AmEx III decision largely abandoned this burdenshifting framework, effectively collapsing the entire rule of reason analysis-and all of its intermediate inquiries-into the plaintiffs initial burden.

Whether or not one agrees with its holding, the AmEx III decision is inarguably a watershed moment for platform antitrust. Against this backdrop, this Article considers how antitrust ought to accommodate the distinctive features of platforms and platform competition. It focuses principally on conduct evaluated under the rule of reason, 18 with emphasis on vertical restraints and unilateral conduct. 19 The analysis is organized as follows: I begin by providing an overview of the distinctive features of platforms and platform competition, as reflected within the platform economics literature. Part III then explains how such factors may bear on the analysis of various restrictive practices that are already familiar within antitrust, but whose effects may become more or less concerning when undertaken by two-sided defendants. In Part IV, I address the economic effects of an important category of restraints that are unique to platform markets. Finally, Part V turns to the broad question of law that was at issue in AmEx III.

One of the important competitive dynamics arising in platform markets is known as "steering." 21 This refers to any efforts aimed at inducing users to opt for one platform over another. The restraint at issue in AmEx IIIwas an example of this: it prohibits its merchants from offering AmEx cardholders a better price at checkout if they agree to switch to an alternative card (e.g. Visa), since competing cards generally charge lower network usage fees to merchants. 22 But, more generally, steering restraints take many different forms, and arise in many platform markets. 3 In general, steering strategies are usually procompetitive, as they typically act as a vehicle for price competition among rival platforms. Restraints on steering should therefore be regarded as a potential source of serious antitrust concerns. However, as discussed in detail in Part III, many research articles suggest that such restraints may be necessary to maintain adequate participation, and thus regard their welfare effects as highly ambiguous. 24 The AmEx III opinion cites these commentaries copiously. Importantly, however, these arguments stem primarily from economic models involving a platform monopolist, with the operative restraint merely precluding efforts to steer users toward a nonpla'fform alternative (e.g. toward cash rather than using a monopolist's payment card platform). 25 But this is not a good representation of how such restraints usually operate in real-world commerce. In practice, most of the relevant restraints seek to prevent steering toward competing platforms, rather than a nonplatform alternative that lacks the same transactional efficiencies.

As I argue below, when a restraint merely prevents steering toward competing platforms, there is substantially less reason to presume that it might be justified for reasons relating to the market's two-sidedness. Instead, the more likely result is simply that it prevents users from switching to rival platforms that would provide them with better jointvalue. That would suggest the restraint does not enhance the market-wide volume of trade. Rather, at best, it merely reallocates transactions among platforms, albeit in a way that leaves transacting parties with diminished welfare on average. At worst, it affirmatively reduces the overall volume of trade by undermining price competition generally. This can occur for two reasons. First, the restraint may extinguish rival platforms' incentive to make competitive price offerings, as it may prevent transacting parties from switching to the competitor's platform in response to its price cut. Second, the restraint may induce sellers who transact over the platform to set higher retail prices for their own wares, which injures all consumers, whether or not they take advantage of the platform's transaction service.

The question of law addressed in AmEx III is extremely broad in scope, as it bears on the application of antitrust law to all kinds of restrictive practices that might be undertaken by transaction platforms. As noted above, while facially a holding about market definition, the Supreme Court's decision is in fact a major alteration of the rule of reason's burden shifting framework. The Court's analysis was guided principally by a number of antitrust academics that focus most of their attention on a simple point-in effect that "both sides matter," and that it would be inappropriate to focus on one side myopically. 26 While correct, this point was actually never in dispute. Even the district court, whose market definition was formally limited to the merchant side of the market, 27 expressly emphasized the importance of accounting for the market's two-sidedness. 28 Indeed, its analysis gives substantial attention to cardholders, and it even concluded that they were likely injured in addition to merchants. 2 9 Despite this, the AmEx III majority chastised the district court's approach as "looking at only one side of the platform in isolation."' 30

It is indeed true that a platform's conduct may have countervailing effects within the two sides, and that this requires courts to take the market's two-sidedness into account. 31 But it does not follow that the appropriate way to deal with this is to require a plaintiff to "net out" all such considerations merely in order to support its prima facie case-before the defendant has substantiated its asserted efficiency defense. This approach is also a substantial deviation from precedent. Most difficult cases evaluated under the rule of reason involve potential countervailing pro- and anticompetitive effects. 32 And the courts developed a multi-stage burden shifting framework precisely to deal with this difficulty. By construction, this framework contemplates that a plaintiff can carry its initial burden without having shown that the defendant's conduct is definitively anticompetitive on the whole; that is why it is merely the first stage among several.

Far from providing any necessary reform, the AmEx III decision merely developed a "law of the horse": a needless construction of new legal principles when the old ones would do just fine (and likely much better).33 It is true that platform economics has important implications for antitrust policy and practice; this Article gives substantial attention to that fact. But such considerations can already be accounted for-both more practicably and more reliably-within the rule of reason's existing structure. To that end, a much better approach would be to maintain careful consideration of platform economics throughout the established burden shifting framework, which is designed to work through complex cases in incremental steps and to cast light on countervailing effects through an efficient allocation of burdens.

#### That solves – it enables tailored remedies that promote competition but maintain efficiency

Hovenkamp, James G. Dinan University Professor, University of Pennsylvania Carey Law School and The Wharton School, ‘21

(Herbert, “Antitrust and Platform Monopoly,” 130 Yale L.J. 1952)

More Creative Alternatives

Frequently, neither simple injunctions nor simple breakups will be good solutions for platform monopoly. Injunctions may be inadequate to restore competition, and breakups may impair efficient operation and harm consumers in the process.

The case for a breakup is strongest when noncompetitive performance or conduct seems to be inherent in a firm’s current structure. Even then, however, there is no guarantee that the firm, once dismantled, will perform any better than before. For example, how do we break up Facebook without harming the constituencies that it serves?

The approaches discussed briefly in this Section do not require the breakup of assets or the spinoff of divisions or subsidiaries other than some that have been acquired by merger. Rather, they alter the nature of ownership, managerial decision making, contracts, intellectual-property licenses, or information management. Instead of attempting to force greater competition between a dominant platform and its rivals, we might do better to leave the firm intact but encourage more competition within it. Alternatively, we might increase interoperability by requiring more extensive sharing of information or other inputs. While the current antitrust statutes grant the courts equitable power sufficient to accomplish these remedies,299 the proposals are novel and could provoke resistance.

These remedies can be applied to entities other than structural monopolies, and for offenses under both section 1 and section 2 of the Sherman Act. While less intrusive than asset breakups, however, they can be more intrusive than simple conduct injunctions. As a result, they should be limited to situations where prohibitory injunctions alone are unlikely to be adequate. Occasional uses of unlawful exclusive dealing, most-favored-nation agreements,300 or other anticompetitive contract practices deserve an injunction, but ordinarily would not merit a breakup of the entire firm or fundamental alteration of its management structure.

The traditional way that antitrust law applies structural relief is to break up firms’ various physical assets, through such devices as forcing selloffs (divestiture) of plants, products, or subsidiaries.301 To the extent these breakups interfere with a firm’s production and distribution, they can produce harmful results such as increased costs or loss of coordination. This is particularly true of integrated production units, such as single digital platforms. The D.C. Circuit noted this concern in Microsoft when it refused the government’s request for a breakup.302

a. Enabling Competition Within the Platform

One alternative to divestiture is to leave a platform’s physical assets and range of participants intact but change the structure of ownership or management so as to make it more competitive internally. A platform or other organization can itself be a “market” within which competition can occur. In that case, antitrust law can be applied to its internal decisions, improving competition without limiting the extent of scale economies or beneficial network effects.

Ordinarily, agreements among subsidiaries or other agents within a firm are counted as unilateral and so are attributed to the firm itself.303 That rule is a direct consequence of the separation of ownership and control. The all-important premise, however, is that the firm’s central management is the only relevant economic decisionmaker. When that is not the case, even agreements among the various constituents within the firm can be treated as cartels.

There is plenty of precedent on this issue. The history of antitrust law is replete with examples of incorporated firms that are owned or managed by distinct and often competing entities. The courts have treated these firms as cartels or joint ventures, even for practices that, from a corporate law perspective, appeared to be those of a single firm. If properly managed, the result can be to force entities within the same incorporated organization to behave competitively vis-à-vis one another.

Firms whose ownership is reorganized in this fashion can still be very large and retain most of the attributes of large firms. On the one hand, this will satisfy those concerned that the breakup of large firms can result in the loss of economies of scale or scope, or of other synergies that generally lead to high output and lower prices. On the other hand, it will not satisfy those who believe that “big is bad” for its own sake.304

Joint management of unified productive assets has a storied history that goes back to the Middle Ages. Farmers, ranchers, and fishermen produced cattle, sheep, and fish on various “commons,” or facilities that were shared among a large number of owners and subjected to management rules.305 Many of these operated on a mixed model that involved individual production for stationary products such as crops, but a commons for grazing cattle or other livestock. For mobile products such as cattle or fish, the costs of shared management were lower than the costs of creating or maintaining boundaries. That was not the case for radishes or wheat. So rather than cutting a large pasture or bay into 100 fenced-off plots, participating property owners operated it as a single economic unit, substituting management costs for fencing costs. Just as for any firm, size and shape are determined by comparing the costs and payoffs of alternative forms of organization.306

So while a commons can be a very large firm, it can be operated by a collaboration of competing entities rather than a single one. Output reductions and price setting by a single firm are almost always out of reach of the federal antitrust laws. On the other hand, if a market is operated by a joint venture of

active business participants, their pricing is subject to the laws against collusion. Their exclusions also operate under the more aggressive standards that antitrust applies to concerted, as opposed to unilateral, refusals to deal.307 The fact that this joint venture is a corporation organized under state law, as many ventures are, does not make any difference. It is still a collaboration as far as antitrust law is concerned.

The theory of the firm precludes claims of an antitrust conspiracy between a corporation and its various subsidiaries, officers, shareholders, or employees. This preclusion is an essential corollary to the proposition that a corporation is a single entity for most legal purposes and not simply a cartel of its shareholders or other constituent parts. This is how corporate law preserves the boundary between firms and markets.308

But important exceptions exist. While a corporation is a single entity for most antitrust purposes, if it is operated by its shareholders for the benefit of their own separate businesses, its conduct is reachable under section 1 of the Sherman Act. A cartel is still a cartel even if it organizes itself into a corporation.

The classic antitrust example of such a collaborative structure is in the 1918 Chicago Board of Trade case, which first articulated the modern rule of reason for antitrust cases.309 As Justice Holmes had described the Board thirteen years previously, 310 it was an Illinois state-chartered corporation whose 1600 members were themselves traders for their own individual accounts, and with individual exclusive rights to do business on the Board’s trading floor.311 The “call rule,” which prevented collaborative price making among the members except during exchange hours, could not have been challenged under the antitrust laws as unilateral conduct. A single firm may set any nonpredatory price it wishes. Further, all of the relevant participants were inside the firm. Nevertheless, they were regarded as independent actors for the purpose of trading among themselves.

Thus the United States challenged the call rule as price fixing among competitors. 312 Not only is the substantive law against such collaborative activity more aggressive than that against unilateral actions, but the remedial problems are less formidable. If a firm acting unilaterally should set an unlawful price, the court must order it to charge a different price, placing it in the awkward position of a utility regulator. By contrast, price fixing by multiple independent actors operating in concert is remedied by a simple order against price fixing, requiring each participant to set its price individually without dictating what the price must be. The Supreme Court ultimately found the Chicago Board’s call rule to be lawful. If it had not, however, the remedy would have been an injunction against enforcement of the rule, leaving the members free to set their own prices. In fact, the United States’ requested relief was precisely that.313

The same thing applies to refusals to deal. If a firm is acting unilaterally, its refusal to deal is governed by a strict standard under which liability is unlikely, particularly if there has not been an established history of dealing.314 Further, in many circumstances a court can enforce a dealing order only by setting the price and other terms. By contrast, if the entity that refuses to deal is operated by a group of active business participants, its collective refusal to deal is governed by section 1 of the Sherman Act. A court usually need do no more than issue an injunction against the agreement not to deal. This is true even if the actors have incorporated themselves into a single business entity, as in the Associated Press case, which involved a New York corporation whose members were 1200 newspapers. 315 The government charged the Association with “combining cooperatively” to prohibit news sales to nonmembers or making it more difficult for a newspaper to enter competition with an existing newspaper.316 The Court upheld an injunction against the restrictive rules under the Sherman Act.317

The modern business world provides many analogies to this structural situation. For example, each of the NCAA’s 1200 member schools operates as a single entity in the management of education, student housing and discipline, and financing of its own operations, including athletic departments. By contrast, the rules for recruiting and maintaining athletic teams, their compensation, as well as the scheduling, operation, and playing rules of games, are controlled through rulemaking by the collective group.318 While the schools compete with one another in recruiting athletes and coaches, in obtaining both live and television audiences, and in the licensing of intellectual property, all of these things fall within NCAA rulemaking and are reachable by antitrust law. Specifically, decisions to restrict the number of televised games;319 to limit the compensation of coaches320 or players;321 or to limit licensing of students’ names, images, and likenesses322 all fall within section 1 of the Sherman Act. When a violation is found, the antitrust remedy is an injunction permitting each team to determine its choices individually.

The same analysis drove the American Needle litigation, a refusal-to-deal case that involved the National Football League (NFL).323 The NFL is an unincorporated association controlled by thirty-two individual football teams, each of which is separately owned. NFL Properties (NFLP) is a separate, incorporated LLC in New York, controlled by the NFL. The individual teams are members, and they also collectively control the licensing of the teams’ substantial and individually owned intellectual-property rights. In this case, the team members voted to authorize NFLP to grant an exclusive license to Reebok to sell NFLlogoed headwear (i.e., helmets and caps) for all thirty-two teams.324 The plaintiff, American Needle, was a competing manufacturer that the agreement excluded.325

The issue for the Supreme Court was whether NFLP’s grant of an exclusive license should be addressed as a “unilateral” act of NFLP or as a concerted act by the thirty-two teams acting together, and the Court unanimously decided the latter.326 As a matter of corporate law, the refusal to deal appeared to be unilateral. NFLP, the licensing party, was an incorporated single entity. The lower court had relied on earlier Seventh Circuit decisions holding that professional sports leagues should be treated as single entities under these circumstances.327

The Supreme Court’s decision to the contrary was consistent with its earlier cases Sealy328 and Topco.329 In both of those cases, the Court held that even if an entity is incorporated, it can be addressed as a collaboration of its competing and actively participating shareholders. In Sealy, each member was a shareholder, and collectively the members owned all of Sealy’s stock.330 In Topco, each of the twenty-five members owned an equal share of the common stock, which had voting rights. They also owned all of the preferred stock, which was nonvoting, in proportion to their sales.331

Agreements among the active members or shareholders on incorporated real-estate boards are treated in the same way. Acting as a single entity, the board organizes the listing of properties for sale, formulates listing rules, promulgates standardized listing forms and sales agreements, and controls much of the conduct of individual brokers. Acting individually, the shareholder-brokers show properties to clients and obtain commissions from sales. Each real-estate office acts as not only a shareholder or partner in the overall organization, but also a competitor for individual real-estate sales.

Without discussing single-entity status, in 1950 the Supreme Court held that price fixing among real-estate agents who were members of an incorporated board was an unlawful conspiracy.332 A leading subsequent decision involved Realty Multi-List, a Georgia corporation organized and owned by individual real-estate brokers.333 Under the corporation’s arrangement, one shareholder member could show properties listed by a different shareholder member.334 The Fifth Circuit concluded that both the agreements among the members fixing commission rates and setting exclusionary and disciplinary rules for brokers who deviated from these rates were unlawful under section 1 of the Sherman Act.335

In the 2000s, the government and private plaintiffs sued several multiplelisting services, challenging their decisions to exclude real-estate sellers.336 The Fourth Circuit eventually applied American Needle, rejecting the contention that concerted action was lacking because the parties making the decision were acting as “agents of a single corporation.”337 Several other decisions have arrived at similar results reaching both price fixing and concerted exclusion.338

Hospital-staff-privileges boards also provide an analogy. Hospitals regularly use such boards to decide which physicians can be authorized to practice at the hospital. If physician-board members with independent practices deny staff privileges to someone, they may be treated as a conspiracy rather than a single actor.339

Even an incorporated natural monopoly can be subject to section 1 of the Sherman Act if it is controlled by its shareholders for their separate business interests. That issue arose in the 1912 Terminal Railroad decision.340 The railroadbridge infrastructure across the Mississippi was very likely a natural monopoly, given it operated as a bottleneck through which all traffic across the river had to pass.341 However, the facility was incorporated, and its shareholders were a group of thirty-eight firms and natural persons organized by railroad financier Jay Gould.342 The venture constituted a single corporation under Missouri law, but it was actively managed by its shareholder participants, all of whom had separate businesses. They were mainly individual railroads, a ferry company, bridges, a “system of terminals,” and several individuals.343 The venture thus controlled an extensive collection of railroad transportation, transfer, and storage facilities at a point at which all east-west traffic in that part of the country had to cross the Mississippi River.344

The Court’s order is both interesting and pertinent to platforms. It rejected the government’s request for dissolution. It noted that dissolving the corporation would do nothing to eliminate the bottleneck.345 Rather, it ordered the district court to fashion a “plan of reorganization” that permitted all shippers, whether or not they were members of the organization, to have access on fair and reasonable terms, with the goal of “plac[ing] every such company upon as nearly an equal plane as may be with respect to expenses and charges as that occupied by the proprietary companies.”346 Dissolution would be mandated only if the parties failed to agree on these terms.347

The *Terminal Railroad* decree suggests a way to remedy anticompetitive behavior by large digital platforms representing several sellers without sacrificing operational efficiencies. Rather than requiring divestiture of productive assets, which almost always leads to higher prices, we could restructure ownership and management. A large firm such as Amazon can attain economies of scale and scope that rivals cannot match. Further, Amazon benefits consumers, most suppliers, and labor, by selling its own house brands and the brands of third-party merchants on the same website. This is how a seller of house brands can break down the power of large name-brand sellers.348

The problem is not that Amazon sells too much, but rather that Amazon’s ownership and management make it profitable for Amazon to discriminate in favor of its own products and against those of third-party sellers, or to enter other anticompetitive agreements with independent sellers. Breaking up Amazon or forcing a physical separation of own-product and third-party sales would mean giving up a great deal of brand rivalry that benefits consumers.

Suppose a court required Amazon to turn important commercial decisions over to a board of active Amazon participants who made their own sales on the platform, purchased from Amazon, or dealt with it for ancillary services. Acting collaboratively, they could control product selection, distribution and customer agreements, advertising, internal product development, and pricing of Amazon’s own products. Their decisions would be subject to antitrust scrutiny under section 1 of the Sherman Act.

Such an approach could be particularly useful in situations involving refusals to deal. To illustrate, an important focus of the EU’s November 2020 Statement of Objections Against Amazon is on claims that Amazon “artificially favour[s] its own retail offers” in product areas where it sells both its own and third-party merchandise.349 Under current United States antitrust law, a firm acting unilaterally would not be prevented from discriminating between its own and thirdparty sales. That was the very issue in Trinko—namely, that monopolist Verizon discriminated against third-party carriers and favored its own.350

If decision making in this area were entrusted to a board of active sellers, including both Amazon itself and third parties, the section 1 standard would reach the conduct. Justice Scalia’s Trinko opinion, citing Terminal Railroad, observed that the Supreme Court had imposed nondiscrimination obligations under similar circumstances, but only when the government was attacking concerted rather than unilateral conduct.351 Further, when such conduct is concerted, it is “amenable to a remedy that does not require judicial estimation of free-market forces: simply requiring that the outsider be granted nondiscriminatory admission to the club.”352 The number and diversity of participants could vary, but they should be sufficiently numerous and diverse to make anticompetitive collusion unlikely. That could include individual merchants who sell on Amazon, principal shareholders, and perhaps customers and others. The Board should be subject to rules setting objective standards for product selection.

Numerosity should not interfere with effective operation. The Chicago Board of Trade had 1800 trading members and decisionmakers in 1918, when organizational rules and procedures were still being managed with pencil and paper.353 The NCAA has more than 1200 member schools,354 and the Associated Press had more than 1200 member newspapers in 1945.355 The Terminal Railroad Association had 38 shareholder members, but the decree contemplated nondiscriminatory sharing with any non-shareholder who wished to participate. 356 One large real-estate board, the Chicago Association of Realtors, has

over 15,500 members.357

The designated decisionmakers need not be Amazon shareholders, as long as they have independent business interests and operate on Amazon. In fact, the details of state corporate law or organization would not ordinarily affect the federal antitrust issue. For example, in some of these cases—such as Terminal Railroad, 358 Sealy,359 and Topco360—the relevant decisionmakers owned shares in the corporation. In American Needle, the organization in question was NFL Properties, an LLC,361 which does not have shareholders but rather owner-members similar to a partnership. Similarly, in Associated Press, the Court probed a cooperative association incorporated under the Membership Corporation Laws of New York.362

Whether the court applies the per se rule or the rule of reason in such cases would depend on the offense. In NCAA, the Supreme Court concluded that the rule of reason should apply to all restraints undertaken by the association because cooperation was necessary to the creation of the product: intercollegiate sports.363 That is not the case with product sales on Amazon. Rather, the traditional distinction between naked and ancillary restraints would work well. Price fixing or unjustified limitations on output would be strongly suspect.364 On the other hand, rules establishing uniform practices governing distribution and resolution of customer complaints could certainly be reasonable and thus lawful. Concerted refusals to deal can cover a range of practices from naked boycotts motivated by price (per se unlawful)365 to reasonable standard setting (rule of reason),366 and should be addressed accordingly.

Such an approach would notably not aim at size *per se*. An Amazon with competitively restructured management could be just as large as it is now. Indeed, it could be even larger. Cartels and monopolies function by restricting output, and facilitating internal competition could serve to increase it. Amazon would likely retain the efficiencies that flow from its size and scope. We would have effectively turned the internal workings of its platform into a market. It still might be in a position to undersell other businesses or to exclude products that its members and rules disapprove. If it did so in an anticompetitive manner, however, section 1 of the Sherman Act could be applied.

#### The aff is goldilocks – it remedies type II errors because it is POSSIBLE for plaintiffs to win, but caps type I error because frivolous cases would still be dismissed

Hovenkamp, Assistant Professor, USC Gould School of Law, ‘19

(Erik, “Platform Antitrust,” 44 J. Corp. L. 713)

Most rule of reason cases resolve before reaching the balancing stage. 198 However, this is in part due to the fact that a large majority of cases end at the first stage, with plaintiffs failing to make a prima facie case. 199 Michael Carrier finds that, between 1999 and 2009, plaintiffs fail at the first stage in 97% of rule of reason cases. 2 0 Further, 'there was only one final judgment issued in a plaintiff's favor over that period (out of 222 total judgments). Thus, given that the burden of establishing a prima facie case *without* balancing is already highly demanding, we would hardly stack the deck against defendants by continuing to reserve the balancing analysis for the final stage.

Everyone agrees that platform economics makes matters more complicated, which does indeed increase the concern that courts might err in attempting to resolve the balance of countervailing effects. But the maximal possible number of type 1 errors is capped by the number of judgments issued in plaintiffs' favor. And that number is already miniscule under the traditional burden shifting rules. As such, there simply isn't any room for a large swath of plaintiff-favoring errors, because plaintiffs almost never win in the first place.

### 1AC – Conduct Adv

Advantage 2 is conduct

#### The full scope of *Amex* is unclear—companies will exploit it to misuse their platforms—that’s effectively impossible to police

Khan, JD, FTC Chair, former director of legal policy with the Open Markets Institute, former professor at Columbia Law, ‘18

(Lina, “The Supreme Court just quietly gutted antitrust law,” July 3, <https://www.vox.com/the-big-idea/2018/7/3/17530320/antitrust-american-express-amazon-uber-tech-monopoly-monopsony>)

Antitrust laws have never permitted monopolistic firms to wield their market power against one set of customers so long as they benefit another set of players. Yet this kind of “balancing” is exactly what the Second Circuit ratified. Consider: Under the logic the appeals court used, an anticompetitive scheme by Uber to suppress driver income would not be considered illegal unless those bringing the suit showed that riders were also harmed.

What’s more, the court said, plaintiffs have to meet this new burden at the very earliest stage of litigation.

Last Monday, a 5-4 majority on the Supreme Court upheld that approach. Not only does the decision show stunning disregard for core elements of antitrust law, it carelessly mangles long-accepted legal rules along the way to establishing its position. Perhaps most strikingly, it overrides or ignores facts established by the district court.

For example, the Supreme Court states that AmEx’s increased merchant fees reflect “increases in the value of its services,” even though the lower court expressly found that AmEx’s price hikes exceeded the value of the cardholder rewards.

In practice, the Court has shielded from effective antitrust scrutiny a huge swath of firms that provide services on more than one side of a transaction — and, in today’s digital economy, there are many (as Justice Stephen Breyer noted in a dissent he read from the bench to emphasize his concerns).

Worse yet, the Court left unclear what kinds of businesses actually qualify for this new rule. As the Open Markets Institute, for which I work, explained in an amicus brief, deciding an antitrust case using the amorphous concept of a “two-sided” market will incentivize all sorts of companies to seek protection under this bad new theory.

What kinds of companies might have more freedom to exert pressure on customers, as a result of this decision? Not newspapers, the Court said: Readers are “largely indifferent” to the number of advertisements on newspaper pages, even though advertisers are looking to reach readers. So someone suing a newspaper on antitrust grounds (say, for prohibiting advertisers from doing business with other newspapers) would not have to prove that a newspaper’s conduct harmed both readers and advertisers.

On the surface, the Court’s language suggests that the special rule would apply to Amazon’s marketplace for third-party merchants, to eBay, and to Uber — but not to Google search or Facebook. Indeed, the Justice Department’s antitrust division chief, Makan Delrahim, has also come to this conclusion about the scope of the decision. But the Court’s opinion hardly delivers a clear and workable standard for judges to go by.

One can imagine the reams of studies Google would commission to show that targeting users with advertising did indeed amount to a “transaction” with users that users highly valued — a showing that, if successful, would likely qualify it for the shield of the special rule. If so, Google might be able to impose exclusionary contracts on advertisers and significantly boost the prices it charges them. Amazon, meanwhile, can continue to squeeze the suppliers and retailers reliant on its platform with little worry about being charged with the abuse of monopsony power.

Federal judges generally lack the expertise needed to independently assess the hyper-complex economic studies that this new rule will spur. Rather than focusing on the conduct between a company and one set of its customers, the new rule requires a much more involved showing.

#### This is accelerating—recent Circuit decisions doubled down on *Amex* – to expand it to new sectors, and mergers

Rozga, JD, Counsel, Davis Wright Tremaine LLP, former Federal Trade Commission attorney, Guest Lecturer, Boston University School of Law, ‘20

(Kaj, “Antitrust After American Express: Down a Competitive Effects Rabbit Hole,” September 21, <https://techlawdecoded.com/antitrust-after-american-express-down-the-competitive-effects-rabbit-hole/>)

These are no longer just predictions, but lived realities. Since American Express came down, parties opposing government antitrust enforcement actions have taken that decision and run with it.

Antitrust in tech markets after American Express

In the two years since the American Express decision, courts have already relied on it to toss out two more major antitrust cases brought by the government, both involving tech markets.

Sabre/Farelogix

The first of these cases involved the DOJ’s effort to block a merger. Sabre was seeking to acquire Farelogix, its competitor in offering booking services to airlines. Sabre operates a two-sided transaction platform that connects airlines to travel agencies (or travelers) for the sale of tickets and other services. Farelogix provides IT solutions to airlines that are used to sell tickets to travel agencies (or travelers).

The DOJ concluded that the deal would harm competition. It believed that Farelogix acted as a competitive constraint on Sabre to the extent that it provided an alternative for airlines that rely on such third-party services to sell tickets to travel agencies and end customers. The evidence at trial—including company documents and testimony from airlines—showed that the two viewed each other as competitors and that some airlines were able to use this to seek lower commission fees from Sabre. The court hearing the case found that “it is logical to conclude that part of Sabre’s interest in acquiring Farelogix is to mitigate the risk” resulting from the fact that its technology enables airlines to bypass Sabre’s transaction platform.4

Nevertheless, the court ruled that the DOJ failed to meet its burden of proof to “show that this purchase will harm competition on both sides of the two-sided market” for travel services provided to airlines and travel agencies. Citing the American Express decision, the court said: “As a matter of antitrust law, Sabre, a two-sided transaction platform, only competes with other two-sided platforms, but Farelogix only operates on the airline side of Sabre’s platform.” Therefore, it was not enough to prove that the merger would harm competition on only the one side of the two-sided market that Farelogix is active on.

And so despite the extensive evidence of competition between the companies, the court had to conclude that, as a matter of law, “Sabre and Farelogix do not compete in a relevant market.” To succeed in blocking the merger, the DOJ would have had to “produce evidence that the anticompetitive impact of the merger on the airline side of the [transaction] platform would be so substantial that it would sufficiently reverberate throughout the [platform] to such an extent as to make the two-sided [transaction] platform market, overall, less competitive.”

Qualcomm

The second case that shows how American Express left its mark on antitrust is a monopolization (abuse of a dominant position) case brought by the Federal Trade Commission against Qualcomm. The case involved modem chips used in smart phones. Qualcomm made the chips, but it also held important patents for the technology. Rival chip makers licensed that technology from Qualcomm to produce their own competing chips.

The FTC alleged that Qualcomm had abused a dominant market position when it refused to sell its chips to smartphone manufacturers unless they also entered into a patent license (which required making a royalty payment) for any chips that they acquired from not only Qualcomm but also any of its rival chip makers. This practice, the FTC argued, imposed an anti-competitive surcharge on rivals’ chips which raised the barriers for competing with Qualcomm. This, in turn, hurt the phone manufacturers by inflating the price they paid for chips.

The court hearing the case in the first instance agreed, and ruled for the FTC. But an appeals court overturned the decision. On the main antitrust theory of the case, the appeals court reasoned that the FTC had failed to prove that Qualcomm’s “no license, no chip” policy harmed the “area of effective competition.”5 Although its evidence had shown how the policy could have increased costs for Qualcomm customers (phone makers) who buy the chips, it had not shown how the policy harmed competition by directly impacting Qualcomm competitors (rival chip makers). It pointed to the ruling in American Express that the DOJ in that case had failed to meet its burden of proof because it did not show how restrictions imposed on merchants “have anticompetitive effects that harm consumers” (italics my own).

The analogy to the Qualcomm case seems to have been that the FTC needed to connect all the dots—customers and competitors alike—in proving anticompetitive effects. Showing that the “all-in” (royalty plus sales) price charged to customers might have been inflated by Qualcomm’s licensing practices was not enough because it “falls outside the relevant antitrust markets” at issue.

Down the competitive effects rabbit hole

The *American Express*, *Sabre/Farelogix* and *Qualcomm* cases share three traits in common that show how the half-century transformation of antitrust into an Economism-driven, predictive framework is undermining enforcement, especially in tech markets.

First, the cases show how the government agencies bringing an antitrust case and the courts rendering the decisions in them must undertake a massive burden. They have to dissect the inner workings of a market and then make predictions or conjectures about actual competitive effects in the market that result from the conduct at issue. In American Express and Sabre/Farelogix, it was proving lower output and higher overall “net” (or “two-sided”) prices on multi-sided transaction platforms. In *Qualcomm*, it meant proving “an anticompetitive surcharge on rivals’ modem chip sales” by directly linking up proof of harm to customers with proof of hindering competitors.

In all three instances, the burden imposed by the courts for proving these so-called “actual anticompetitive effects” was simply too high for the government to meet. *Qualcomm* arguably went even further in raising the evidentiary bar for tech cases. The influential appeals court issuing that decision went so far as to declare that “novel business practices—especially in technology markets—should not be ‘conclusively presumed to be unreasonable and therefore illegal without elaborate inquiry as to the precise harm they have caused or the business excuse for their use’” (italics my own). Requiring “elaborate” and “precise” proof would seem to doom all but the slam-dunk government actions against tech.

Second, the trio of cases shows how proof of actual anticompetitive effects depends heavily on economic theory and models. The Supreme Court sets the pace in American Express by relying entirely on a string of academic articles by economists—citing nothing from the fact record of the case before it—to construct its “two-sided transaction platform” market and reach the critical conclusion that “[e]valuating both sides of a two-sided transaction platform is [] necessary to accurately assess competition.”

Sabre/Farelogix picks up the baton and runs with it, relying on that theory-based legal holding in American Express to ignore an exhaustive factual record of company documents, executive testimony, and third-party complaints showing close competition between the merging companies. Qualcomm then carries the baton across the finish line when it frames the case with a skepticism of “novel” theories of competitive harm by citing blanket assertions in two academic article about how antitrust cases of technology markets skew towards over-enforcement.6 When it comes to economic theory and a predictive antitrust that requires proof of actual anticompetitive effects, the tail wags the dog.

Third, these three cases rest on a critical assumption—arguably bordering on a blind faith—that economics is up to the task of proving actual competitive effects. Baked into the courts’ reasoning is that economics can be used to understand and predict complex market environments that change in real-time in often unexpected ways. Yet, as discussed in my recent article, it has yet to be empirically proven—or seriously tested—that economics can perform the sort of analyses and predictions that would justify its having become the foundational underpinning of the enforcement of the antitrust laws. If anything, real-world experience in competition law practice combined with general research on uncertainty and decision-making suggest that expert judgments are poor predictors in complex environments like those at issue in antitrust cases.

And as they push antitrust further down an Economism-driven path, the courts provide little guidance on how plaintiffs are to meet their super-sized burden for proving actual anticompetitive effects. In American Express and Sabre/Farelogix, the government’s case is thrown out because it failed to prove an increase in the “net” or “two-sided” prices on a multi-sided transaction platform. But such a thing exists only as a figment of a court’s imagination. It does not exist in the real world. No one pays it, and no one charges it. And it’s unclear how an antitrust plaintiff is to go about the precarious exercise of weighing benefits to one side of a market against the harms to another. In American Express, for example, would it mean weighing the swipe fees charged to merchants against the rewards points earned by shoppers? In the absence of any guidance, it can safely be assumed that economic theories and models are expected to conjure such “net” prices into existence.

The trio of cases, therefore, reflects and even propels a broader trend that has eviscerated antitrust enforcement—especially in tech—by erecting high barriers for plaintiffs to prove actual anticompetitive effects using dubious economic tools.

A modern antitrust in peril

With the Sabre/Farelogix and Qualcomm cases, the American Express decision has rounded out its influence on the three main pillars of US antitrust law: mergers, monopolization, and contracts in restraint of trade.

None of the three cases sets out groundbreaking new law. Their significance lies rather in accelerating a trend, half of a century in the making, among policymakers, academics, and judges to require antitrust plaintiffs to take on an ever-increasing burden of proof in using economic tools to show how market conduct harms competition. Each such case is an individual brick in a rising wall—reaching its tallest heights in tech markets that are especially difficult to understand and predict—that plaintiffs must scale to bring a successful antitrust case.

The consequence is not just an intellectual failing about humankind’s ability to make accurate predictions in unpredictable markets. It also means lax antitrust enforcement and the mass-consolidation of economic power across the economy.

#### Scope of AmEx is nearly limitless – creates a de facto antitrust exemption for two-sided platforms

Salop, Professor of Economics & Law, Georgetown University Law Center and Senior Consultant, Charles River Associates, ‘21

(Steven, “Dominant Digital Platforms: Is Antitrust Up to the Task?” yalelawjournal.org/pdf/SalopEssay\_rnon2ejq.pdf)

This most recent agency loss involved an acquisition by a dominant digital platform. Sabre is a digital platform that permits airlines to post schedules, fares and seat availability and allows travel agents to access this information, make travel bookings and pay for them. Sabre proposed to acquire Farelogix, which provides technology to airlines. This technology allows an airline to disintermediate Sabre by allowing the airline to connect directly to travel agencies and provide travel agencies with information and ticket-booking services itself. Thus, this acquisition was analytically like a vertical merger, where Farelogix sells a critical input (i.e., its technology) to airlines, which they use to compete with Sabre for the business of travel agents. The competitive concern is that Sabre would foreclose airlines’ ability to acquire the Farelogix technology input.

Perhaps attempting to exploit the horizontal-merger structural presumption and avoid the difficulties they faced in AT&T/Time Warner, the DOJ did not litigate the case as a vertical merger. Instead, the complaint alleged that Sabre and Farelogix competed in the provision of booking services for airline tickets sold through travel agencies. This competition is indirect, resulting from Farelogix working with the individual airlines to disintermediate Sabre. However, the trial court did not miss the point. It observed that “Sabre and Farelogix view each other as competitors” and found that “the record reflects competition between Sabre’s and Farelogix’s direct connection solutions for airlines.”94

Having concluded that competition was reduced by the merger, the trial court nonetheless rejected the DOJ’s complaint on the grounds that Farelogix and Sabre do not compete in the two-sided platform market.95 While Sabre provides services to customers on both sides (i.e., to both airlines and travel agencies), Farelogix provides services to only one side (i.e., to airlines, but not to travel agencies). The travel agency services are provided by the airlines themselves, using the Farelogix technology.

This approach was both defective and unnecessary because Sabre competed with the combination of Farelogix and the airlines.96 Yet the court thought that American Express compelled the opposite result, despite its own fact-finding and the vertical nature of the transaction. If other U.S. courts similarly follow this same defective approach, the result will be underdeterrence of anticompetitive acquisitions by digital platforms.97 Indeed, this approach would lead to ludicrous results. Under this reasoning, Microsoft could have legally ended the competitive threat from Netscape and Java simply by acquiring them instead of trying to destroy them.

#### Platform misuse—that enables a host of bad practices—undermines cyber security

Stucke is a co-founder of The Konkurrenz Group and a law professor at the University of Tennessee, ‘18

(Maurice, “Here Are All the Reasons It’s a Bad Idea to Let a Few Tech Companies Monopolize Our Data,” <https://hbr.org/2018/03/here-are-all-the-reasons-its-a-bad-idea-to-let-a-few-tech-companies-monopolize-our-data>)

So, the divergence in antitrust enforcement may reflect differences over these data-opolies’ perceived harms. Ordinarily the harm from monopolies are higher prices, less output, or reduced quality. It superficially appears that data-opolies pose little, if any risk, of these harms. Unlike some pharmaceuticals, data-opolies do not charge consumers exorbitant prices. Most of Google’s and Facebook’s consumer products are ostensibly “free.” The data-opolies’ scale can also mean higher quality products. The more people use a particular search engine, the more the search engine’s algorithm can learn users’ preferences, the more relevant the search results will likely be, which in turn will likely attract others to the search engine, and the positive feedback continues. As Robert Bork argued, there “is no coherent case for monopolization because a search engine, like Google, is free to consumers and they can switch to an alternative search engine with a click.” How Data-opolies Harm But higher prices are not the only way for powerful companies to harm their consumers or the rest of society. Upon closer examination, data-opolies can pose at least eight potential harms. Lower-quality products with less privacy. Companies, antitrust authorities increasingly recognize, can compete on privacy and protecting data. But without competition, data-opolies face less pressure. They can depress privacy protection below competitive levels and collect personal data above competitive levels. The collection of too much personal data can be the equivalent of charging an excessive price. Data-opolies can also fail to disclose what data they collect and how they will use the data. They face little competitive pressure to change their opaque privacy policies. Even if a data-opoly improves its privacy statement, so what? The current notice-and-consent regime is meaningless when there are no viable competitive alternatives and the bargaining power is so unequal. Surveillance and security risks. In a monopolized market, personal data is concentrated in a few firms. Consumers have limited outside options that offer better privacy protection. This raises additional risks, including: Government capture. The fewer the number of firms controlling the personal data, the greater the potential risk that a government will “capture” the firm. Companies need things from government; governments often want access to data. When there are only a few firms, this can increase the likelihood of companies secretly cooperating with the government to provide access to data. China, for example, relies on its data-opolies to better monitor its population. Covert surveillance. Even if the government cannot capture a data-opoly, its rich data-trove increases a government’s incentive to circumvent the data-opoly’s privacy protections to tap into the personal data. Even if the government can’t strike a deal to access the data directly, it may be able to do so covertly. Implications of a data policy violation/security breach. Data-opolies have greater incentives to prevent a breach than do typical firms. But with more personal data concentrated in fewer companies, hackers, marketers, political consultants, among others, have even greater incentives to find ways to circumvent or breach the dominant firm’s security measures. The concentration of data means that if one of them is breached, the harm done could be orders of magnitude greater than with a normal company. While consumers may be outraged, a dominant firm has less reason to worry of consumers’ switching to rivals. Wealth transfer to data-opolies. Even when their products and services are ostensibly “free,” data-opolies can extract significant wealth in several ways that they otherwise couldn’t in a competitive market: First, data-opolies can extract wealth by getting personal data without having to pay for the data’s fair market value. The personal data collected may be worth far more than the cost of providing the “free” service. The fact that the service is “free” does not mean we are fairly compensated for our data. Thus, data-opolies have a strong economic incentive to maintain the status quo, in which users, as the MIT Technology Review put it, “have little idea how much personal data they have provided, how it is used, and what it is worth.” If the public knew, and if they had viable alternatives, they might hold out for compensation. Second, something similar can happen but with the content users create. Data-opolies can extract wealth by getting creative content from users for free. In a competitive market, users could conceivably demand compensation not only for their data but also their contributions to YouTube and Facebook. With no viable alternatives, they cannot. Third, data-opolies can extract wealth from sellers upstream. One example is when data-opolies scrape valuable content from photographers, authors, musicians, and other websites and post it on their own platform. In this case, the wealth of the data-opolies comes at the expense of other businesses in their value chain. Fourth, data-opolies can extract our wealth indirectly, when their higher advertising fees are passed along in the prices for the advertised goods and services. If the data-opolies faced more competitors for their advertising services, ads could cost even less — and therefore so might the products being advertised. Finally, data-opolies can extract wealth from both sellers upstream and consumers downstream by facilitating or engaging in “behavioral discrimination,” a form of price discrimination based on past behavior — like, say, your internet browsing. They can use the personal data to get people to buy things they did not necessarily want at the highest price they are willing to pay. As data-opolies expand their platforms to digital personal assistants, the Internet of Things, and smart technologies, the concern is that their data advantage will increase their competitive advantage and market power. As a result, the data-opolies’ monopoly profits will likely increase, at our expense. Loss of trust. Market economies rely on trust. For online markets to deliver their benefits, people must trust firms and their use of the personal data. But as technology evolves and more personal data is collected, we are increasingly aware that a few powerful firms are using our personal information for their own benefit, not ours. When data-opolies degrade privacy protections below competitive levels, some consumers will choose not “to share their data, to limit their data sharing with companies, or even to lie when providing information,” as the UK’s Competition and Markets Authority put it. Consumers may forgo the data-opolies’ services, which they otherwise would have used if privacy competition were robust. This loss would represent what economists call a deadweight welfare loss. In other words, as distrust increases, society overall becomes worse off. Significant costs on third parties. Additionally, data-opolies that control a key platform, like a mobile phone operating system, can cheaply exclude rivals by: steering users and advertisers to their own products and services to the detriment of rival sellers on the platform (and contrary to consumers’ wishes) degrading an independent app’s functionality reducing traffic to an independent app by making it harder to find on its search engine or app store Data-opolies can also impose costs on companies seeking to protect our privacy interests. My book with Ariel Ezrachi, Virtual Competition, discusses, for example, Google’s kicking the privacy app Disconnect out of its Android app store. Less innovation in markets dominated by data-opolies. Data-opolies can chill innovation with a weapon that earlier monopolies lacked. Allen Grunes and I call it the “now-casting radar.” Our book Big Data and Competition Policy explores how some platforms have a relative advantage in accessing and analyzing data to discern consumer trends well before others. Data-opolies can use their relative advantage to see what products or services are becoming more popular. With their now-casting radar, data-opolies can acquire or squelch these nascent competitive threats. Social and moral concerns. Historically, antitrust has also been concerned with how monopolies can hinder individual autonomy. Data-opolies can also hurt individual autonomy. To start with, they can direct (and limit) opportunities for startups that subsist on their super-platform. This includes third-party sellers that rely on Amazon’s platform to reach consumers, newspapers and journalists that depend on Facebook and Google to reach younger readers, and, as the European Commission’s Google Shopping Case explores, companies that depend on traffic from Google’s search engine. But the autonomy concerns go beyond the constellation of app developers, sellers, journalists, musicians, writers, photographers, and artists dependent on the data-opoly to reach users. Every individual’s autonomy is at stake. In January, the hedge fund Jana Partners joined the California State Teachers’ Retirement pension fund to demand that Apple do more to address the effects of its devices on children. As The Economist noted, “You know you are in trouble if a Wall Street firm is lecturing you about morality.” The concern is that the data-opolies’ products are purposefully addictive, and thereby eroding individuals’ ability to make free choices. There is an interesting counterargument that’s worth noting, based on the interplay between monopoly power and competition. On the one hand, in monopolized markets, consumers have fewer competitive options. So, arguably, there is less need to addict them. On the other hand, data-opolies, like Facebook and Google, even without significant rivals, can increase profits by increasing our engagement with their products. So, data-opolies can have an incentive to exploit behavioral biases and imperfect willpower to addict users — whether watching YouTube videos or posting on Instagram. Political concerns. Economic power often translates into political power. Unlike earlier monopolies, data-opolies, given how they interact with individuals, possess a more powerful tool: namely, the ability to affect the public debate and our perception of right and wrong. Many people now receive their news from social media platforms. But the news isn’t just passively transmitted. Data-opolies can affect how we feel and think. Facebook, for example, in an “emotional contagion” study, manipulated 689,003 users’ emotions by altering their news feed. Other risks of this sort include: Bias. In filtering the information we receive based on our preferences, data-opolies can reduce the viewpoints we receive, thereby leading to “echo chambers” and “filter bubbles.” Censorship. Data-opolies, through their platform, can control or block content that users receive, and enforce governmental censorship of political or religious information. Manipulation. Data-opolies can promote stories that further their particular business or political interests, instead of their relevance or quality. Limiting the Power of Data-opolies Upon closer examination, data-opolies can actually be more dangerous than traditional monopolies. They can affect not only our wallets but our privacy, autonomy, democracy, and well-being. Markets dominated by these data-opolies will not necessarily self-correct. Network effects, high switching costs for consumers (given the lack of data portability and user rights over their data), and weak privacy protection help data-opolies maintain their dominance. Luckily, global antitrust enforcement can help. The Reagan administration, in espousing the then-popular Chicago School of economics beliefs, discounted concerns over monopolies. The Supreme Court, relying on faulty economic reasoning, surmised that charging monopoly prices was “an important element of the free market system.” With the rise of a progressive, anti-monopoly New Brandeis School, the pendulum is swinging the other way. Given the emergence of data-opolies, this is a welcomed change.

#### Platform monopoly allows attackers to zap critical infrastructure in one hit—competition key

Geer et al., PhD, Chief Technology Officer and co-founder of AtStake, ‘03

(Daniel, Rebecca Bace, Peter Gutmann, Perry Metzger, Charles P. Pfleeger, John S. Quarterman, Bruce Schneier, CyberInsecurity: The Cost of Monopoly, <https://cryptome.org/cyberinsecurity.htm>)

Computing is crucial to the infrastructure of advanced countries. Yet, as fast as the world's computing infrastructure is growing, security vulnerabilities within it are growing faster still. The security situation is deteriorating, and that deterioration compounds when nearly all computers in the hands of end users rely on a single operating system subject to the same vulnerabilities the world over.

Most of the world’s computers run Microsoft’s operating systems, thus most of the world’s computers are vulnerable to the same viruses and worms at the same time. The only way to stop this is to avoid monoculture in computer operating systems, and for reasons just as reasonable and obvious as avoiding monoculture farming. Microsoft exacerbates this problem via a wide range of practices that lock users to its platform.

The impact on security of this lock-in is real and endangers society. Because Microsoft's near-monopoly status itself magnifies security risk, it is essential that society become less dependent on a single operating system from a single vendor if our critical infrastructure is not to be disrupted in a single blow. The goal must be to break the monoculture. Efforts by Microsoft to improve security will fail if their side effect is to increase user-level lock-in. Microsoft must not be allowed to impose new restrictions on its customers – imposed in the way only a monopoly can do – and then claim that such exercise of monopoly power is somehow a solution to the security problems inherent in its products. The prevalence of security flaw in Microsoft’s products is an effect of monopoly power; it must not be allowed to become a reinforcer.

Governments must set an example with their own internal policies and with the regulations they impose on industries critical to their societies. They must confront the security effects of monopoly and acknowledge that competition policy is entangled with security policy from this point forward.

#### Ensures cyberattacks go nuclear

Sagan and Weiner ’21 – Stanford Professors [Scott D.; Caroline S.G. Monroe professor of political science and senior fellow at the Center for International Security and the Freeman Spogli Institute at Stanford University; Allen S.; senior lecturer in law and director of the program in international and comparative law at Stanford Law School; 7-9-2021; "The U.S. says it can answer cyberattacks with nuclear weapons. That’s lunacy."; The Washington Post; https://www.washingtonpost.com/outlook/2021/07/09/cyberattack-ransomware-nuclear-war/; accessed 8-15-2021]

Over the July 4 weekend, the Russian-based cybercriminal organization REvil claimed credit for hacking into as many as 1,500 companies in what has been called the largest ransomware attack to date. In May, another cybercriminal group, DarkSide, also apparently located mainly in Russia, shut down most of the operations of Colonial Pipeline, which supplies nearly half the diesel, gasoline and other fuels used on the East Coast — setting off a round of panic buying that ended only when the company handed over a ransom. These incidents were bad enough. But imagine a much worse cyberattack, one that not only disabled pipelines but turned off the power at hundreds of U.S. hospitals, wreaked havoc on air-traffic-control systems and shut down the electrical grid in major cities in the dead of winter. The grisly cost might be counted not just in lost dollars but in the deaths of many thousands of people.

Under current U.S. nuclear doctrine, developed during the Trump administration, the president would be given the military option to launch nuclear weapons at Russia, China or North Korea if that country was determined to be behind such an attack.

That’s because in 2018, the Trump administration expanded the role of nuclear weapons by declaring for the first time that the United States would consider nuclear retaliation in the case of “significant non-nuclear strategic attacks,” including “attacks on the U.S., allied, or partner civilian population or infrastructure.” The same principle could also be used to justify a nuclear response to a devastating biological weapons strike.

But our analysis suggests that using nuclear weapons in response to biological or cyberattacks would be illegal under international law in virtually all circumstances. Threatening an illegal nuclear response weakens deterrence because the threat lacks inherent credibility. Perversely, this policy could also wind up committing a president to a nuclear attack if deterrence fails. While the American public would indeed be likely to want vengeance after a destructive enemy assault, the law of armed conflict requires that some military options be taken off the table. Nuclear retaliation for “significant non-nuclear strategic attacks” is one of them.

The Biden administration is now conducting its own review of the U.S. nuclear posture. The 2018 Trump change is an urgent candidate for reevaluation, but people have generally ignored it up to now. As officials work on this process, they have the chance to take full account of what could be called the “nuclear law revolution” — a growing recognition that international-law restrictions on warfare, and especially those that protect civilians, apply even to nuclear war.

### \*\*\*Xtra

#### Anti-steering rules eliminate all fintech competition---deters new entry, raises prices, decreases innovation incentives.

**Verkhivker 18** --- Associate Economist at the Federal Reserve Bank of Chicago.

Alex, 9-6-2018, "Why Credit-Card Rules Are Anticompetitive," University of Chicago Booth School of Business, https://www.chicagobooth.edu/review/why-credit-card-rules-are-anticompetitive

But under US rules, merchants aren’t allowed to add surcharges to reflect their costs for taking credit cards. They can’t even try to steer customers by disclosing which cards carry lower expenses (although discounts for cash are legal). The judicial decisions behind this include the Supreme Court’s five-votes-to-four ruling in June that sided with American Express on its policy barring merchants from encouraging consumers to use lower-cost cards—but are, according to Carlton and Winter, based on faulty economic reasoning.

These decisions allow credit-card companies to engage in what would otherwise be considered anticompetitive behavior, the researchers write. In 2015, buyers used credit cards for roughly $11 trillion of transactions, or more than 10 percent of global GDP. Carlton and Winter use an estimate of US merchants’ costs of accepting Visa and Mastercard of 2.15 percent, and say AmEx’s fees are higher. Credit card merchant fees in the US are estimated to be in the billions.

The no-surcharge and no-steering rulings eliminate competition among credit-card companies because a low-cost credit-card company will not see its low fees reflected in lower surcharges and a higher market share, Carlton and Winter explain.

To make their case, the researchers present a theory for “vertical most-favored nation clauses,” restraints that prevent “a multiproduct retailer from charging more for one supplier’s product than for the products of rival suppliers.” Carlton and Winter then apply the theory to the credit-card industry’s no-surcharge and no-steering rules. These practices, they find, can jack up costs for all consumers—regardless of whether people pay with plastic or cash—because they eliminate competition among card companies, deter card companies from entering markets they’re not in, and raise prices for consumers, including those who do not use credit cards since merchants have to price goods to cover payment-system costs.

Why have US courts found this to be legal? It boils down to the technical economic issue of whether the credit-card market is “one-sided” or “two-sided” and to the technical legal issue of who has the burden of proof—whether it is the defendant or plaintiff who has to prove certain facts. Economists have generally analyzed the credit-card market as two-sided, with merchants paying credit-card companies for services on one side and consumers receiving rewards and other benefits from the card companies on the other side. Carlton and Winter demonstrate that despite this, the fees merchants pay and the benefits card users receive correspond exactly to prices and promotion costs in the conventional economic framework for analyzing one-sided markets. In such a conventional market, the legal rules place the burden on the defendant to explain why the restrictions on competition ultimately serve to promote competition overall.

Carlton and Winter applied their analysis to the appeals court finding that the Supreme Court essentially upheld. American Express argued that because credit cards are a two-sided market, it is inappropriate to apply the same rules to evaluate vertical restrictions (restraints between companies at different levels of a production or distribution process, in this case between credit-card companies and merchants) as are applied to evaluate vertical restrictions in conventional markets. A five-to-four majority of the court agreed. In a deviation from how courts evaluate vertical restrictions in conventional markets, the court said that in such two-sided markets, the burden was on the plaintiff to prove that the restrictions on merchants failed to promote overall competition. (In fact, the Supreme Court ignored the findings of the district court, which had determined that the defendant had presented no such justifications.) The court said that consumers must have benefited from the restrictions because the number of transactions had risen over time.

“The idea that the higher retail prices resulting from the no-steering restraints harmed only merchants and, through the funding of greater cardholder beneﬁts, helped only cardholders is fallacious,” the researchers write. “Higher retail prices clearly harm customers who do not use an AmEx card at the merchant and, as we showed, can also harm even the customers who do use an AmEx card” because of the lack of competition on fees among card companies and the hidden markups to cover merchants’ credit-card costs.

Moreover, the reasoning used by the appellate court in the AmEx case—which the Supreme Court later accepted—“lacks economic foundation,” the researchers find. “Creating different legal rules for the same economic conduct depending on whether the market can be described as one-sided or two-sided is a mistake.”

#### Absent US lead in FinTech, companies will route transactions outside of U.S. financial institutions – undermines sanctions leverage

**Berman et. al 19** --- The Center for a New American Security (CNAS) launched its Task Force on the Future of U.S. Sanctions, consisting of former senior U.S. officials, corporate representatives, and academic and nonprofit experts.

Paula Dobriansky (Co-Chair), Sue Eckert, Kimberly Ann Elliot, David Goldwyn, Peter Harrell (Principal Co-Author), Theodore Kassinger, George Lopez, Richard Nephew, Stephen Rademaker, Frederick Reynolds, Elizabeth Rosenberg (Principal Co-Author), Daleep Singh, Julianne Smith, Adam Szubin (Co-Chair), Juan Zarate, and Rachel Ziemba, “Maintaining America’s Coercive Economic Strength,” CNAS, https://www.jstor.org/stable/pdf/resrep20420.pdf?refreqid=excelsior%3Aa8ea9f57659f04e7ae5ac2a87a7f4c27&ab\_segments=&origin=

Foreign entities and individuals have long sought to evade American sanctions by keeping transactions outside of U.S. jurisdiction and conducting transactions through currencies other than the dollar. Foreign political leaders have complained about the U.S. dollar’s dominance since its early days as the unrivaled global currency. It was in the 1960s that then-French Finance Minister Valéry Giscard d’Estaing coined the phrase “exorbitant privilege” while French President Charles de Gaulle complained about dollar dominance and withdrew France’s U.S. dollar reserves in gold and repatriated them to France. Despite these periodic complaints, however, the dollar remains dominant by most measures: it accounts for roughly 60 percent of global sovereign reserves, approximately 40 percent of crossborder payments, and likely over half of total global debt.

In addition to dollar dominance, U.S. financial institutions and the U.S. branches of foreign financial institutions play an outsize role in the global financial system. As a result, foreign banks are generally loath to risk their access to the U.S. financial system, even if only a small share of their business is denominated in dollars or directly touches the United States.

The twin dominance of the dollar and the U.S. financial system reflects the numerous advantages the U.S. dollar and financial system offer companies around the world that engage in global trade and finance. These include liquidity, stability, convertibility, and ease of use. However, the last several years have seen a substantial increase in foreign government initiatives to develop payment channels and other financial networks that do not touch the United States. Russia, for example, has established a financial messaging system that it bills as an alternative to the Belgium-based, globally dominant payment messaging system Society for Worldwide Interbank Financial Telecommunication (SWIFT), seeking participation by non-Russian companies in its new payment system. China is also investing in establishing cross-border payments systems and in increasing the role of the renminbi in international trade. In one example, China launched a renminbi-denominated crude contract in 2017 to broaden use of its currency for this crucial economic input. The European Union has also announced the development of a special purpose vehicle (SPV) to allow payments related to trade with Iran despite U.S. sanctions.

All of these initiatives will face substantial challenges in achieving scale, primarily because at present they offer inferior alternatives to a broadly accepted and stable financial architecture and there is no overwhelming economic demand (as opposed to political demand) for their development. The renminbi has been the currency of only about 2 percent of total global trade in recent years, despite China’s stated interest in internationalizing the currency for certain purposes. The European Union is finding that few, if any, large European companies want to use its SPV if doing so will expose them to U.S. sanctions. Where small European companies do manage to maintain limited economic activity with Iran, they already have banking relationships or netting arrangements and have no meaningful incentive to switch to the SPV.

But despite the challenges these efforts face, U.S. policymakers should monitor the progress of such financial initiatives and should not underestimate the potential risks, particularly over the longer term. China’s rapid expansion of its Belt and Road Initiative and its recent move toward paying for some oil imports in renminbi could help the country accelerate international adoption of its currency. Sustained political and economic investments by European states and other governments in developing alternative payment channels or regional currency trading blocks that do not depend on the dollar may succeed in the long term. In a world of secondary sanctions, the real question is whether third-country companies and banks, in India for example, can divorce themselves from the dollar and dependence on the U.S. financial system so that they will be inclined to participate in these alternatives—and many will be reluctant to do so. But ultimately, alternatives to the dollar or U.S.- dominated cross-border payments system do not need to displace the dollar to begin undermining U.S. coercive economic leverage. Rather, they need only to reach a significant enough scale that smaller and mid-size economies that tend to be targets of U.S. sanctions, such as Iran and North Korea, can conduct sufficient trade using alternatives to blunt the impact of such sanctions.

Finally, rapidly moving technological changes are likely to affect the strength and utility of U.S. sanctions in the coming years.

Several technological developments have the potential to enhance sanctions enforcement efforts. For example, the rapid expansion of publicly available satellite imaging capabilities over the past five years has already facilitated improved tracking of Iranian oil shipments and detection of illicit North Korean imports of oil and exports of coal and other natural resources regulated by U.N. sanctions. Additionally, banks are able to use new software to better integrate financial data and public, non-financial data relevant to customers or transaction patters. New, sophisticated analytic tools, such as artificial intelligence and machine learning, are beginning to make it easier for banks and other large companies to identify and stop suspicious financial patterns linked to money laundering and sanctions evasion.

These analytic tools are also being deployed to create greater publicly available information about the front companies that sanctioned actors use and to improve reporting of types of evasion that both government enforcement officials and private sector companies should watch. The nonprofit research group Center for Advanced Defense Studies (C4ADS), for example, has applied analytic tools to scour public corporate records databases and integrate them with other sources of public information to identify and publish reports on North Korean sanctions evasion techniques as well as networks that have helped sanctioned entities continue to do business. Further advances in technology will strengthen these analytical tools, particularly if government officials are able to break down current barriers to information sharing by the private sector, among both banks inside the United States and those in the United States and foreign jurisdictions.

Other technological changes, however, have the potential to facilitate sanctions evasion. Some of the potential evasion techniques are essentially modern-day versions of tried-and-true criminal tactics. North Korea has long engaged in counterfeiting, drug running, and other criminal activities as a way of raising revenue for its dictatorial regime and it has smuggled bulk cash to evade sanctions. Today, North Korea is engaging in cyberattacks to steal cryptocurrencies as well as traditional fiat currencies. It is also using cryptocurrencies to evade sanctions. The uneven nature and sometimes very loose regulation of cryptocurrencies will likely continue to make them attractive to sanctioned actors. For now, however, there is a limit to the scale of their use by sanctions evaders. The volatility of most cryptocurrencies and the challenge and expense involved in anonymously converting them into hard assets or goods may limit the overall scale of cryptocurrency utility in sanctions evasion absent a dramatic expansion in their overall use.

Over the longer term, however, the bigger risk may be technological changes that alter the global financial architecture in ways that have more systemic impacts on U.S. sanctions. For example, over the last several decades the United States has derived significant coercive economic leverage from the primary role that U.S. financial institutions play in clearing global financial transactions. As recent criminal indictments of North Korean entities trying to access the U.S. financial system have shown, it is difficult to engage in trade—even trade that does not involve a U.S. party or U.S. origin goods— without touching the U.S. financial system. Should blockchain-based clearing mechanisms or other new technologies emerge at a scale that can allow transactions to avoid touching U.S. institutions or currency, the United States may find that unilateral financial sanctions lose some of their bite. As a consequence, U.S. sanctions policymakers have a strong interest in ensuring that the United States and U.S. companies lead the development of such new technologies as a way of retaining leverage over the global financial system even if traditional dollar clearing becomes less dominant.

# 2AC

## Innovation Adv

#### Evading sanctions through crypto now – we postdate

**RFE 21**, 5-21-2021, "Study: Iran Using Crypto Mining To Evade Sanctions," RadioFreeEurope/RadioLiberty, https://www.rferl.org/a/iran-crypto-mining-sanctions/31267432.html

Iran is using Bitcoin mining to evade crippling U.S. sanctions on its economy, according to a new study.

Blockchain analytics firm Elliptic estimates that around 4.5 percent of global Bitcoin mining takes place in Iran, allowing the country to earn hundreds of millions of dollars in cryptocurrencies that can be used to “purchase imports and bypass sanctions.”

U.S. sanctions have severely affected Iran’s banking sector and prevented the country from exporting oil, which accounts for 70 percent of the country's revenues.

Bitcoin and other cryptocurrencies are created through a process known as mining, where powerful computers compete to solve complex mathematical formulas or puzzles. The process requires huge amounts of electricity.

"Iran has recognized that Bitcoin mining represents an attractive opportunity for a sanctions-hit economy suffering from a shortage of hard cash, but with a surplus of oil and natural gas," said Elliptic.

Iran’s crypto mining industry has grown in recent years, with the government providing the industry with cheap electricity and demanding that it sells mined bitcoins to the central bank.

Cheap power has attracted foreign miners, especially from China, to Iran.

Iran uses crypto mining to pay for the import of authorized goods, Elliptic said.

"Iran-based miners are paid directly in bitcoin, which can then be used to pay for imports -- allowing sanctions on payments through Iranian financial institutions to be circumvented," the London-based company said.

#### Prolif is likely absent sanctions

**Tirone 21** --- Bloomberg Reporter with a focus on Iran and Energy.

Jonathan, 9-7-2021, "Iran’s New Government Signals No Let Up in Atomic Escalation," Bloomberg, https://www.bloomberg.com/news/articles/2021-09-07/iran-s-new-government-signals-no-let-up-in-nuclear-escalation

Iran’s new government continued to dramatically increase production of highly-enriched uranium while failing to resume full cooperation with international monitors, signaling a new round of escalation awaits officials when they convene this month to discuss the country’s atomic program.

International Atomic Energy Agency inspectors reported Tuesday that the Islamic Republic increased its stockpile of uranium enriched close to the levels needed for weapons and was expanding its production capacity. It also continued to restrict monitoring of facilities and an investigation into allegedly undeclared activities.

Iran’s new government continued to dramatically increase production of highly-enriched uranium while failing to resume full cooperation with international monitors, signaling a new round of escalation awaits officials when they convene this month to discuss the country’s atomic program.

International Atomic Energy Agency inspectors reported Tuesday that the Islamic Republic increased its stockpile of uranium enriched close to the levels needed for weapons and was expanding its production capacity. It also continued to restrict monitoring of facilities and an investigation into allegedly undeclared activities.

“The agency’s confidence that it can maintain continuity of knowledge is declining over time and has now significantly further declined,” the IAEA warned. “This confidence will continue to decline unless the situation is immediately rectified by Iran.”

The reports are likely to renew pressure on international envoys to the IAEA to formally censure Iran when they meet Sept. 13 in Vienna. A resolution condemning Iran’s nuclear activities and lack of cooperation could eventually end up at the United Nations Security Council.

Iranian officials have warned that such a move could dim the prospects for broader talks designed to resurrect a 2015 deal, known as the JCPOA, with world powers. The agreement reined in Iran’s nuclear activities in exchange for sanctions relief until the Trump administration withdrew and reimposed penalties, and Iran retaliated by breaking limits on its enrichment.

Negotiations to restore the pact, also held in Vienna, halted earlier this year as Iran prepared to elect a new president, and are yet to resume. In the meantime, Tehran has been racing ahead with its atomic activities while securing the economic support of China and Russia.

Robert Malley, the U.S. special envoy to the Iran talks, will be meeting counterparts in Moscow and Paris this week to try to “quickly reach and implement an understanding on a mutual return to compliance” with the Iran nuclear deal, known as the JCPOA, the State Department announced Tuesday.

Some analysts and diplomats expect Raisi to try to use Iran’s nuclear advances to wring wider sanctions relief from Washington. A deal could unleash a surge in Iranian oil exports and calm Gulf tensions.

Iran’s stockpile of highly-enriched uranium rose fourfold to 10 kilograms (22.1 pounds) over the last three months while its inventory of material enriched to 20% rose by about a third to 84.3 kilograms. The overall stockpile fell as Iranian engineers shifted low-enriched inventory into feeds intended to produce material at higher levels of purity, according to the agency.

The country possesses more than enough supply of the material for several weapons if it made the decision to go for a bomb. Iran has always maintained its atomic program is for peaceful purposes.

The IAEA’s two-year probe into the source of uranium particles detected at undeclared sites in Iran also failed to make headway.

#### New trends confirm fintech innovation is structurally declining – we post-date

**Goodier 2-21** --- Analyst for Private Banker International.

Michael, 2-21-2022, "Fintech innovation among private banking industry companies has dropped off in the last year," Private Banker International, https://www.privatebankerinternational.com/dashboards/fintech-innovation-private-banking/

Research and innovation in fintech in the private banking sector has declined in the last year.

The most recent figures show that the number of fintech related patent applications in the industry stood at 56 in the three months ending December – down from 589 over the same period in 2020.

Figures for patent grants related to fintech followed a similar pattern to filings – shrinking from 173 in the three months ending December 2020 to 80 in 2021.

Chart, line chart

Description automatically generated

The figures are compiled by GlobalData, who track patent filings and grants from official offices around the world. Using textual analysis, as well as official patent classifications, these patents are grouped into key thematic areas, and linked to key companies across various industries.

Fintech innovation in private banking is one of the key areas tracked by GlobalData. It has been identified as being a key disruptive force facing companies in the coming years, and is one of the areas that companies investing resources in now are expected to reap rewards from.

## Conduct Adv

#### Platform monopoly ensures any breach cascades, collapses society

Sandra Matz is an Assistant Professor of Business at Columbia Business School, 2018, Guy Rolnik is a Clinical Associate Professor for Strategic Management at the University of Chicago Booth school of Business, and an editor of ProMarket.org, Moran Cerf is a Professor of Neuroscience and Business at the Kellogg School of Management at Northwestern University, Solutions to the Threats of Digital Monopolies, <https://promarket.org/2018/04/10/solutions-threats-digital-monopolies/>

1. Risk of data breaches. A security breach of any of the digital monopolies could result in Exabytes of users’ most vulnerable information being publicly exposed (7). Besides the risk of irreparable damage to people’s reputation, private lives, and identity (as in, e.g., the “Ashley Madison” case (8)), such a breach could result in unprecedented damage to our economy (as in, e.g., the “Sony Pictures” case (9)) and our political standing (as in, e.g., “Wikileaks Cablegate” (10)). Importantly, a security collapse of that nature might only be the start of a series of follow-up breaches. A hack of Google’s Gmail, for example, could allow the perpetrators to obtain a user’s bank account password through the “forgot password” functionality, and ultimately lead to a collapse of businesses and industries (e.g. banking, taxation, weapon silos, etc.). Compared to what was deemed a “too big to fail” state when a handful of banks collapsed in 2008, such a crisis could be unparalleled. Although the digital monopolies employ talented security teams to prevent such hacks, the public has no guarantee that a skillfully deployed attack (e.g., by another nation-state, powerful underground organization, or simply a disgruntled employee) would not be successful. Even with the best efforts of the digital monopolies—which often heavily depend on the priorities of high-ranking leaders in the organization—societies should hence operate under the assumption that the data held by the digital monopolies could be leaked at any point in time.

#### Overreaction to attacks on the U.S. is also guaranteed – the DOD is itching to use force in response to a big one

Wolff 13 – PhD candidate in the Engineering Systems Division at Massachusetts Institute of Technology studying cybersecurity and Internet policy

Josephine Wolff, “How Would the U.S. Respond to a Nightmare Cyber Attack?,” Scientific American, July 2013, https://www.scientificamerican.com/article/how-would-us-respond-nightmare-cyber-attack/

At the Atlantic Council’s event, there was a strong sense that a successful cyber attack on U.S. critical infrastructure is inevitable. There’s also a pervasive fear that when (or if) such an attack occurs, the U.S. is primed to overreact. Department of Defense announcements that they intend to view cyber attacks as “acts of war” suggest a military force nearly itching to flex its muscle in response to a serious computer network–based disruption, if only as a means of deterrence. Cybersecurity professionals—not to mention students hoping to work in the field someday—can also have an incentive to trumpet the threat of cyber attack that at times may heighten the risk of overreaction. At least five times over the course of the daylong cyber challenge, we were reminded by presiding officials how crucially important the work we’re doing is, and how desperately the country needs people like us.

Concerns about overreaction and the use of military force in response to digital intrusions often lead to discussions about the difficulty surrounding definitive attribution of these types of attack. If you want to retaliate, how do you know whom to hit? In our exercise intelligence pointed to Russia, but the evidence wasn’t clear-cut.

Most teams urged against retaliating in kind with a comparable cyber attack or to exercising traditional military power. Cobalt was not devastating, and Russia was not clearly the culprit. Several groups advocated diplomatic engagement, echoing the approach taken by the actual U.S. government just one week earlier during the informal summit between President Obama and Chinese leader Xi Jinping in Rancho Mirage, Calif., where cyber espionage was among the topics discussed.

But, again, espionage is not the nightmare scenario—nor is the shutdown of 13 oil refineries. Still, halfway through the student competition in Washington, D.C., when the scenario was updated with new (fake) intelligence indicating a severe escalation of the Cobalt situation, policy recommendations began to veer more toward displays of cyber and physical force by the U.S. military.

The update was alarming: three oil pipelines in the Gulf coast region had been shut down, following malfunctions, and several other pipelines in the region were taken off-line to search for Cobalt infections. Meanwhile, supervisory control and data acquisition system vendors in the U.S. and Germany were experiencing a distributed denial-of-service (DDoS) attack, and several terminals and servers in Russia had been identified as responsible for both the DDoS attacks and activation of the Cobalt malware. The stock market was dropping like a rock, and several private sector firms appeared poised to carry out their own form of vigilante retaliation against Russia by trying to identify and penetrate or cut off the responsible parties’ servers and networks.

The teams had to come up with a response to this escalation within hours. The time pressure was intense, and as the situation grew more serious, the consensus for diplomatic engagement dissolved. The 19 groups suddenly diverged considerably about what the proper response should be. The 65 students, all in their mid- to late 20s, wearing business suits and military uniforms, filled every open classroom in the American University’s School of International Service, whispering feverishly about whether the U.S. should launch a DDoS attack of its own, bomb the Kremlin, invoke Article 5 of NATO to set in motion a collective defense by U.S. allies, or to authorize the members of the private sector to exact their own revenge by working among themselves to shut off connectivity to pieces of the network carrying malicious traffic or to infiltrate or flood the responsible servers.

What does this say about how the U.S. government would respond to such a situation? The recent cases of high-volume espionage of China, which are considerably less intrusive than the fictional Cobalt attacks, don’t give us much to go on. Would the U.S. stick to diplomacy or turn bellicose?

The more important question is how well prepared will the U.S. be if and when an attack comes? Considering how a cyber attack would play out in the heat of the moment may be more exciting than the reality, because by the time an attack occurs many of the options may be practically preordained by the security controls we have in place. Preparation determines the quality, agility and sophistication of answers to mundane but important questions: What kinds of security standards are in place for critical infrastructure networks? Who sets them? Who enforces them? What threat information do companies and government agencies share with one another? How do they share this data—and how quickly? The ability to answer these questions will ultimately determine the impact of a large-scale, sophisticated computer network breach. And because the Pentagon has asserted that its response will be commensurate to the impact of an attack, rather than the means, how effectively we prepare will play a major role in influencing what our response ultimately looks like.

We may soon know what the U.S. government would do. Many people in the field are expecting to see a major breach soon. As former CIA and NSA director Michael Hayden predicted in his keynote remarks to the students at the cyber challenge, “By the time you do this next year, you won’t have to be so imaginative in creating the scenario.”

#### No transition – response to movements will be violent

**Wainer and Bienenfeld 19** – Kit Wainer is a member of the United Federation of Teachers and is active in the opposition caucus, the Movement of Rank and File Educators. Mel Bienenfeld is a longtime socialist activist and recently retired president of a higher-education teachers local union.

(Kate Griffiths, 7-21-2019, "Problems with an Electoral Road to Socialism in the United States," New Politics, https://newpol.org/issue\_post/problems-with-an-electoral-road-to-socialism-in-the-united-states/)

Governors control the National Guard and state police. Local governments control local police forces, although the Constitution allows states full discretion to limit the autonomy of localities. While the president may federalize the guard for a period of time, it is easy to imagine guard generals refusing to obey presidential authority when asked to enforce decisions the courts have ruled unconstitutional. Of course a president can send the army into states, thus violating the Posse Comitatus Act of 1878, but it is similarly easy to envision generals refusing to execute orders on solid constitutional grounds, or the officer corps dividing amongst itself, in that scenario. In short there would be no way of overcoming state recalcitrance to implement socialist legislation without destroying the legitimacy of the constitutional order.

In fact, not only can state authorities resist, they can also repress. Partial socialist victories in the electoral arena would inevitably yield a fractured state, with critical parts still in the hands of pro-capitalist officials. The latter would be constitutionally authorized to arrest and terrorize mass movement activists who threaten their rule. They have, after all, done so numerous times in U.S. history. Even today, federal and state authorities are far more likely to arrest someone for the crime of being an immigrant or person of color than for marching with an armed fascist gang threatening the annihilation of the Jews. Mass movements that are not prepared to physically confront and defeat armed authorities would stand little chance.

Bureaucracy, the Regulatory Process, and Unelected Authority

While the legislative and executive branches make law and the judicial branch reviews laws, unelected regulatory bodies determine how they are actually interpreted and implemented. Currently, these bodies are staffed by skilled bureaucrats through a combination of patronage, political favoritism, and civil service promotion. Regulatory agencies are typically staffed by and managed by the industries they are designed to regulate. Even lower-level bureaucratic posts often enable employees to audition for far more lucrative private-sector employment. This creates enormous incentives to defer to corporate prerogative, even if the elected authorities have a different agenda. And these regulatory agencies decide what the law means in day-to-day situations that lawmakers can never predict when writing bills.

Bureaucratic and regulatory agencies govern at the local, state, and federal levels. They set zoning policies that largely determine whether housing is affordable and safe for working-class habitation. Their rules indirectly affect how much of their lives working people spend commuting to and from work because where tall buildings are built often determines which neighborhoods are clogged with traffic. As with regulatory agencies, building departments are typically instruments of real estate developers, even if they do protect occupants’ safety to some extent. Unelected bodies, such as public authorities in New York and New Jersey, typically control public transportation and critical infrastructure, and an army of bureaucrats runs the education systems all over the United States. All of these bureaucratic agencies are susceptible to intense pressure from highly paid lobbyists. Conditions of housing, transportation, public health, and education are some of the most powerful forces shaping workers’ daily lives, and it is difficult to imagine how working people would maintain confidence in and enthusiasm for a workers’ government that could not demonstrably improve those aspects of their lives. It is also difficult to see how a government could make significant headway in those areas without breaking apart the relevant bureaucracies and busting up the private-sector lobbying firms that influence them. In short, the very precondition for sustained radical electoral success would require the demolition of most regulatory organizations and their replacement with democratic and accountable bodies.

Unelected bureaucracy also reigns in the area of foreign policy. While major decisions such as going to or avoiding war, or negotiating trade agreements, are in the hands of elected officials, many of the day-to-day details of foreign relations are decided and implemented by career officials who are similarly subjected to substantial corporate lobbying and use foreign service careers as springboards into highly paid private-sector employment. The State Department routinely approves international trade licenses, contacts foreign bureaucrats on behalf of U.S. firms, and utilizes personal relationships with international counterparts to smooth those processes. In a world in which several major capitalist states still rule and the U.S. state is fractured, these bureaucrats could become key links between global and domestic counter-revolution.

While bureaucracy takes different forms in different countries, career civil servants staff the state apparatus in most capitalist states today. They tend to be ideologically committed to the survival of the state. Their career ambitions also depend on the patronage of higher ups in each department and alliances with private capitalists who hold the key to their promotion both inside and outside the public sector.

Can bureaucracy be subordinated to a workers’ government? Yes. In fact the soviet state had no choice but to rely on sectors of the tsarist bureaucracy both to win the civil war and for government administration in the 1920s. In a scenario in which the capitalist class has been fully defeated, disempowered bureaucrats might well decide, one by one, that cooperation with the new workers’ regime represents the only hope for maintaining their careers. However, the “democratic,” or, more accurately, the electoral, road to socialism leads inevitably along a different path. It does not deliver a sudden, decisive defeat to the state or to the ruling class. Quite the contrary, it leads to what might be termed “dual power,” in which socialists rule over substantial sectors of the government but capitalist politicians dominate others and much of the capitalist state bureaucracy remains intact. The police, fearing that their careers are in jeopardy, would likely continue to repress mass movements and fight at all costs to preserve their positions. These institutions of the capitalist state would also have powerful allies in the judiciary, not to mention support from capitalists around the world. Under that scenario it is highly unlikely that the administrative bureaucracies would place themselves at the service of workers’ regimes who have far less to offer them and from whom they have far less to fear.

Throughout U.S. history the labor movement and other radical reform movements have had to contend with ferocious and violent counterattacks. After World War I, socialists, anarchists, and labor activists of various stripes faced intense state repression. The survival of U.S. capitalism was not in question at this time. Yet, the federal government responded with mass arrests, deportations, frame-ups, and violence. After World War II, federal and state governments effectively repressed the radical wings of the labor movement with witch hunts and blacklists, while tolerating rampant racist violence. It is important to note that the Communist Party not only, at this point, could not have threatened revolution, its orientation was heavily electoral. But the mere prospect of a more militant labor movement and a radical electoral alternative was something both Democrats and Republicans were determined to repress. In the 1960s the FBI’s Cointelpro program targeted movement activists and even murdered Black Panther leader Fred Hampton.

A workers movement in the United States must prepare for severe state repression or it will succumb to it. At times this may involve operating clandestinely. It may also require active self-defense against legal authorities or fascist paramilitaries. Most importantly, preparation means educating a generation of socialist and labor activists about how and why the state protects capitalist profitability both through its own constitutional mechanisms and often with repressive measures that violate its own legality.

#### Obvi fiat’s not real, but forecasting is valuable – gives cognitive flexibility to adapt to the emerging future.

Scoblic ’20 - Co-Founder of Event Horizon Strategies, a Senior Fellow in the International Security Program at New America, and a Fellow at Harvard’s Kennedy School

J. Peter Scoblic and Philip E. Tetlock is Leonore Annenberg University Professor at the University of Pennsylvania, “A Better Crystal Ball: The Right Way to Think About the Future,” Foreign Affairs, November/December 2020, <https://www.foreignaffairs.com/articles/united-states/2020-10-13/better-crystal-ball>

Every policy is a prediction. Tax cuts will boost the economy. Sanctions will slow Iran’s nuclear program. Travel bans will limit the spread of COVID-19. These claims all posit a causal relationship between means and ends. Regardless of party, ideology, or motive, no policymaker wants his or her recommended course of action to produce unanticipated consequences. This makes every policymaker a forecaster. But forecasting is difficult, particularly when it comes to geopolitics—a domain in which the rules of the game are poorly understood, information is invariably incomplete, and expertise often confers surprisingly little advantage in predicting future events.

These challenges present practical problems for decision-makers in the U.S. government. On the one hand, the limits of imagination create blind spots that policymakers tend to fill in with past experience. They often assume that tomorrow’s dangers will look like yesterday’s, retaining the same mental map even as the territory around them changes dramatically. On the other hand, if policymakers addressed all imaginable threats, the United States would need so large and expensive a national security establishment that the country could do little else. By many measures, it is nearing this point already. The United States has military bases in [more than 70 countries](https://www.politico.com/magazine/story/2015/06/us-military-bases-around-the-world-119321) and territories, boasts more than four million federal employees with security clearances, and fields 1.3 million active-duty troops, with another million in reserve. According to one estimate, the United States [spends $1.25 trillion](https://truthout.org/articles/the-us-is-spending-1-25-trillion-annually-on-war/) annually on national security. When it comes to anticipating the future, then, the United States is getting the worst of both worlds. It spends untold sums of money preparing yet still finds itself the victim of surprise—fundamentally ill equipped for defining events, such as the emergence of COVID-19.

There is a better way, one that would allow the United States to make decisions based not on simplistic extrapolations of the past but on smart estimates of the future. It involves reconciling two approaches often seen to be at philosophical loggerheads: scenario planning and probabilistic forecasting. Each approach has a fundamentally different assumption about the future. Scenario planners maintain that there are so many possible futures that one can imagine them only in terms of plausibility, not probability. By contrast, forecasters believe it is possible to calculate the odds of possible outcomes, thereby transforming amorphous uncertainty into quantifiable risk. Because each method has its strengths, the optimal approach is to combine them. This holistic method would provide policymakers with both a range of conceivable futures and regular updates as to which one is likely to emerge. For once, they could make shrewd bets about tomorrow, today.

PLANNING FOR UNCERTAINTY

Although widely used in business today, the first element of this duo—scenario planning—grew out of post–World War II national security concerns, specifically the overwhelming uncertainty of the nuclear revolution. Previously, martial experience was thought to offer some guidance through the fog of war. Nuclear weapons, however, presented a novel problem. With the newfound ability to destroy each other as functioning societies in a matter of minutes or hours, the United States and the Soviet Union faced an unprecedented situation. And unprecedented situations are, by definition, uncertain. They lack any analogy to the past that would allow decision-makers to calculate the odds of possible outcomes.

Still, early U.S. efforts at nuclear-war planning sought to turn that problem into a calculable one. During World War II, the Allies had great success with the new field of [operations research](https://www.rand.org/pubs/papers/P3705.html), the application of statistical methods to improve the outcome of tactical engagements. After the war, the RAND Corporation—a “think factory” that the U.S. Air Force established as a repository for leading researchers—hoped to parlay this success into a new, more rational approach to war, based less on the intuition of generals and more on the quantification afforded by models and data.

Unfortunately, methods that worked at the tactical level proved nearly farcical at the strategic level. As the historian David Jardini has chronicled, RAND’s first attempt to model a nuclear strategy ignored so many key variables that it nonsensically called for deploying a fleet of aging turboprop bombers that carried no bombs because the United States did not have enough fissile material to arm them; the goal was simply to overwhelm Soviet air defenses, with no regard for the lives of the pilots. In the wake of such failures, it became clear that analysts could not entirely banish uncertainty. In 1960, even Charles Hitch, a man predisposed to calculation by dint of being RAND’s top economist and president of what was then the Operations Research Society of America, cautioned, “No other characteristic of decision-making is as pervasive as uncertainty.”

That, of course, raised the question of how to formulate sensible strategy. Unexpectedly, it was a RAND mathematician and physicist, Herman Kahn, who [offered an answer](https://hbr.org/2020/07/emerging-from-the-crisis). If the lived past could not shape strategy, perhaps the imagined future could. Frustrated with RAND’s attempts to scientize war, Kahn devoted himself to crafting scenarios in the pursuit of “ersatz experience” that would prepare the United States for the future through what were essentially thought experiments. Policymakers could use these scenarios as “artificial ‘case histories’ and ‘historical anecdotes,’” Kahn wrote, thus making up for a lack of actual examples or meaningful data. They would provide analogies where there were none.

Early methods of generating scenarios were often freewheeling and discursive. But after scenario planning migrated [to the business world](https://sloanreview.mit.edu/article/scenario-planning-a-tool-for-strategic-thinking/), it took on more structured forms. The most recognizable is a two-by-two matrix in which planners identify two critical uncertainties and, taking the extreme values of each, construct four possible future worlds. Regardless of the specific shape they take, rigorous scenario-planning exercises all involve identifying key uncertainties and then imagining how different combinations could yield situations that are vastly different from what mere extrapolation of the present would suggest. By then “backcasting”—taking one of these imagined futures as a given and asking what conditions produced it—scenario planners derive both a story and a system. They come up with a plausible narrative of how a future happened and an internal logic that describes how it operates. Scenarios are not supposed to be predictive. They are meant to be provocative, challenging planners’ assumptions, shaking up their mental models of how the world works, and giving them the cognitive flexibility to better sense, shape, and adapt to the emerging future.

The pandemic has occasioned a [renaissance in the use of scenarios](https://www.csis.org/analysis/forecasting-covid-19s-course), as organizations from think tanks to technology companies grapple with the question of what a “new normal” might look like and how soon it might arrive. But the national security community has long used scenarios to address some of its most wicked problems—particularly high-stakes issues that are in flux, such as the U.S.-Chinese relationship. This past summer, RAND released [a report](https://www.rand.org/pubs/research_reports/RR2798.html) on Chinese grand strategy. It concluded with four scenarios that offered brief vignettes of China’s possible place in the world 30 years from now. “Triumphant China” dominates the world stage in most domains, with a modern military and an innovative economy. “Ascendant China” is the preeminent power not only in Asia but in other regions, as well. “Stagnant China” has suffered from low growth and faces social unrest. And “Imploding China” experiences a crisis of existential proportions, in which domestic instability undercuts the country’s international influence.

Although comprehensive, the wide range of these scenarios highlights the chief challenge of the method: If China’s potential futures encompass rise, fall, and everything in between, how can they aid in the formulation of strategy and policy? Although this cornucopia of scenarios could lead policymakers to develop strategies that would improve the United States’ position no matter which future comes to pass, in practice, having too many different versions of the future can make it nearly impossible to act. Good scenario planning puts boundaries on the future, but those limits are often not enough for decision-makers to work with. They need to know which future is most likely.

TURNING UNCERTAINTY INTO RISK

Probabilistic forecasting—the second element of the duo—tries to address that shortcoming. Forecasters see scenario planning as maddeningly vague or, worse, dangerously misleading. They not only point to the lack of consistent evidence to support the alleged benefits of scenario planning; they also argue that the compelling nature of a good story can trigger a host of biases. Such biases fuel irrationality, in part by tricking decision-makers into making basic statistical errors. For example, even though a detailed narrative may seem more plausible than a sparse one, every contingent event decreases the likelihood that a given scenario will actually transpire. Nevertheless, people frequently confuse plausibility for probability, assigning greater likelihood to specific stories that have the ring of truth. They might, illogically, consider a war with China triggered by a clash in the Taiwan Strait more likely than a war with China triggered by any possible cause.

In contrast to scenario planning’s emphasis on imagination, forecasting tends to rely on calculation. Deductive approaches use models or laws that describe the behavior of a system to predict its future state, much like Newtonian mechanics allows astronomers to anticipate the position of the planets. Inductive approaches do not require such understanding, merely enough data and the assumption that the future will in some way reflect the past. This is how Netflix anticipates what you might like to watch or Amazon what you might want to buy, based purely on your previous actions. Increasingly, thanks to advances in artificial intelligence and machine learning, analysts use hybrid approaches. Meteorology is a good example, in which researchers combine sophisticated models and big data collection, which feed into each other and enable ever-better weather forecasts.

International politics poses a challenge for these methods because the laws governing the system are elusive or highly debatable, relevant data points are often unavailable or unprecedented, and thousands of variables interact in countless ways. History functions as a series of unfolding events, with highly contingent branching paths sometimes separated by mere happenstance. Tectonic shifts can hinge on seemingly mundane occurrences. That makes it hard to deduce future events from theoretical principles or to induce them from past experience.

As a result, historians and foreign policy experts are often bad forecasters. In 2005, one of us, Philip Tetlock, [published a study](https://www.newyorker.com/magazine/2005/12/05/everybodys-an-expert) demonstrating that seasoned political experts had trouble outperforming “dart-tossing chimpanzees”—random guesses—when it came to predicting global events. The experts fared even worse against amateur news junkies. Overconfidence was the norm, not the exception. When experts expressed 100 percent certainty that events would occur, those events materialized only 80 percent of the time. Yet there were pockets of excellence amid this unimpressive performance. Those who were surest that they understood the forces driving the political system (“hedgehogs,” in the philosopher Isaiah Berlin’s terminology) fared significantly worse than their humbler colleagues, who did not shy from complexity, approaching problems with greater curiosity and open-mindedness (“foxes”).

This distinction caught the eye of the Intelligence Advanced Research Projects Activity, which set up a geopolitical “[forecasting tournament](https://www.iarpa.gov/index.php/working-with-iarpa/prize-challenges/1070-geopolitical-forecasting-challenge),” in which Tetlock participated. He recruited a team of volunteers to provide probabilistic answers to sharply defined questions, such as “Will the euro fall below $1.20 in the next year?” or “Will the president of Tunisia flee to exile in the next six months?” By measuring the difference between estimates and the actual occurrence of events, Tetlock and his colleagues could calculate a score showing how “well-calibrated” the expectations of any given forecaster were with reality. By analyzing these data, Tetlock [discovered that the key](https://freakonomics.com/podcast/how-to-be-less-terrible-at-predicting-the-future-a-new-freakonomics-radio-podcast/) to more accurate geopolitical forecasting was to take people who were naturally numerate and open-minded, train them to think probabilistically and avoid common biases, and then group them so they could leverage the “wisdom of the crowd.” The best forecasters would approach seemingly intractable questions by decomposing them into parts, researching the past frequency of similar (if not precisely analogous) events, adjusting the odds based the uniqueness of the situation, and continually updating their estimates as new information emerged. By the end of the tournament, Tetlock’s top performers had achieved scores that were 30 percent better than those of career CIA analysts with access to classified information. Somehow, they had transmuted uncertainty into measurable risk.

## K

#### Evaluating consequences is key to ethics

David Runciman 17, Politics, Cambridge University, “Political Theory and Real Politics in the Age of the Internet,” The Journal of Political Philosophy, Volume 25, Issue 1, March 2017, Pages 3–21

Contemporary political realism carries echoes of this line of argument and of Bentham's shift from the weaker to the stronger version of it, even though Bentham's direct influence is rarely in evidence. Critics of the current ubiquity of the language of human rights often point out that in the absence of a robust account of the power relations that are needed to underpin any rights regime—in particular, an answer to the question of who does the enforcing—all such talk is a massive distraction from the real business of improving the situation on the ground to which human rights are meant to apply.9 But for more radical critics the emptiness of human rights talk is too convenient to be merely a confusion: it serves as the perfect cover for the sinister interests of those engaged in neo-colonial projects of exploitation and expropriation.10 However, these two poles of the Benthamite case against moralism—from inadvertent confusion to deliberate deception—do not exhaust the range of explanations for what is wrong with it. There is another answer, drawn from an alternative intellectual tradition, which appears more frequently in the current realist literature. This is the Weberian idea that moralism does not so much obscure what politicians are really up to, as conceal the truth about their personal motives from political actors themselves. In other words, political moralism is less a form of deception than of self-deception: it lets politicians avoid looking political reality squarely in the face because it allows them to believe they have their eyes set on something higher. Conviction politicians think they can transcend the messy reality of politics. That belief is dangerous because their response when they encounter the messy reality is to deny it, or to ignore it, or to insist they can mould it to their higher purposes, which only makes the mess worse. Weber's case against allowing an ethic of conviction to trump an ethic of responsibility in politics—which requires, among other things, that politicians face up to the unintended consequences of what they do—remains compelling.11 But it does not map onto any sharp distinctions between realism and moralism. That is because the convictions that can breed self-deception are not necessarily moralistic beliefs; they can be beliefs about anything, including beliefs about how contingency trumps moral certainty. On the Weberian account it is not what you believe but how you believe it that makes the difference. Realists, too, can be self-deceived, because the strength of their convictions against moralism produces its own self-deceptions and blind spots. This is the case that can be made against Bentham, who was so thoroughly dogmatic about the vapidity of all talk of rights that it served to blind him to what was missing from his own understanding of politics. Macaulay made the point in his celebrated takedown of the Benthamites published in the Edinburgh Review in 1829: ‘They surrender their understandings … to the meanest and most abject sophisms, provided these sophisms come before them disguised with the externals of demonstration. They do not seem to know that logic has its illusions as well as rhetoric—that a fallacy may lurk in a syllogism as well as a metaphor.’12 Bentham was insufficiently sensitive to the ways in which the attempt to ground political argument in the language of force neglects the capacity of other sorts of arguments to move people successfully. Conviction politics is not simply the preserve of the moralisers. Likewise, it is not the case that moral political philosophy is itself incapable of seeing the merit of arguments that point towards the unavoidability of unintended consequences. Just as realists can be blind to contingency, so moralists can be alive to it. Take the example of Robert Nozick, the most prominent early critic of Rawlsian political philosophy from within the discourse of rights. Nozick's ‘Wilt Chamberlain example’ was designed to highlight the inability of Rawlsian schemes of justice to accommodate the unintended consequences of cumulative instances of contingent rightful action on the part of individuals (in this case, their willingness to hand over small amounts of their own money to watch the best basketball player around ply his trade, which would generate unjustifiable inequalities of wealth—Chamberlain becomes very rich—unless the state intervenes to circumscribe their choices).13 The challenge to Rawls is to adapt his patterned view of justice to a world in which events inevitably take place that will break up the pattern. But this challenge does not come from a realist; it comes from a moralist (and a self-professed utopian to boot). There are many possible ways to push back against the apparent force of the Wilt Chamberlain example.14 A realist response would be to challenge the assumptions behind the case itself. We live in societies that enrich leading sportspeople on a scale that even Nozick might have found hard to imagine (Nozick envisages Chamberlain earning $250,000; his contemporary equivalent—LeBron James—earned more than $50,000,000 in 2015). But the players’ wealth is not simply the cumulative consequence of the unfettered choice of large numbers of people to hand over small amounts of money to watch them play. Any such relationship—between fans and performers—is mediated by vast institutional structures of commodification and exchange, which make it very hard to follow the money from individual consumers to the pockets of the superstars. It passes through the hands of many others—broadcasters, agents, advertisers, and administrators—such that the path of justice may be at best obscured and more likely undermined (recent revelations about how FIFA operates do not inspire confidence that this is a transparently just business). A further iteration of the realist response would indicate that an example drawn from the world of sports is itself a misleading one. Though polling evidence suggests that in our increasingly unequal societies it is sporting celebrities and their like who are widely believed to be reaping the most outsize rewards—on the assumption that there is at least some correlation between reward and measurable talent—most of the superrich in fact come from the financial services industry, where visible talent is much harder to identify.15 Tracing the just transfer of money in Nozick's terms from individual consumers to the pockets of bankers would be a thoroughly thankless task. In that sense, the Wilt Chamberlain example appears designed to play into our unwarranted presuppositions about the workings of the free market. It serves as a smokescreen. So realists can respond to Nozick's argument about contingency with some contingencies of their own. But so too can Rawlsians. It is possible to turn Nozick's argument on its head. He purports to grant Rawls his ideal society in order to show that no political ideal can survive eventualities for which it was not designed. But what if Nozick is granted his ideal society—his utopia—in which there is no political eventuality that cannot be justified in terms of the underlying individual rights that must remain un-breached for any social arrangement to count as just. That society will also be subject to unforeseen contingencies, including emergent monopolies and other market failures. Correcting for those failures will require breaches of rights in Nozick's terms; but sitting back and doing nothing will make the preservation of the conditions of justice—which includes the ability to track the distribution of wealth through a series of free exchanges—much more difficult. There is a real world variant of this argument that illustrates what can be at stake. Critics of the most urgent demands to address the threat of climate change tend to argue that pre-emptive responses will preclude the sort of market innovation that offers the best chance of finding a solution.16 In other words, patterned state intervention forecloses the opportunities provided by being open to unforeseen contingencies. But equally, openness to contingency can be its own form of limitation, if it forecloses the opportunities provided by state intervention in the face of failure. Putting one's faith in an unforeseen future to generate outcomes that will in due course solve the problems of the present rules out the possibility of an unforeseen future that requires action in the present to solve its looming problems. Those whose convictions blindly favour contingency and the free exchange of ideas can be as self-deceived in Weber's sense as those who want to intervene in the name of a better politics. All convictions, however adaptable, have an edge of fatalism to them.17

#### Alt alone is the worst of all worlds – rejecting neoliberalism in all instances guarantees war

Coniglio, antitrust attorney in the Washington, DC office of Sidley Austin LLP, ‘20

(Joseph V., “Economizing the Totalitarian Temptation: A Risk-Averse Liberal

Realism for Political Economy and Competition Policy in a Post-Neoliberal Society,” 59

Santa Clara L. Rev. 703)

Before evaluating each of these specific forms of competition policy, it is worth developing the normative criteria by which such an analysis will be conducted-that is, "risk-averse anti-totalitarian liberal realism., 7 2 Although the limits of this article make a full exegesis of these first principles impracticable, a few key premises can be said plainly. 73 The first is that the lessons of the twentieth century teach us that societies should avoid totalitarian forms of political economy so as to not repeat the atrocities that regimes of this kind have committed.74 Policymakers of goodwill across the political spectrum should be unified in seeking to articulate a paradigm that overcomes these revolutionary forces so as to protect individual liberty, support continued economic growth, and foster technological progress.

The "risk-averse" nature of this anti-totalitarianism also grounds arguments against classical liberalism and progressivism as organizing principles for competition policy. At the institutional level, as noted above, while classical liberalism is historically consistent with the dominance of both concentrated corporate power and a plutocratic class, the ideal of classical liberals would typically include neither welfare nor administrative states. As such, classical liberalism would provide an effective check against socialism and revolution from below, which could seek to make use of both the welfare and administrative states for its ends.75 However, the wholesale dismantling of both the welfare and administrative states could dangerously increase the risk of a revolution from above by removing the institutional powers able to counterbalance any alliance between established wealth and concentrated corporate power seeking to use fascism as a way to protect their economic interests but to the grave detriment of the rest of society.76

Progressivism, by contrast, sees powerful administrative and welfare states as necessary to protect the interests of the working classes, and is hostile to the existence of both plutocratic and concentrated corporate power. In the United States, the paradigmatic progressive political program was the New Deal. Whereas the first part of the New Deal included a host of regulations empowering the administrative state and placing regulatory obligations on business, the second part of the New Deal included Social Security and tax increases.77 Even though progressivism might therefore provide an adequate check against the imposition of fascism by an alliance of private power, the elimination of any substantial checks against the abuse of public power risks progressive institutions being utilized by intellectual elites rousing the working classes to bring about, and achieve power in, a socialist political economy.79

In addition to this risk aversion to totalitarian political economy, a certain realism about the present historical moment represents another basis for critiquing some of the theories of competition policy discussed above. While Burke's "age of chivalry" may be lost and utopia never to come, humanity lives better than it once did, and that should count for something. This is to say that, in lieu of believing that a liberal and democratic end of history remains the birthright of all mankind, or attempting to turn back globalization, policymakers should be concerned about losing what unprecedented but fragile progress modernity has actually made in improving the lives of many, many millions who were once in poverty both in the West and around the world.

The hyper-neoliberal approach-namely, that increased technological progress will prove a sufficient condition for sustaining the neoliberal order-can be faulted on these realist grounds, as the full implications of the New Economy and on liberal economic order are not yet fully understood. It may be that the golden age of technological progress and economic growth is already gone and therefore of little promise toward continued middle class expansion. ° It may be that the social consequences of rapid innovation in the Internet economy are in large part increased group polarization and extremism that, in a heterogeneous society, ultimately leads to fragmentation, violence, and the breakdown of liberal economic order.8' Finally, it may be that even notwithstanding a liberal effect of democratizing access to ideas, goods, and people, a reinvigorated bureaucracy concerned about me- quality chills continued technological progress.82 All of these possibilities, and still many more, make the hyper-neoliberal paradigm too speculative for policymakers to stake the future of liberal economic order on.

An unabashed program of industrial policy, by contrast, suffers from a more subtle form of idealism. On the one hand, the recognition of nation states as self-interested actors in competition with one another within a sovereignty-based framework has long been a dominant view for thinking about international order in "realist" terms.83 Over the neoliberal period, however, the immersion of the contemporary nation state within a globalized economy of ideas, goods, people and supply chains has resulted in not only unprecedented economic growth and prosperity around the world, but relative peace.84 A turn toward industrial policy, even in the limited case of antitrust, risks contributing to the undermining of not only economic growth and neutral rules-based legal frameworks-such as antitrust as an apolitical, value neutral, and technocratic enterprise 8 5 -but also global peace and stability, with potentially destructive consequences for humanity similar to those that obtained prior to the advent of the liberal international order.’

#### Digital innovation solves sustainability

Tyfield, Prof of Sustainable Transitions and Political Economy, Lancaster University, ‘18

(David, “Innovating innovation—Disruptive innovation in China and the low-carbon

transition of capitalism,” *Energy Research & Social Science* (37) 2018 266–274)

It must first be noted, though, that the advent of digital innovation is – per se not just in Googliberal form – a key element of the challenge, in terms of constructing complex government of complex systems. For, itself conceived as a power/knowledge process, digital innovation sits at a key node in the cycles of the contemporary capitalist system and its (currently overflowing, uncontrolled) proliferation of complexity (see Fig. 2, especially c). Digitization, and/or its flipside of informationalization, fundamentally consists of introducing a novel (i.e. ICT-based) mediation to processes of power/knowledge. For instance, manufacturing becomes mediated by software that, in turn, collects constant real-time data for further optimization; so too for information search, listening to music, ride-hailed journeys, even friendship. This novel mediation affords the reflexive and recursive measurement, transformation, interconnection and expansion of these power/knowledge processes at hitherto unprecedented rates and scales, while these digital innovations also thereby constantly and reflexively upgrade themselves – the very acme of the positive feedback loops constitutive of complex systems. In short, digital innovation is singularly productive of the problem-field of complex system government, even as it is generally evangelized as its panacea.

But there is no going back, no putting the digital genie back in the bottle or closing Pandora’s Box. The only way forward, thus, is to develop new models of digital innovation that can work with its capacity for proliferation of complexity but to more system-productive outcomes. In this respect alone, we can immediately see how a different (non-Googliberal) digital innovation necessarily must form a key element of any low-carbon transition. But conceived as a power/knowledge process, digital innovation also emerges as a clear, if as yet underexplored and seemingly tangential, aspect of low-carbon innovation itself.

This hinges precisely on how the digital is the would-be metamediator of all power/knowledge processes. For it follows not only that socio-environmental relations, technologies and practices (likewise conceptualized in power/knowledge terms) can be thus mediated, and thereby progressively transformed. But also that viewing any and every ecological problem-field in this way also immediately makes it (much more, if never perfectly or ‘correctly’, and indeed, likely problematically) amenable to capitalist ingenuity: pragmatically but avariciously exploring ways in which collation, mastery, ownership and possible construction of the relevant socio-environmental data – the ‘new oil’ [42] – can be of service to paying customers (and/or hopefully publics and state institutions) and hence profitable.2

In this way, then, the field of low-carbon innovation can be transformed from that of committed green pioneers worthily and laboriously constructing low(er)-carbon technologies, to a more generalized ‘greenrush’… with all that implies, both positive and negative. In other words, digital intermediation enables a process that harnesses the exceptional productivity (for good and/or ill − see conclusion) of capitalist innovation into a growing power momentum of low-carbon transition, and from here, in this late-neoliberal, unequivocally capitalist present.

Here the qualitatively tighter feedback loop of digital innovation (see Fig. 2c Cf b), as power/knowledge technologies reflexively upgrading themselves, also flips from problem to opportunity. While this dynamic is currently causing proliferating, untamed and destructive complexity, a digital greenrush would instead harness it into acceleration of productive innovation; and, indeed, a growing power momentum of sufficient heft that it can even break out of the profound current socio-technical system ‘carbon lock-in’ [43] (see Fig. 2d).

#### AI race is inevitable

Horowitz 18 – Michael C. Horowitz is a professor of political science and the associate director of Perry World House at the University of Pennsylvania.

Michael Horowitz, May 2018, “Artificial Intelligence, International Competition, and the Balance of Power,” Texas National Security Review, https://tnsr.org/2018/05/artificial-intelligence-international-competition-and-the-balance-of-power/

Whether AI capabilities diffuse relatively slowly or quickly, major military powers will likely face security dilemmas having to do with AI development and deployment. In a slow diffusion scenario, if countries fear that adversaries could get ahead in ways that are hard to rapidly mimic — and small differences in capabilities will matter on the battlefield — that will foster incentives for quick development and deployment. In a rapid diffusion scenario, competitive incentives will also exist, as countries feel like they have to race just to keep up.[114](https://tnsr.org/2018/05/artificial-intelligence-international-competition-and-the-balance-of-power/" \l "_ftn114) Moreover, it will be inherently difficult to measure competitors’ progress with AI (unlike, say, observing the construction of an aircraft carrier), causing countries to assume the worst of their potential rivals.

Competition in developing AI is underway. Countries around the world are investing heavily in AI, though the United States and China seem to be ahead. Yet even if the space-race analogy is not precise, understanding AI as a competition can still be useful. Such frameworks help people and organizations understand the world around them, from how to evaluate international threats to the potential trajectory of wars.[115](https://tnsr.org/2018/05/artificial-intelligence-international-competition-and-the-balance-of-power/" \l "_ftn115) If likening competition in AI to the space race clarifies the stakes in ways that generate incentives for bureaucratic action at the government level, and raises corporate and public awareness, the analogy stands to have utility for the United States.

#### Alt cedes the AI development field to Russia and China – that turns all impacts

Lowther and McGiffin 19 – Dr. Adam Lowther is Director of Research and Education at the Louisiana Tech Research Institute (LTRI) where he teaches deterrence strategy, NC3 History, and Integrated Tactical Warning and Attack Assessment in several nuclear command, control, and communication courses for the U.S. Air Force. Curtis McGiffin is Associate Dean, School of Strategic Force Studies, at the Air Force Institute of Technology.

Adam Lowther and Curtis McGiffin, August 16 2019, “AMERICA NEEDS A “DEAD HAND”,” War on the Rocks, https://warontherocks.com/2019/08/america-needs-a-dead-hand/

However, artificial intelligence is no panacea. Its [failures are numerous](https://medium.com/syncedreview/2018-in-review-10-ai-failures-c18faadf5983). And the fact that there is profound concern by well-respected experts in the field that science fiction may become reality, because artificial intelligence designers cannot control their creation, should not be dismissed. For the United States, every option presents significant risk and uncertainty. Reality, however, is progressing to a point where the United States must address the challenge we outlined above. Russia and China are not constrained by the same moral dilemmas that keep Americans awake at night. Rather, they are focused on creating strategic advantage for their countries.

#### Our reading of China is better – internal documents prove their offensive intentions – they will take the opportunity to win a war if they get the chance

Mastro 15 – Professor of IR & Security Studies at Georgetown University

Oriana Skylar Mastro, assistant professor at the Edmund A. Walsh School of Foreign Service, Georgetown University, Why Chinese Assertiveness is Here to Stay, The Washington Quarterly 37:4, pp. 151–170, <http://dx.doi.org/10.1080/0163660X.2014.1002161>

As Chinese political, economic, and military power continues to grow at impressive rates, the impact of Chinese external behavior on the region has correspondingly increased. Since 2010, it has become commonplace for observers to refer to Chinese foreign policy behavior as abrasive, muscular, or assertive. However, China’s heightened willingness to rely on coercive diplomacy—or the simultaneous use of diplomacy and limited use of force to accomplish one’s objectives—began much earlier with the Impeccable incident in March 2009.1 In this case, five Chinese vessels shadowed and aggressively maneuvered in dangerously close proximity to the U.S. Naval Ship Impeccable.2 In the following months, commentators predicted that China would moderate its behavior in the face of regional backlash. Instead, instances of Chinese platforms maneuvering in a dangerous and unprofessional manner only became more frequent. Whether Chinese foreign policy has become more assertiveness and the implications of such a shift are the source of great debate among China hands. Analysts Thomas Fingar and Fan Jishe argue that stability still characterizes U.S.–China bilateral relations because the ties between the two countries are more extensive, varied, prioritized, and interdependent than ever before.3 Harvard professor Alastair Iain Johnston argues that pundits overstate the change because they underestimate how assertive China has been in the past— demonstrating that Chinese official discourse on sovereignty and territorial issues has been relatively consistent over the past fifteen years.4 Others argue that the narrative does not go far enough. Australian analyst Jeffrey Reeves articulated that accusations of assertiveness too narrowly focus on China’s THE WASHINGTON QUARTERLY & WINTER 2015 151expansive territorial claims, disruptive diplomacy in ASEAN, and growing use of economic sanctions, while ignoring other policies that contribute to regional instability—specifically Beijing’s reliance on economic ties to advance its relations with smaller developing countries in Asia.5 Commentators admittedly tend to ignore areas of cooperative Chinese actions such as convergence in U.S. and Chinese voting on the UN Security Council and increasing U.S. exports to China.6 Former State Department official Thomas Christensen cautions that China’s counterproductive policies toward its neighbors and the United States are better understood as reactive and conservative, rather than assertive and innovative.7 Qin Yaqing, a professor at China Foreign Affairs University, postulates that China’s main strategic policies— emphasis on U.S.–China relations, rejecting alliances, reliance on economic diplomacy—will continue even as some policies change. For instance, we could see an emphasis on core interests like sovereignty and territorial integrity, even over economic development.8 While true that Chinese diplomacy may not have, on the whole, become more assertive, most agree that in the area of maritime disputes, China has demonstrated an increased willingness to threaten and use limited force to promote its sovereignty claims. The dangerous Chinese interception of U.S. Navy planes conducting routine patrols above the South China Sea in late August 2014 is only the latest of countless instances of China credibly communicating its threats by increasing the risk of accident.9 Many U.S. strategists were hopeful that Beijing would moderate its behavior because, they argue, this more muscular approach to maritime disputes has obviously proved counterproductive and detrimental to China’s own interests. China’s muscle-flexing has driven allies such as Japan, the Philippines, and Australia into a closer alliance with the United States.10 A recent Pew poll demonstrated that 70 percent of respondents in the Philippines, Japan, Vietnam, South Korea, and India expressed concern over potential conflict with China.11 “The Chinese,” said Rob Taylor, a close advisor to Australian Prime Minister Tony Abbott, “with their current foreign policy, as distinct from what they were doing over a decade ago—is [sic] genuinely counterproductive.”12 Given the Western consensus that, as The Economist wrote, “it would be hard to construct a foreign policy better designed to undermine China’s long-term interests,”13 and that fundamentally China “has no wish to be branded an international outlaw,”14 as Wall Street Journal columnist Andrew Browne pointed out, many are waiting for a reversion to previous policies. China has been credibly communicating its threats by increasing the risk of accident. Oriana Skylar Mastro 152 THE WASHINGTON QUARTERLY & WINTER 2015 Unfortunately, such a shift back is unlikely. China’s reliance on coercion, both in the form of deterrence and compellence, over maritime disputes is likely to persist for the foreseeable future for two reasons. First, Chinese assertiveness is the result of a deliberate strategic decision central to Beijing’s overarching antiaccess/area denial (A2/AD) strategy. The Economist refers to anti-access as “the ability to prevent an opposing force from entering an area of operations.” The objective of area denial, on the other hand, is not prevention but disruption—to compel the desired behavior by “impos[ing] severe costs on the enemy’s freedom of action once it has [gained access].”15 While it seems counterintuitive, China is actually hoping to prevent balancingby being assertive, and operationally it is trying to create a domestic and international environment that will limit U.S. ability to intervene effectively in a given conflict. Second, there are influential and loud voices in China that believe such a strategy has been working, and is better than the alternatives. Such arguments are not without merit. While a few countries’ view of China is worsening, a median of 49 percent of the world’s publics surveyed in a 2014 poll still hold a positive view of China overall.16 Xi Jinping himself has articulated more hardline policies concerning territorial disputes, and Chinese assertiveness has noticeably increased under his watch. Additionally, the costs of any negative perceptions are unclear—even Australia has been hesitant to be drawn into the diplomatic fray given its close economic relationship with China.17 And even if countries are unhappy, it is hard to ignore the fact that China’s tactic of “exploit[ing] perceived provocations in disputed areas by other countries…to change the status quo in its favour,” as the International Crisis Group puts it, has been largely successful in strengthening China’s claims.18 In short, Chinese assertiveness is here to stay, and U.S. strategy needs to adjust accordingly. Specifically, I lay out three areas of Cold War-era concepts that the United States needs to jettison if it hopes to protect regional interests and avoid conflict if possible. Asia’s Own Balancing Most U.S. strategists and scholars argue that Chinese muscular behavior in its territorial disputes has been counterproductive in that China’s relations with its neighbors, and therefore Beijing’s security environment, have deteriorated as a result. Many concluded that Beijing was learning similar lessons and would adjust its foreign policy accordingly. China’s relentless pursuit of its territorial Unfortunately, a shift back from Chinese coercion is unlikely for two reasons. Why Chinese Assertiveness is Here to Stay THE WASHINGTON QUARTERLY & WINTER 2015 153claims has hardened the position of its neighbors and hurt its international image.19 According to a 2014 Center for Strategic and International Studies (CSIS) poll of strategic elites in eleven countries, 61 percent of respondents felt China had a negative impact on regional security.20 More and more, regional actors’ anxiety about Beijing’s long-term intentions is encouraging them to conduct their own balancing. Such behavior includes external balancing, such as improving ties with the United States and other major players in the region, as well as internally strengthening and modernizing their own militaries.21 We can see this internal balancing in the defense spending of Asian countries, which spent a total of $287.4 billion on defense in 2012. This total represents the first time that Asian defense spending exceeded total European defense spending, including both NATO and non-NATO countries.22 Further, from 2008–2012, Asia and Oceania accounted for 47 percent of global imports of major conventional weapons, with India, South Korea, and Singapore—first, fourth, and fifth, respectively—all in the top five of importers of major conventional weapons worldwide.23 Real (inflation-adjusted) defense spending in India, Japan, and South Korea increased from 2000 to 2011 by 47, 46, and 67 percent, respectively, an increase too large to be explained by natural modernization trends.24 Moreover, the reversal of downward spending trends in 2008 and subsequent accelerated increases, coupled with focus on investment in naval and air forces, suggest such spending trends are partly in response to China.25 The Asia–Pacific will comprise 26 percent—nearly $200 billion—of global maritime security builds in the next 20 years, represented largely by shipbuilding.26 India has been the largest importer of weapons for the past five years and has more active duty military personnel than any other Asian country except China. India’s defense budget rose to $46.8 billion in 2012, and it is projected that by 2020 India will become the fourth-greatest defense spender in the world, overtaking Japan, France, and Britain.27 Even South Korea, a much smaller country, boosted its defense budget by 67 percent from $17.1 billion in 2000 to $28.6 billion in 2011.28 In terms of external balancing, many countries are strengthening their ties with the United States. In 2013, the United States and Vietnam established a comprehensive partnership, and subsequently have frequently worked together, for example to mobilize a multinational response in 2010 to China’s perceived attempts to promote its maritime claims in the South China Sea.29 In April 2014, the Philippines and the United States signed an Enhanced Defense Cooperation Agreement that, among other things, allows the United States to base troops there on a rotational basis for the first time in 20 years.30 Later in 2014, Australia and the United States signed a 25-year agreement allowing 2500 U.S. Marines and USAF personnel to train there and inter-operate with Australian forces.31 Oriana Skylar Mastro 154 THE WASHINGTON QUARTERLY & WINTER 2015Japan has perhaps made the greatest changes by incrementally raising its defense budget, extending its security perimeter, improving its armaments, and considering boosting the status of the Self-Defense Forces (SDF) by extending its operational range. Japanese defense spending in 2013 increased for the first time in eleven years by 40 billion yen from the previous fiscal year to 4.7358 trillion yen.32 Japanese Prime Minister Shinzo Abe announced in July 2014 a reinterpretation of the Peace Constitution to allow, for the first time in sixty years, collective self-defense. This means that Japan’s military may engage in hostilities to come to the aid of friendly countries, such as the United States, even when Japan itself has not been attacked.33 In addition to strengthening relations with the United States, Asian countries are also expanding their ties with one another. To cite just a few examples, South Korea and Japan are gradually moving from security dialogue toward closer intelligence and defense cooperation. While a painful history limits the level of trust between the two countries, officials in Seoul and Tokyo are quietly moving ahead with strengthening both bilateral relations and trilateral cooperation with the United States. Korea is also becoming a major economic partner, arms provider, and trainer for select Southeast Asian states including Indonesia and Vietnam. Japan and India have also upgraded bilateral defense ties and have pledged to enhance cooperation, especially in the realm of maritime security; to that end, the two countries held the first purely bilateral joint naval exercise off the Bay of Tokyo in June 2012. Japan and Australia have signed an accord to cross-service logistics for military platforms. Japan has also moved to improve defense relations with Vietnam and the Philippines. Due to China’s sensitivities, Australia tends to downplay its cooperation with Japan, but it is far more vocal about strengthening ties with India, Indonesia, Singapore, Vietnam, and Thailand. Japan, Australia, and ASEAN members increasingly seek after India, with its “Look East” policy, recast in November 2014 by Prime Minister Modi as its “Act East” policy, and blue-water naval power. India provides arms and professional military training, especially of junior officers, to Vietnam, and Hanoi has granted India berthing rights at its Nha Trang port.34 A Deliberate Strategy Chinese assertive behavior is here to stay because it is the manifestation of a deliberate long-term strategy. Many scholars are more comfortable arguing that a rogue military, a need to cater to Chinese nationalism, or individual leadership traits explain Chinese assertiveness because those explanations suggest China’s dangerous and provocative behavior is a temporary paroxysm.35 But the speeches of Chinese President Xi Jinping, Chinese Premier Li Keqiang, and Chinese Foreign Minister Wang Yi highlight the belief that unfriendly, and even hostile, powers are besieging China, especially in the maritime sphere. Wang Yi has emphasized that China periodically exercises restraint, but must stand its ground when provoked in territorial disputes.36 In a May 2013 speech in Germany, Li Keqiang suggested that Chinese assertiveness is even in defense of the post-World War II international system. Though a tenuous connection, Li basically insinuates that China’s active pursuit of its East China Sea claims supports the world order laid out in the Potsdam Declaration of 1945.37 And in recent months, Xi himself has publicly stressed the critical importance of a strong military to a successful foreign policy and dismissed the option of passivity.38 Remaining firm is the preferred official Chinese approach. Xi Jinping has also emphasized the importance of prioritizing the economic interests of countries that support Chinese core interests, even if it comes at a relative cost economically.39 Past economic goals solely prioritized making money, with little consideration to strategic factors—but today, Chinese leaders are starting to think about how they can use the immense economic benefit of doing business with China in order to gain political influence. The political priority seems to be defending maritime sovereignty above all else. Historically, upholding maritime sovereignty has been critical to a nation’s success, and therefore China should follow a similar trajectory of building a powerful navy that can protect its commercial interests.40 Researchers at Peking University pulled together extensive statistics to demonstrate how important maritime territory is for Chinese economic, and therefore national, interests. They argue that China must utilize available resources to defend vital sea lanes, which include military, diplomatic, and economic wherewithal.41 Meanwhile, China’s top leadership stresses that in spite of China’s assertiveness in maritime disputes, other countries need not worry about China’s rise because it does not seek hegemony or promote imperialism. An anonymous analysis published in the Hong Kong Economic Times of Xi Jinping’s November speech concludes that his foreign policy approach is tough and unyielding, though not unnecessarily aggressive.42 China is unlikely to shift strategies away from relying on coercion and manipulating risk to achieve its territorial objectives not only because the top leadership publicly promotes them, but also because they correspond well with China’s overarching strategy of active defense (jiji fangyu). Active defense is the operational component of Jiang Zemin’s National Military Strategic Guidelines for the New Period (xin shiqi guojia junshi zhanlue fangzhen), which serves as “the highest level of strategic guidance for all PLA military operations during war and preparation for war during peacetime.”43 Specifically, the guidelines Oriana Skylar Mastro 156 THE WASHINGTON QUARTERLY & WINTER 2015 necessitate developing capabilities to deter, deny, disrupt, and delay the deployment of U.S. forces into the Chinese theater—hence the Western nomenclature A2/AD. These can be leveraged to accomplish Chinese goals in its maritime disputes through four distinct but interrelated pathways: 1. geographic: increasing the distance and time required for U.S. forces to arrive in theater from areas of safety before China achieves its political objectives; 2. kinetic: degrading the U.S. military’s ability to penetrate anti-access environments with an enhanced conventional precision strike system, consisting mainly of cruise and ballistic missiles as well as attacks on key enabling capabilities such as space-based networks that enable C4ISR (Command, Control, Communications, Computers, Intelligence, Surveillance, and Reconnaissance) missions; 3. political: exploiting perceived weaknesses in political support and resolve of U.S. allies and friends, thereby keeping the United States out because countries will not allow it to base there; and 4. deterrent: making involvement so costly that the United States opts out of responding, or responds minimally, in a given contingency.44 Assertiveness is therefore, in many ways, the logical extension of this Chinese strategy as it grows more confident in the capabilities it has been developing over the last twenty years as part of this active defense strategy. While the strategic objective is the same for each of the pillars, the theory of victory of the first two pillars is significantly different from that of the latter two. Kinetic and geographic aspects rely largely on brute force in that China could theoretically accomplish its goals by force alone, without any collaboration from the United States.45 Take this hypothetical example—if in the early stages of a conflict, China attacks U.S. bases in Japan, cratering runaways and burying aircraft, no amount of U.S. resolve will make those planes fly. In this case, the United States may want to support a Taiwan contingency but be unable to do so. Coercive strategies, meanwhile, rely on the collaboration of the opponent; one can only succeed if the other side concedes. If China instead lobs missiles at U.S. bases every other day until the United States agrees to halt surveillance operations in the South China Sea, this is coercion. The political and deterrent (third and fourth) pillars are thus harder to grasp because their theory of victory relies on compliance. They are premised on the belief that China can convince countries not to put up a fight by manipulating risk and imposing costs. Chinese assertiveness in maritime disputes since 2009 is largely coercive in nature, and therefore tends to fall under these last two pillars. While the kinetic and geographic components of China’s active defense approach have received the most attention in Washington policy circles, the more elusive political and deterrent A2/AD pillars can be just as effective, if not more so, in undermining U.S. ability to project power in the region to intervene in a maritime dispute. The political pillar refers to the idea that, in a conflict, China will pressure countries with military threats or economic inducements to limit or deny the U.S. use of facilities necessary for power projection into the East China Sea, South China Sea, or Taiwan Strait. As Congressional Research Service naval expert Ronald O’Rourke convincingly argues, “To threaten regional bases and logistics points, China could employ SRBM/MRBMs [shortrange and medium-range ballistic missiles], land-attack cruise missiles, special operations forces, and computer network attack (CNA). Strike aircraft, when enabled by aerial refueling, could simultaneously engage distant targets using air-launched cruise missiles equipped with a variety of terminal-homing warheads.”46 Even during peacetime, though most countries want the United States to remain in the region, the priority on stability above all else may translate to nations throughout the region pressuring the United States to accept a greater degree of parity with China, thereby displacing U.S. influence, and perhaps eventually presence, in the region to a certain degree. An example of such efforts came from Chinese defense strategist and retired senior military officer Song Xiaojun. In a May 2012 opinion piece, Song warned Australia that it could not reconcile its close economic relationship with China with the fact that it relies on the United States for security, and would have to, at some point, choose which country to prioritize in its foreign-policy decision making. He argued that “Australia has to find a godfather sooner or later,” and whom Canberra chooses “depends on who is more powerful based on the strategic environment.”47 An editorial in a nationalist Chinese state-run newspaper also responded to the news that the United States will station 2500 Marines in Darwin with the warning that Canberra is risking getting itself “caught in the cross fire” between China and the United States.48 The deterrent A2/AD pillar—perhaps the most important and most difficult to counter—posits that Washington may opt out of responding in a number of contingencies, for example maritime disputes, given that China’s active defense initiatives exceed the political costs for the United States. This could involve deterring a U.S. intervention decision altogether, or involve a Beijing-directed preemptive strike on U.S. forces attempting to deploy to the region, in the hopes of delivering the necessary psychological shock to the United States, its allies, and friends in the region. China’s public response to the 2012 U.S. declaration that it will rebalance toward Asia reflects China’s beliefs underpinning the deterrent pillar. The main theme found throughout Chinese media sources has been that the United States is too weak-willed to carry through its policies, which are in any case ill-advised. The Chinese media further claims that the past ten years of U.S. war in Southwest Asia has eroded the U.S. sphere of influence and has seriously affected the state of U.S. regional hegemony in the western Pacific.49 Chinese writers also note that, while the United States may want, theoretically, to return to being the main force in the Asia–Pacific, its economic dependence on China and its relative depletion of resources imply that it will fail to fulfill its proclamations and promises.50 In short, so the argument goes, while the United States wants to protect vital regional interests in East Asia, its desire to do so at an acceptable cost trumps all other considerations. Concordant with this view, China believes it can increase the real and perceived costs of intervention and successfully convince the United States to restrain itself in maritime disputes and other regional contingencies. The ultimate aim of China’s assertiveness, therefore, is effectively to convince the United States to self-impose an anti-access doctrine in any conflict involving Chinese territorial interests. China’s Positive Assessment of Assertiveness The positive internal assessment of China’s assertiveness strategy is the second reason why Beijing is unlikely to change course. In part because of all this evident reaction to Chinese behavior, Chinese scholars and strategists themselves are debating the relative merits and risks associated with Chinese assertiveness, a strategy that Xi Jinping himself articulated in an October 2013 speech at the foreign affairs conference of the Chinese Communist Party as striving for achievement (fenfayouwei).51 Since 1990, China had adhered to Deng Xiaoping’s maxim of keeping a low profile while still getting things done (taoguangyouhui, yousuozuowei). Many Chinese scholars warn against jettisoning this strategy.52 But domestic support for a more assertive, confident, proactive foreign policy is growing. Even scholars that prefer to stay loyal to Deng’s maxim say it’s time to stress the second part, “actively getting something done” (yousuozuowei). Chinese proponents rely on two main rationales supporting the shift in foreign policy approach that provide insight into what lies ahead. First, the previous policy of taoguangyouhui was insufficient to protect national interests because it did not persuade others to respect China’s interests in the region. Second, while some admit that the United States and neighboring countries are uncomfortable with the new approach, they argue it is more practical and effective than reverting to a China that suffers disgraces and insults in order to “bide time.” As China’s power grows, its leaders are prioritizing strategies that they think command respect and will persuade others to increasingly accommodate Chinese preferences. Many Chinese thinkers complain that the potential benefits of keeping a low profile—a positive international image or greater support and friendship from neighboring countries—have failed to come to fruition.53 Neighboring powers were suspicious of China’s rise long before the foreign policy shift, and the behavior of other South China Sea claimants during that period suggest that an “unprincipled” strategy like biding time does not command respect.54 According to Fudan University researcher Zhao Huasheng, while China will promote policies that resolve disputes in a reasonable way, core interests cannot “be shelved” to be dealt with at a later date, regardless of how much turmoil they cause now.55 Other voices add that placating others did not keep Vietnam and the Philippines from violating China’s sovereignty, or Japanese Prime Minister Shinzo Abe from visiting the Yasukuni shrine.56 One prominent scholar from the Chinese Academy of Social Sciences (CASS) commented in a recent interview that China had tensions with its neighbors even when its strategy was pliant, flexible, and gentle, because contemporary security issues result from China’s rise.57 As one Chinese major general argued, principles of harmonious co-existence and peaceful development do not resonate with many countries, and China’s promotion of these ideas was like “playing the zither to a cow”—ineffective.58 While Chinese strategists recognize that other regional actors are unhappy with the shift, they also argue that both China domestically and other countries internationally are still in the process of acclimating to China’s new foreign policy approach. These strategists argue that the palpable anxiety of the United States and some neighboring countries is completely understandable, but does not suggest the strategy is ineffective. The argument goes something like this: countries are used to a weak and accommodating (renru fuzhong) China, so they are understandably startled by China’s recent tendency to push back.59 In other words, they will adjust, but the strategy should not change. According to an article in the Chinese nationalistic newspaper The Global Times, China’s comprehensive national power has reached a point where it is time “to actively get something done,” the latter part of Deng’s biding time maxim.60 Many pair their support for this more proactive foreign policy approach with words of caution—China needs to learn how to use its power so as to command respect without being unnecessarily quarrelsome or prideful. This is a critical period for China’s rise, and the last thing the country needs is to provoke robust balancing designed to thwart China’s rise.61 Oriana Skylar Mastro One of the greatest proponents of the “striving for achievement” strategy, Tsinghua University professor Yan Xuetong, argues that the strategy has actually contributed greatly to improvements in China’s international situation.62 When China was laying low, focusing on economic development and attempting to expand its soft power, countries were still anxious about Chinese intentions and increasingly saw China as a threat. But, Yan argues, countries like the United States and Japan will inevitably see China as a threat, because China will likely replace them as the region’s strongest and richest country, respectively. Contrary to Western arguments, Yan believes that major competitors have been accommodating China’s preferences more and more, largely due to China’s increased assertiveness. He cites U.S. acceptance of the November 2013 announcement of an Air Defense Identification Zone (ADIZ); Washington’s moderate reaction to the December 2013 Cowpens incident, in which a PLAN Amphibious Dock Ship maneuvered dangerously close to the U.S. ship; and President Obama’s downgrading of his February 2014 visit with the Dalai Lama to the Map Room instead of the Oval office as examples of the strategy’s success. 63 He also argues that bilateral relations are more stable with the United States because both Beijing and Washington now admit to a structural conflict, and therefore preclude unreasonable expectations for favorable actions that then lead to overreaction and disappointment.64 The key for continued success, he argues, is to seek strategic partnerships with countries not based on where China can make the most money, but on which countries have the most clout strategically. There are differing opinions on the relative merits of various strategies, but as one Chinese scholar warned, China must show a united front so as not to send the wrong message of confusion or lack of consensus to the outside world.65 As an opinion piece in China’s nationalist newspaper The Global Times argues, the international community wants China to be a responsible stakeholder and proactive in some areas, but “swallow its anger” in others. It goes on to say that even if China tried to adhere to these expectations, this would only convince the international community that China is weak and can be bullied, the wrong message to send and the wrong strategy to implement if the goal is protecting Chinese sovereignty and territorial integrity.66 This suggests that even if some Chinese thinkers disagreed with this interpretation of assertiveness leading to great foreign policy achievements, Chinese leaders may bury this dissent and double down on its preferred methods of promoting foreign policy interests regardless. U.S. Strategic Response: What More Can Be Done? If China’s tendency to rely on coercive diplomacy to promote its territorial claims indeed persists, as I have argued, what does that mean for U.S. policy? Many officials are hoping that balancing within Asia and positive trends in other aspects of the bilateral relationship will prove sufficient to manage China’s abrasive behavior in territorial disputes. Secretary of State John Kerry argued that creating sustainable growth, enhancing economic ties, and empowering the individual to improve their communities will ensure peace and prosperity in the Asia–Pacific.67 The idea that engagement and partnership will shape China’s choices and change how the leadership defines its national interests and the best way to promote them is also a strong theme among U.S. officials. The current ambassador to China, Max Baucus, put forth his plan to “partner with China as it emerges as a global power and encourage it to act responsibly in resolving international disputes, respecting human rights, and protecting the environment.”68 Everyone agrees that engagement should not be abandoned. Former Undersecretary of Defense for Policy Miche`le Flournoy argued, “abandoning efforts to engage with China would likely accelerate Beijing’s assertiveness and run counter to a wide range of U.S. economic and security interests.”69 Thomas Christensen posits that the United States can empower moderate elites in China by “consistently offer[ing] China an active role in multilateral cooperative efforts.”70 George Washington University professor Robert Sutter argues, “through constructive engagement with their Chinese counterparts, U.S. leaders can demonstrate the long-term benefits Beijing would enjoy from a Chinese regional posture that eschews egregious pressure, intimidation, and zero-sum competition and embraces existing world norms that hold promise for uninterrupted Chinese development.”71 Scholars, policymakers, and officials stress that containment, defined as “attempting to suppress [China’s] growth by isolating Beijing from its neighbors and the world” is not the answer.72 But containment is not the only Cold War paradigm that deserves casting off given the contemporary challenges of a rising China. Many scholars have offered specific recommendations on how to address these challenges, with most designed to impose costs to compel a change in Chinese assertive behavior. But such measures are unlikely to be implemented effectively, or at all, until policymakers and strategists abandon two different elements of a Cold War mentality: overly relying on a strong forward military presence for a credible deterrent and fixating on de-escalation in crises. In its place, U.S. officials must accept risk without being reckless, and it must permit the possibility of escalation while maintaining stability. The U.S. mindset needs to shift to accept greater risk without being reckless. Military power alone does not guarantee a credible deterrent. U.S. efforts to bolster its military presence in the Asia–Pacific—a central pillar of the rebalancing strategy—counter the geographic, kinetic and political pillars of China’s A2/AD strategy. For example, the United States is forward-deploying more assets in the region, such as the Marine Air Ground Task Force Detachment already deployed to Australia as well as the stated goal of positioning 60 percent of all U.S. warships to the Asia–Pacific by 2020. This addresses the geographic pillar. Attempts to address the kinetic pillar include new operational concepts such as Air-Sea Battle, which “relies on highly integrated and tightly coordinated operations across war-fighting domains” in order “to disrupt and destroy enemy A2-AD networks and their defensive and offensive guided weapons systems in order to enable US freedom of action to conduct concurrent and follow-on operations.”73 Bolstering U.S. alliances with Japan, South Korea, Australia, the Philippines, and Thailand, as well as partnerships with Indonesia, Malaysia, India, Singapore, Vietnam, and New Zealand are critical components to U.S. efforts to ensure political access and support in the region. These efforts are commendable—the United States rightly works to preserve its military superiority and retain its ability to project power in the region. During the Cold War, when the greatest pacing threats were land conflicts, forward deploying U.S. forces in Europe and Asia were sufficient to demonstrate the credibility of the U.S. commitment to peace in those regions. But China is currently testing the waters not because its leaders are uncertain about the balance of power, but because they are probing the balance of resolve. This means that staying ahead in terms of military might is insufficient in contemporary East Asia. China’s strategists are betting that the side with the strongest military does not necessarily win the war—the foundation of the deterrent pillar of its A2/AD strategy. Indeed, China’s experience in fighting the Korean War proves that a country willing to sacrifice blood and treasure can overcome a technologically superior opponent. The belief that balance of resolve drives outcomes more so than the balance of power is the foundation of China’s new, more assertive strategy; but U.S. responses to date have failed to account for it. Canned demonstrations of U.S. power fail to address the fundamental uncertainty concerning U.S. willingness, not ability, to fight. The U.S. focus on de-escalation in all situations only exacerbates this issue. The Cold War experience solidified the Western narrative stemming from World War I that inadvertent escalation causes major war, and therefore crisis management is the key to maintaining peace.74 This has created a situation in which the main U.S. goal has been de-escalation in each crisis or incident with Beijing. But Chinese leaders do not share this mindset—they believe leaders deliberately control the escalation process and therefore wars happen because leaders decide at a given juncture that the best option is to fight.75 China is masterful at chipping away at U.S. credibility through advancing militarization and coercive diplomacy. It often uses limited military action to credibly signal its willingness to escalate if its demands are not met. Strategist Thomas Schelling theoretically captured this approach when he wrote it is “the sheer inability to predict the consequences of our actions and to keep things under control … that can intimidate the enemy.”76 Because China introduces risk for exactly this reason, the U.S. focus on deescalation through crisis management is unlikely to produce any change in Chinese behavior—if anything it will only encourage greater provocations. Beijing has identified the U.S. fear of inadvertent escalation, and is exploiting it to compel the United States to give in to its demands and preferences. In this way, the U.S. focus on de-escalation may actually be the source of instability by rewarding and encouraging further Chinese provocations. To signal to China that the United States will not opt out of a conflict, Washington must signal willingness to escalate to higher levels of conflict when China is directly and purposely testing U.S. resolve. This may include reducing channels of communication during a conflict, or involving additional regional actors, to credibly demonstrate that China will not be able to use asymmetry of resolve to its advantage. The current mindset—that crisis management is the answer in all scenarios— will be difficult to dislodge, given the tendency among U.S. military ranks to focus on worst-case “great battle” scenarios. While realistic in Cold War operational planning, decision makers should consider instead the less violent and prolonged engagements that characterize Chinese coercive diplomacy when evaluating risk and reward, such as the 1962 Sino–Indian War or the 1974 Battle of the Paracel Islands. The idea that any conflict with China would escalate to a major war, destroy the global economy, and perhaps even escalate to a nuclear exchange has no foundation in Chinese thinking, and causes the United States to concede in even the smallest encounters. While the Chinese leadership has proven to be more risk-acceptant than the United States (or perhaps more accurately, to assess the risks to be less than those perceived by U.S. strategists), Xi still wants to avoid an armed conflict at this stage. In his November 2014 keynote address at the Central Foreign Affairs Work Conference, he noted that China remains in a period of strategic opportunity in which efforts should be made to maintain the benign strategic environment so as to focus on internal development.77 Ultimately, the U.S. regional objective must be peace and stability at an acceptable cost. Given this, it is critical to understand the four components of China’s A2/AD strategy, the strategic foundation for China’s recent assertiveness, and how best to maintain the U.S. position as a Pacific power. In addition to regularly attending meetings in the region and developing new technology, new platforms, and new operational concepts designed to defeat China’s A2/AD strategy, the United States needs to break free of its Cold Warbased paradigm paralysis and rethink conceptions of limited war, escalation, and risk. Scolding China and imposing symbolic costs for each maritime incident is unlikely to inspire the corrective change U.S. thinkers are hoping for. The United States needs to fundamentally change its approach by accepting higher risk and allowing for the possibility of escalation—both vertically in force as well as horizontally to include other countries. This admittedly is a difficult balance, especially given the need to avoid emboldening U.S. allies to take actions that run contrary to U.S. interests. But only by mastering these two balancing acts—focusing on balancing resolve, rather than forces, and prioritizing stability over crisis management—will the United States be able to maintain peace and stability in East Asia without sacrificing U.S. or allied interests.

#### Existential AI theory is wrong, they won’t be civilization threatening

Tenner 14

Edward Tenner is author of Why Things Bite Back: Technology and the Revenge of Unintended Consequences and Our Own Devices: How Technology Remakes Humanity. He is a visiting researcher in the Rutgers Department of History and the Princeton Center for Arts and Cultural Policy Studies, The American, February 7, 2014, "Could Computers Get Too Smart?", http://www.american.com/archive/2014/february/could-computers-get-too-smart

Kurzweil, who has proposed his own model of the mind, believes that the apparent complexity of the brain may be the result of simple rules, just as a six-character equation is enough to generate the ultra-intricate graphic called the Mandelbrot Set. IBM is investing $1 billion in its supercomputer Watson, which defeated human Jeopardy! champions. This project does not try to replicate the human brain’s structure — Watson could make errors no skilled human contestant would, like considering Toronto a U.S. city — but it also raises hopes and fears about the autonomy of machines. According to its CEO, Virginia M. Rometty, Watson “learns from its own experiences and from our interactions with it — and as it does, it keeps getting smarter. Its judgments keep getting better.” This might make it less necessary to hand-feed advanced machines with millions of commonsense facts; some critics of artificial intelligence, such as the British sociologist of science Harry Collins, believe that there is just too much of this “tacit knowledge” – including the countless facts about human relationships we take for granted — to specify.

Even apart from the elusiveness of tacit knowledge, there are many reasons to doubt the imminence of a virtual human brain, let alone one that would become a self-multiplying, possibly civilization-threatening superintelligence. Artificial intelligence researchers themselves acknowledge that many tasks have taken far longer than their predecessors had predicted, leading in the past to disappointing results and funding slumps known as “AI winters.” Computer scientists specializing in computational complexity aren’t sure of whether brain modeling belongs in the category of problems so hard that centuries of hardware and software progress couldn’t solve them. Every so often, strikingly efficient computer procedures take experts by surprise, such as Google’s search algorithm in the 1990s. Artificial superintelligence may seem improbable, but history is full of great minds who said new inventions were impossible. As science fiction writer Arthur C. Clarke said, “Any sufficiently advanced technology is indistinguishable from magic.” In this case, will it be black magic?

The most serious reason for skepticism about such technological developments is not a philosophical, physical, or psychological objection but one from everyday experience. I would take warnings about the dangers of superintelligent machines more seriously if today’s computers were able to make themselves more resistant to human hackers and to detect and repair their own faults. Organizations with access to some of the most advanced supercomputers and gifted programmers have been hacked again and again by individuals and groups with modest resources, compromising everything from credit card numbers to espionage secrets. We must balance charts of exponential growth of computing power, like those displayed by Kurzweil in How to Create a Mind, against more sobering ones of continuing electronic fragility.

#### Study after study verifies that competition policy reduces prices, boosts growth and transformative innovation – these survey multiple countries, industries, firms and level of government policy

OECD 14 – The Organisation for Economic Co-operation and Development is an intergovernmental economic organisation with 38 member countries, founded in 1961 to stimulate economic progress and world trade.

OECD, October 2014, “Factsheet on how competition policy affects macro-economic outcomes,” https://www.oecd.org/daf/competition/2014-competition-factsheet-iv-en.pdf

This section briefly discusses each of the statements made in section 1 on the effect of competition and competition policy on macro-economic outcomes, and provides the main existing evidence that supports them. Most importantly, it is clear that industries where there is greater competition experience faster productivity growth. This has been confirmed in a wide variety of empirical studies, on an industryby-industry or even firmby-firm basis. Some studies seek to explain differences in productivity growth between industries using measures of the intensity of competition they face. The evidence to support this statement is mainly found in detailed studies of industries, or individual firms. As British economist Stephen Nickell says, in a paper (Nickell 1996) that has become the classic reference in this literature: “Most important, I present evidence that competition, as measured by increased numbers of competitors or by lower levels of rents, is associated with a significantly higher rate of total factor productivity growth.” Nickell’s paper takes various industry-level measures of competition, and finds that higher competition is statistically significantly associated with faster productivity growth. There are many other economic studies that provide evidence of this effect, in many cases building upon and deepening Nickell’s work. For example, Disney, Haskell and Heden (2003) use data on 140,000 separate businesses. The authors conclude “Market competition significantly raises both the level and growth of productivity”. Blundell, Griffith and Van Reenen (1999), by examining a set of data on manufacturing firms in the UK, also find a positive effect of product market competition on productivity growth. Januszewski (2002) similarly reports a positive link between productivity growth and competition for a survey of 500 German firms. Aghion et al (2004, 2009) exploit micro-level productivity growth firm level and patent panel data for the UK and the wave of reforms that in the 1980s introduced greater competition in the economy and find that entry from foreign firms has led to greater innovation and faster total factor productivity growth of domestic incumbents, and thus to faster aggregate productivity growth. Nickell suggests that product market competition works to increase productivity in part because it increases managers’ incentives to work hard in shareholders’ interests, a suggestion tested empirically for the UK and Germany by Koke and Renneboog (2005): “We find strong evidence that corporate governance and product market competition affect productivity growth, but the results differ substantially between Germany and the UK. The role of controlling blockholders and of bank creditors is particularly important in poorly performing firms.” A large-scale survey can be found in Ahn (2002), who concludes: “A large number of empirical studies confirm that the link between product market competition and productivity growth is positive and robust. […] Empirical findings from various kinds of policy changes […] also confirm that competition brings about productivity gains, consumers’ welfare gains and long-run economic growth.”

#### Interdependence prevents great power transition wars, independently of economic growth

**Drezner 16** – nonresident senior fellow at the Brookings Institution, professor of international politics at the Fletcher School of Law and Diplomacy at Tufts University

(Daniel W., May. “Five Known Unknowns about the Next Generation Global Political Economy.” <https://www.brookings.edu/wp-content/uploads/2016/07/IOS-Drezner-web-1.pdf>)

Globalization therefore creates powerful pressures on governments not to close off their economies through protectionism or military aggression. Interdependence can also tamp down conflicts that would **otherwise be likely to break out during a great power transition**. Of the 15 times a rising power has emerged to challenge a ruling power between 1500 and 2000, war broke out 11 times.109 Despite these odds, China’s recent rise to great power status has elevated tensions without leading to anything approaching war. It could be argued that the Sino-American economic relationship is so deep that it has tamped down the great power conflict that would otherwise have been in full bloom over the past two decades. Instead, both China and the United States have taken pains to talk about the need for a new kind of great power relationship. Interdependence can help to **reduce the likelihood of** an extreme event—such as a **great power war**—from taking place.

#### U.S. failure to grow risks great power war

**Brands 21** – Professor of Global Affairs, JHU SAIS

Hal Brands, Henry Kissinger distinguished professor of global affairs at Johns Hopkins University’s School of Advanced International Studies and a resident scholar at the American Enterprise Institute, and Michael Beckley is an associate professor of political science at Tufts University and a Jeane Kirkpatrick visiting scholar at the American Enterprise Institute, China Is a Declining Power—and That’s the Problem: The United States needs to prepare for a major war, not because its rival is rising but because of the opposite., 24 September 2021, *Foreign Policy*, <https://foreignpolicy.com/2021/09/24/china-great-power-united-states/>

Over the past **150 years**, peaking powers—**great powers** that had been **growing** dramatically faster than the world average and **then** suffered a severe, **prolonged** slowdown—usually don’t fade away quietly. Rather, they **become brash and aggressive**. They **suppress dissent at home** and **try to regain economic momentum** by **creating exclusive spheres of influence abroad**. They **pour money into their militaries** and **use force to expand their influence**. This behavior **commonly** provokes **great-power tensions**. In some cases, it touches disastrous **wars**.

**This shouldn’t be surprising**. Eras of rapid **growth** **supercharge a country’s ambitions**, raise its **people’s expectations**, and make its **rivals nervous**. During a **sustained economic** boom, businesses enjoy rising profits and **citizens get used to living large**. The country becomes a bigger player on the global stage. **Then** **stagnation** strikes.

**Slowing growth** makes it **hard**er **for leaders to keep the public happy**. Economic **underperformance** **weakens the country against its rivals**. Fearing upheaval, leaders crack down on dissent. They maneuver desperately to keep geopolitical enemies at bay. Expansion seems like a solution—a way of **grabbing economic resources** and markets, making **nationalism** a **crutch** for a wounded regime, and beating back foreign threats.

Many countries have followed this path. When the United States’ **long post-Civil War economic surge ended**, **Washington violently suppressed** strikes and unrest at home, built a **powerful** blue-water **Navy**, and engaged in a **fit of belligerence and imperial expansion** during the 1890s. After a fast-rising imperial Russia fell into a deep slump at the turn of the 20th century, the tsarist government cracked down hard while also enlarging its military, seeking colonial gains in East Asia and sending around 170,000 soldiers to occupy Manchuria. These moves **backfired spectacularly**: They antagonized Japan, which beat Russia in the **first great-power war** of the 20th century.

A **century later**, **Russia** became aggressive under similar circumstances. Facing a **severe, post-2008 economic slowdown**, Russian President Vladimir Putin **invaded** two neighboring countries, sought to create a new Eurasian economic bloc, staked Moscow’s claim to a resource-rich Arctic, and steered Russia deeper into dictatorship. Even democratic France engaged in anxious aggrandizement after the end of its postwar economic expansion in the 1970s. It tried to rebuild its old sphere of influence in Africa, deploying 14,000 troops to its former colonies and undertaking a dozen military interventions over the next two decades.

All of these cases were complicated, yet the **pattern is clear**. If a rapid rise gives countries the means to act boldly, the **fear** of **decline** serves up a **powerful motive** for **rasher, more urgent expansion**. The same thing often happens when fast-rising powers cause their own containment by a hostile coalition. In fact, some of history’s most gruesome wars have come when revisionist powers concluded their path to glory was about to be blocked.

#### Capitalism is key to massive improvements in living standards, poverty, and environmental sustainability – any other system shuts that down and worsens environmental and social problems

**Budolfson 21** – Assistant Professor in the Department of Environmental and Occupational Health and Justice at the Rutgers School for Public Health.

Mark Budolfson, “Arguments for Well-Regulated Capitalism, and Implications for Global Ethics, Food, Environment, Climate Change, and Beyond,” *Ethics and International Affairs*, vol. 35, no. 1, 2021, pp. 86-88, <https://www.cambridge.org/core/services/aop-cambridge-core/content/view/96F422D04E171EECDEF77312266AE9DD/S0892679421000083a.pdf/arguments-for-well-regulated-capitalism-and-implications-for-global-ethics-food-environment-climate-change-and-beyond.pdf>.

Premise 1. Development and the past. Over the course of recorded human history, **the majority of historical increases in** **health, wellbeing, and justice have occurred** in the last two centuries, largely **as a result of** societies adopting or moving toward **capitalism**. Capitalism is a relevant cause of these improvements, in the sense that they could not have happened to such a degree if it were not for capitalism and would not have happened to the same degree under any alternative noncapitalist approach to structuring society. The argument in support of this premise relies on observed relationships across societies and centuries between indicators of degree of capitalism, wealth, investments in public goods, and outcomes for health, wellbeing, and justice, together with econometric analysis in support of the conclusion that the best explanation of these correlations and the underlying mechanism is that large **increases in health, wellbeing, and justice are** largely **driven by increasing investments in public goods. The scale of increased wealth necessary to maximize these investments requires capitalism**. Thus, as capitalist societies have become dramatically wealthier over the past hundred years (and wealthier than societies with alternative systems), this has allowed **larger investments** in public goods, which **simply has not been possible in** a sustained way in **societies without the greater wealth that capitalism makes possible**. Important investments in public goods include investments in basic medical knowledge, in health and nutrition programs, and in the institutional capacity and know-how to regulate society and capitalism itself. As a result, capitalism is a primary driver of positive outcomes in health and wellbeing (such as **increased life expectancy, lowered child and maternal mortality**, adequate calories per day, minimized infectious disease rates, a **lower percentage and number of people in poverty**, and **more reported happiness**);5 and in justice (such as reduced deaths from war and homicide; **higher rankings in human rights** indices; the reduced prevalence of racist, sexist, homophobic opinions in surveys; and higher literacy rates).6 These quantifiable positive consequences of global capitalism dramatically outweigh the negative consequences (such as deaths from pollution in the course of development), with the result that the net benefits from capitalism in terms of health, wellbeing, and justice have been greater than they would have been under any known noncapitalist approach to structuring society.7

Premise 2. Economics, ethics, and policy. Although capitalism has often been ill-regulated and therefore failed to maximize net benefits for health, wellbeing, and justice, it can become well-regulated so that it maximizes these societal goals, by including mechanisms identified by economists and other policy experts that do the following:

• optimally8 regulate negative effects such as pollution and monopoly power, and invest in public goods such as education, basic healthcare, and fundamental research including biomedical knowledge (more generally, policies that correct the failures of free markets that economists have long recognized will arise from “externalities” in the absence of regulation);9

• ensure equity and distributive justice (for example, via wealth redistribution);10

• ensure basic rights, justice, and the rule of law independent of the market (for example, by an independent judiciary, bill of rights, property rights, and redistribution and other legislation to correct historical injustices due to colonialism, racism, and correct current and historical distortions that have prevented markets from being fair);11 and

• ensure that there is no alternative way of structuring society that is more efficient or better promotes the equity, justice, and fairness goals outlined above (by allowing free exchange given the regulations mentioned).12

To summarize the implication of the first two premises, well-regulated capitalism is essential to best achieving our ethical goals—which is true even though capitalism has certainly not always been well regulated historically. Society can still do much better and remove the large deficits in terms of health, wellbeing, and justice that exist under the current inferior and imperfect versions of capitalism.

Premise 3. Development and the future. **If the global spread of capitalism is allowed to continue, desperate poverty can be** essentially **eliminated** in our lifetimes. Furthermore, this can be accomplished **faster and in a more just way** via well-regulated global capitalism **than by any alternatives. If we instead opt for less capitalism, less growth, and less globalization, then desperate poverty will continue** to exist for a significant portion of the world’s population into the further future, and the world will be a worse and less equitable place than it would have been with more capitalism. For example, in a world with less capitalism, there would be more overpopulation, food insecurity, air pollution, ill health, injustice, and other problems. In part, this is because of the factors identified by premise 1, which connect a turn away from capitalism with a turn away from continuing improvements in health, wellbeing, and justice, especially for the developing world. In addition, **fertility declines are** also **a consequence of increased wealth**, and **the size of the population is a primary determinant of** food demand and other **environmental stressors**.13 Finally, as discussed at length in the next section of the essay, capitalism can be naturally combined with optimal environmental regulations.14 **Even bracketing** anything like **optimal regulation**, it remains true that **sufficiently wealthy nations reduce environmental degradation as they become wealthier**, whereas developing nations that are nearing peak degradation will remain stuck at the worst levels of degradation if we stall growth, rather than allowing them to transition to less and less degradation in the future via capitalism and economic growth.15 In contrast, well-regulated capitalism is a key part of the best way of coping with these problems, as well as a key part of dealing with climate change, global food production, and other specific challenges, as argued at length in the next section. Here it is important to stress that we should favor wellregulated capitalism that includes correct investments in public goods over other capitalist systems such as the neoliberalism of the recent past that promoted inadequately regulated capitalism with inadequate concern for externalities, equity, and background distortions and injustices.16

# 1AR

## Innovation Adv

No cards

## Conduct Adv

Kicked

## K

#### Unintended escalation is especially likely with Chinese autonomous weapons

Vincent 19– Senior Reporter at The Verge

James Vincent, 2-6-2019, "China is worried an AI arms race could lead to accidental war," The Verge, https://www.theverge.com/2019/2/6/18213476/china-us-ai-arms-race-artificial-intelligence-automated-warfare-military-conflict

Experts and politicians in China are worried that a rush to integrate artificial intelligence into weapons and military equipment could accidentally lead to war between nations.

According to a new report published by US national security think tank Center for a New American Security (CNAS), Chinese officials increasingly see an “arms race” dynamic in AI as a threat to global peace. As countries scramble to reap the benefits of artificial intelligence in various domains, including the military, the fear is that international norms shaping how countries communicate will become outdated, leading to confusion and potential conflict.

“The specific scenario described to me [by one anonymous Chinese official] is unintentional escalation related to the use of a drone,” Gregory C. Allen, an adjunct senior fellow at CNAS and author of the new report, tells The Verge.

As Allen explains, the operation of drones both large and small has become increasingly automated in recent years. In the US, drones are capable of basic autopilot, performing simple tasks like flying in a circle around a target. But China is being “more aggressive about introducing greater levels of autonomy closer to lethal use of force,” he says. One example is the Blowfish A2 drone, which China exports internationally and which, says Allen, is advertised as being capable of “full autonomy all the way up to targeted strikes.”

Because drones are controlled remotely, militaries tend to be more cavalier about their use. With no risk of human casualties, they’re more willing to shoot them down, but also deploy them into contested airspaces in the first place. This attitude can also be seen in cyberwarfare, where countries will intrude in ways they wouldn’t necessarily risk if humans were involved.

“The point made to me was that it’s not clear how either side will interpret certain behaviors [involving autonomous equipment],” says Allen. “The side sending out an autonomous drone will think it’s not a big deal because there’s no casualty risk, while the other side could shoot it down for the same reason. But there’s no agreed framework on what message is being sent by either sides’ behavior.”

The risks in such a scenario become greater when factoring in advanced autonomy. If a drone or robot fires a warning shot at enemy troops, for example, how will that action be interpreted? Will the troops understand it as an automated response, or will they think it’s the decision of a human commander? How would they know in either case?

In essence, says Allen, countries around the world have yet to define “the norms of armed conflict” for autonomous systems. And the longer that continues, the greater the risk for “unintentional escalation.”

“I think that’s a real and legitimate threat,” says Allen.

The rest of the CNAS report, titled “Understanding China’s AI Strategy: Clues to Chinese Strategic Thinking on Artificial Intelligence and National Security,” notes a number of other high-level concerns and attitudes in China’s government-led AI strategy.

Chinese officials recognize, for example, that it and America are the only two viable AI superpowers. Both countries have the talent, the funding, and the bustling tech sectors needed to push this technology further, though each nation also has its own particular strengths and weaknesses. China has access to more data, for example, and has the potential to leapfrog Western technology. (Many Chinese citizens went from having no phone to a mobile phone, without getting a landline in between, for example). America, meanwhile, has a significant lead in the development of chip technology — a vital component in processing the huge datasets that power AI applications.

CNAS’s report notes that China is particularly keen to close this important gap. Chinese firms like Baidu, Alibaba, and Huawei have established new projects to develop AI accelerator hardware; government money is pouring into these initiatives; and the industry is trying other methods to get a hold of foreign expertise. These include the recent proposed acquisition of US chip designer Qualcomm by Singapore firm Broadcom, which was blocked by President Trump on national security grounds.

While a certain amount of competition between China and the US is to be expected, Allen says cooperation is also needed — especially when it comes to these military questions.

He notes that while Chinese officials he spoke to had a good grasp of contemporary US thinking on issues like autonomous warfare, American officials tend to be less well-briefed about their Chinese counterparts, partly because many Chinese policy documents are never translated into English. Without properly understanding different nations’ strategies in these domains, says Allen, the chances of misunderstanding and conflict increase.

#### High tech warfare means defense doesn’t apply

Saalman, 18

Lorea Saalman, EastWest Institute Asia-Pacific Program Vice President, “"Fear of false negatives: AI and China's nuclear posture"; Bulletin of the Atomic Scientists. April 2018. https://thebulletin.org/2018/04/fear-of-false-negatives-ai-and-chinas-nuclear-posture

New pockets of excellence. In its relations with Russia and the United States, China has long contended with nuclear asymmetry. AI and autonomy, in contrast, offer Beijing the long-term potential to disrupt Washington’s traditional strengths. They open the door for swarm and other technologies that could overwhelm conventional and nuclear platforms that are larger, more cumbersome, and less agile. While China may be concerned about potential adversaries tracking its own nuclear platforms and systems, Beijing is just as likely to avail itself of these relatively inexpensive methods of disrupting US activities. Also, Chinese publications indicate that Beijing is building autonomy into its own “bolt-out-of-the-blue” systems, for example in hypersonic glide vehicles such as the DF-ZF. As China debates integration of automation via launch-on-warning, doing so with a greater range of AI and autonomy in its tool kit could lead to destabilizing trends. Again, the most sensational advances in these enabling technologies do not necessarily carry the greatest implications for China’s military and nuclear force structure. Instead, what counts is the level of AI and autonomy introduced into Beijing’s command and control structure.

When it comes to platforms, this author’s preliminary review of Chinese technical writings on AI and autonomy reveals that Beijing’s greatest emphasis, at least where the most flexible systems are concerned, is on unmanned aerial and underwater vehicles. In China’s view, these systems can be leveraged for a range of activities, including enhanced accuracy in: battlefield reconnaissance, surveillance, patrolling, electronic reconnaissance, communications, electronic interference, combat assessment, radar deception, projectile firearms, laser guidance, target indication, precision bombing, interception and launch of tactical missiles and cruise missiles, and anti-armor, anti-radiation, and anti–naval vessel capabilities; as well as nuclear, chemical, and biological detection and operations. When the topic turns to leveraging new means of warfare, Chinese writings discuss the use of swarm systems (link in Chinese) for a number of purposes, with battlefield applications focusing on anti-submarine warfare and countering integrated air defense.

AI and autonomy provide China an opportunity to exploit a new pocket of excellence, but they are hardly ends in themselves. This is one of myriad reasons that China has been reluctant to engage in arms control efforts to constrain the deployment of autonomous systems. Moreover, the amount of Chinese research already being conducted in this arena, particularly at the university level, is substantial. Research is unlikely to diminish any time soon. (Programs on AI and autonomy receive ample government support through such funds as the Laboratory of National Defense Technology for Underwater Vehicles, Project for National Key Laboratory of Underwater Information Processing and Control, National Key Basic Research and Development Program, China Aviation Science Foundation, National Science and Technology Major Project, National 973 Project, National Key Laboratory Fund, National “863” High-tech Research and Development Program, and Ministry of Communications Applied Basic Research Project, among a number of others.)

Expansive programs to turn AI and autonomy into a weaponized reality, even in challenging or illusory domains such as underwater swarms, indicate the emphasis this research receives within the hierarchy of Chinese defense planning. Whether or not China is able to achieve all of these capabilities, the vast resources and manpower allocated to these endeavors merit great attention by the United States. The direct implications of aerial and underwater swarms for larger, more lumbering US nuclear and conventional platforms remain to be seen. However, if the US Congress provides funding for the low-yield submarine-launched ballistic and cruise missiles proposed under the 2018 Nuclear Posture Review, China could deploy swarms to track and potentially intercept US dual-capable platforms. In short, whether intentionally or unintentionally, an escalatory scenario could develop.

The evolution of smaller platforms mobilized in joint formations could turn China’s nuclear asymmetrical disadvantage on its head. Much like decoys, which can be used as an inexpensive means of confusing and saturating missile defenses, low-cost swarms of unmanned aerial and underwater vehicles, along with cyber technologies, could provide a “guerilla combat–style” advantage against systems that the United States sees as providing an element of surprise, speed, and precision. Some of these platforms are already destined for deployment and will provide China with greater capability to monitor US activities in the Asia-Pacific region. However, if these platforms are turned toward actual engagement—in efforts to disrupt or confront lower-yield, smaller-scale US nuclear or dual-capable platforms—the potential for miscalculation may grow.

If China enhances its development of cruise missiles and hypersonic glide platforms by applying AI and autonomy, close-range encounters off the coast of Taiwan and in the East and South China Seas could grow even more complicated. China’s ground-launched DH-10 missile is believed to carry a conventional warhead, but indications have emerged that the air-launched CJ-10 may have both nuclear and conventional variants. Moreover, China has hedged on what kind of payload will be carried by hypersonic glide platforms such as the DF-ZF, which are designed to break through missile defenses. With the release of the 2018 Nuclear Posture Review and Vladimir Putin’s subsequent declaration that Russia has developed new nuclear weapons, the United States and Russia have engaged in a game of tit-for-tat. If China follows suit, a new set of destabilizing variables could be introduced into a region that is already tense and crowded, with freedom-of-navigation operations carried out among competing territorial claims.

From asymmetry, advantage. Within this environment, China’s integration of AI and autonomy aligns with its attempts to avoid being surprised by a false negative. Though the United States and Russia are both trending toward intentional escalation in their official doctrines, China’s response to this trend indicates a desire to avoid getting dragged into a nuclear arms race. Nonetheless, Beijing’s assumptions about US preemptory behavior have shaped its efforts to leverage its nuclear asymmetry into an advantage. One significant step in this direction comes through greater Chinese integration of AI and autonomy, meant to mitigate the risk of being caught off guard, whether by a conventional or nuclear system. While some aspects of this dynamic have stabilizing potential—as is true of enhanced situational awareness—strong indications suggest that China is engaged in other pursuits that could lead to miscalculation at the conventional and nuclear level.

#### US will beat China as long as we maintain tech-driven innovation

Carl Benedikt Frey, is Oxford Martin Citi Fellow and Future of Work Director at the Oxford Martin School at Oxford University and the author of The Technology Trap: Capital, Labor, and Power in the Age of Automation, and Michael Osborne is Professor of Machine Learning at the University of Oxford, a Fellow at the Oxford Martin School, and Co-Founder of Mind Foundry, 2020, China Won’t Win the Race for AI Dominance, Foreign Affairs

DYNAMISM VERSUS STABILITY

Artificial intelligence is not yet a mature technology, and continued progress will require radical innovation on multiple fronts. Breakthroughs will happen the way they usually do: through serendipity and recombination, as inventors and entrepreneurs interact and exchange ideas. China’s strong state and collectivist structure have significant advantages in swiftly building infrastructure or mounting a coherent response to a pandemic. But radical innovation is a different matter, and historically, the most innovative societies have always been those that allowed people to pursue controversial ideas. As the eminent economic historian Joel Mokyr has argued, that is why the Industrial Revolution happened in the West rather than in China in the first place.

China’s efforts to restrict the flow of ideas on the Internet and elsewhere are likely to hold back innovation. Since September 2019, China and Huawei have been proposing radical changes to the Internet infrastructure that underpins networks worldwide. If implemented, the changes would likely splinter the Internet and further reduce Chinese citizens’ exposure to new ideas from outside the country. The initiative underlines Beijing’s preference for maintaining the political status quo, even if that means slower innovation and less dynamism.

That said, the United States is not destined to win the race for supremacy in artificial intelligence. China could still change its trajectory, and new immigration restrictions imposed by the administration of U.S. President Donald Trump could stifle innovation in the United States. Research shows that immigration has been a key driver of American innovation over the past 130 years. The Trump administration’s alleged plans to restrict H-1B visas is particularly worrying in this regard. But while Trump might hold on to power for another term, Xi Jinping could rule indefinitely.

Under Xi, the Chinese Communist Party has stepped up efforts to penetrate private-sector businesses and consolidate political power. A surveillance state with a censored Internet, together with a social credit system that promotes conformity and obedience, seems unlikely to foster creativity: innovation is about breaking the rules, not abiding by them. Indeed, a recent study published in the Proceedings of the National Academy of Sciences found that positive attitudes toward conformism and obedience predict less disruptive innovation.

Japan failed to overtake the United States, even without heavy restrictions on the flow of ideas and an authoritarian regime that promotes obedience. Hence, the United States has critical advantages that should enable it to remain the world’s leader in artificial intelligence. If it cedes that position to China, the reason will likely be that Washington has tried to emulate the Chinese model by propping up national champions rather than embracing the competition and dynamism that have made the United States the world’s technological front-runner for more than a century.

#### U.S. ahead now, but win *isn’t inevitable* – regulatory environment of *next five* years is key

Allison 20 **–** Professor of Government, Harvard Kennedy School

Graham Allison, August 2020, "Is China Beating the U.S. to AI Supremacy?," Belfer Center for Science and International Affairs, <https://www.belfercenter.org/publication/china-beating-us-ai-supremacy>

Clues for a Winning Strategy

Is AI a race China is destined to win? With a population four times the size of the United States, there is no question that China will have the largest domestic market for AI applications. With many multiples of the United States in data, substantially larger numbers of computer scientists and a government for which there is a first-order priority, we can understand colleagues who are pessimistic. Indeed, it is our best judgment that on the current trajectory, while the United States will maintain a narrow lead over the next five years, China will then catch up and pass us quickly thereafter.

Nonetheless, we believe that this is an arena in which the United States can compete—and win. Congress recently established the “National Security Commission on Artificial Intelligence,” with Eric Schmidt as its chair, and Bob Work, who served as Deputy Secretary of Defense under both Obama and Trump, as Vice Chair. Its mission is to develop that strategy “to ensure America’s national security enterprise has the tools it needs to maintain U.S. global leadership.”55 In the hope of being helpful to that effort, we conclude with five pointers toward a winning strategy.

First, Americans must wake up to the challenge. Recognition that that the United States faces a serious competitor in a contest in which the outcome will be decisive for our future is necessary to get our competitive juices flowing. The Olympics offers an instructive analogy for thinking about a competitive strategy for AI. It also reminds us that competition is inherently a good thing. Competition produces superior performance. Participants in a marathon run faster than they do when running alone. Indeed, competition is a core American value. Free markets organize a competitive process that produces better products at cheaper prices. Science and its applications advance as research teams compete to better understand the world.56

Second, in this competition, the United States cannot hope to be the biggest—in that category, China wins by default due to the size of its population. However, what the United States can be is the smartest. In the seeking to improve and advance the most advanced of technologies, the brightest 0.0001 percent of individuals make the difference. The United States can succeed by recruiting talent from all 7.7 billion people on Earth and enabling these individuals to realize their full potential.57 In fact, U.S. companies have now recruited more than half of the top 100 recognized AI geniuses. In sharp contrast, China is a closed society—limited essentially to 1.4 billion Chinese speakers. Just 1000 foreign born individuals became Chinese citizens last year. So while the United States will not win competitions in which bulk numbers are the dominant factor, where brilliance, creativity and innovation matter most, the United States has a decisive advantage.58

Third, platforms matter. Here the United States begins with a huge sustainable competitive advantage: English is the universal language for science, business and the web. Chinese face the choice of either speaking English, or simply talking to themselves. Not only do the Chinese, but also the French and others often complain that this is unfair—and it may be. But it is a fact. To transform Singapore from a third-world city into one of the world’s most successful and prosperous global trading hubs, Lee Kuan Yew insisted on making English its first language. (Indeed, at one point in counseling Chinese leaders, he suggested that China make English its first language.) Today, more than half of the 7.5 billion people on Earth speak English—and another billion are seeking to learn.

Fourth, American companies have a significant first mover advantage in the establishment of the major platforms in AI, including operating systems (Android and Apple), design of advanced semiconductors (arm), and killer apps—including Instagram, YouTube and Facebook. Instagram has 1 billion monthly active users; Facebook more than 2.4 billion. While Chinese competitors will certainly attempt to displace the current leaders in both platforms and applications, if American companies are smart enough to continue enlarging their users’ opportunities, improving their experiences, and expanding the number of people using their platforms and applications, Chinese and others who want to speak to the world could have to continue relying on U.S.-dominated platforms.

#### Future instability is inevitable – that’s because capabilities constantly improve

Loss and Johnson 19 – Rafael Loss works at the Center for Global Security Research at Lawrence Livermore National Laboratory. He was a Fulbright fellow at the Fletcher School of Law and Diplomacy at Tufts University. Joseph Johnson is a Ph.D. candidate in computer science at Brigham Young University.

Rafael Loss and Joseph Johnson, September 19 2019, “WILL ARTIFICIAL INTELLIGENCE IMPERIL NUCLEAR DETERRENCE?” War on the Rocks, https://warontherocks.com/2019/09/will-artificial-intelligence-imperil-nuclear-deterrence/

On the other hand, situations might arise in which an imperfect but marginally AI-improved counter-force capability would be considered as good enough to order a strike against an adversary’s nuclear forces, especially when paired with [overconfidence in homeland missile defense](https://warontherocks.com/2017/10/deadly-overconfidence-trump-thinks-missile-defenses-work-against-north-korea-and-that-should-scare-you/). Particularly states with relatively small and vulnerable arsenals would find it hard to regard assurances that AI would not be used to target their nuclear weapons as credible. Their efforts to hedge against improving counter-force capabilities might include posture adjustments, such as pre-delegating launch authority or co-locating operational warheads with missile units, which could increase first-strike instability and heighten the risk of deliberate, inadvertent, and accidental nuclear use. Accordingly, future instabilities will be a product less of the independent effects of AI than of the perennial credibility problems associated with deterrence and reassurance in a world of ever-evolving capabilities.

#### Countries are pushing the limit on AI now – 0 uniqueness for the turn

Walch 20 – Kathleen Walch is Managing Partner & Principal Analyst at AI Focused Research and Advisory firm Cognilytica, a leading analyst firm focused on application and use of artificial intelligence (AI) in both the public and private sectors.

Kathleen Walch, February 9 2020, “Why The Race For AI Dominance Is More Global Than You Think,” Forbes, https://www.forbes.com/sites/cognitiveworld/2020/02/09/why-the-race-for-ai-dominance-is-more-global-than-you-think/?sh=22499c73121f

The Current Leaders in AI Funding and Dominance: US and China

AI startups are raising more money than ever. [AI-focused companies raised $12 Billion in 2017 alone](https://www.scmp.com/business/banking-finance/article/2129576/venture-capital-investment-ai-doubles-us12-billion-2017), more than doubling venture funding over the previous year. Most of this funding is concentrated in US and Chinese companies, but the source of those funds is much more international. Softbank, based in Japan, has amassed a $100 Billion investment fund, with many international investors including  Saudi Arabia’s sovereign investment fund and other global sources of capital. While US companies have put up significant investment rounds with the power of Silicon Valley’s VC funds, [China now has the most valuable AI startup](https://techcrunch.com/2018/04/08/sensetime-raises-600-million/), Sensetime, which raised over $1.2 Billion and a rumored additional $1 Billion raise on the way.

However, what makes AI as a technology sector different from previous major waves of investment, is that AI is seen as strategic technology by many governments. In 2017 China released a three step program outlining its goal to [become a world leader in A.I. by 2030.](https://www.cnbc.com/2017/07/21/china-ai-world-leader-by-2030.html)  The government aims to make the AI industry worth about $150 billion and is pushing for greater use of AI in a number of areas such as the military and smart cities.  Furthermore, the Chinese government has made big bets including a planned [$2.1 Billion AI-focused technology research park](https://www.cnbc.com/2018/01/03/china-is-building-a-giant-2-point-1-billion-ai-research-park.html). And in 2019 The [Beijing AI Principles](https://www.baai.ac.cn/blog/beijing-ai-principles) were released by a multistakeholder coalition including the Beijing Academy of Artificial Intelligence (BAAI), Peking University, Tsinghua University, Institute of Automation and Institute of Computing Technology in Chinese Academy of Sciences, and an AI industrial league involving firms like Baidu, Alibaba and Tencent.

In addition, the Chinese technology ecosystem has developed to become a powerhouse in its own right. China has many multi-billion dollar tech giants including Alibaba, Baidu, Tencent, and Huawei Technologies, who are each heavily investing in AI. Chinese companies also work more closely with the Chinese government, and laws in China are the most relaxed with regards to customer privacy and use of AI technologies such as facial recognition on their citizens. China’s government has already embraced the use of facial recognition technology and has quickly adopted this technology in everyday use.  In most other counties such as the US for example, privacy concerns prevent pervasive use of facial recognition technology, but such concerns or impediments to adoption don’t exist in China.

The story of technology company creation and funding in the United States is already well known. Silicon Valley is both a region as well as a euphemism for the entire tech industry, showing how dominant the US has been for the past several decades with technology creation and adoption. Venture capital as an industry was invented and perfected in the US, and the result of that has been the creation of such enduring tech giants like Amazon, Apple, Facebook, Microsoft, Google, IBM and thousands of other technology firms big and small. Collectively trillions of dollars has been invested in these firms by private and public sector investors to create the technology industry as we know it today. Certainly, none of that is going away anytime soon.

In addition, the US has an extremely well developed and highly skilled labor pool with academic powerhouses and research institutions that continue to push the boundaries of what is capable with AI. What is notable is that even in the US, the dominance of Silicon Valley as a specific, San Francisco-bay geographic region is starting to slip. The New York city region has produced many large AI-focused technology firms, and research in the Boston-area centered around MIT and Harvard, Pittsburgh with Carnegie Mellon, the Washington, DC metro area with its legions of government-focused contractors and development shops, Southern California’s emerging tech ecosystem, Seattle-based Amazon and Microsoft, and many more locations in the US are loosening the hold that Northern California has on the technology industry with respect to AI. And just outside the US, Canadian firms from Toronto, Montreal, and Vancouver are further eroding the dominance of Silicon Valley with respect to AI.

In 2018 the United States issued an [Executive Order from the President naming AI](https://www.vox.com/2019/2/13/18222433/trump-executive-order-ai-explained) the second highest R&D priority after the security of the American people for the fiscal year 2020. Additionally, the U.S. Department of Defense [announced](https://www.washingtonpost.com/technology/2018/09/07/defense-department-pledges-billions-toward-artificial-intelligence-research/?utm_term=.59e7de14cf96) it will invest up to $2 billion over the next five years towards the advancement of AI. As recently as 2020 the United States launched the American AI Initiative with the strategy aimed at focusing the federal government resources. The US federal government also launched [AI.gov](https://www.whitehouse.gov/ai/) to make it easier to access all of the governmental AI initiatives currently underway. Once potentially seen lackluster in comparison to that of China and other countries the US government has really started making AI a priority to keep up in recent years.

#### China will use AI to deny U.S. power projection and fracture the global order

Garamone 20 – Reporter - United States Department of Defense.

Jim Garamone, September 9 2020, “Esper Says Artificial Intelligence Will Change the Battlefield,” U.S. Department of Defense, https://www.defense.gov/Explore/News/Article/Article/2340972/esper-says-artificial-intelligence-will-change-the-battlefield/

Artificial intelligence has the potential to change the battlefield, and the country that's first to field it will have enormous advantages over competitors, he told participants today.

"History informs us that those who are first to harness once-in-a-generation technologies often have a decisive advantage on the battlefield for years to come," the secretary said. "I experienced this firsthand during Operation Desert Storm, when the United States' military's smart bombs, stealth aircraft and satellite-enabled GPS helped decimate Iraqi forces and their Soviet equipment."

Artificial intelligence has the potential to be even more far-reaching than those technologies. "Unlike advanced munitions or next-generation platforms, artificial intelligence is in a league of its own, with the potential to transform nearly every aspect of the battlefield, from the back office to the front lines," he said. "That is why we cannot afford to cede the high ground to revisionist powers intent on bending, breaking or reshaping international rules and norms in their favor — to the collective detriment of others."

Esper noted that Russian President Vladimir Putin said the nation that leads in AI will be the "ruler of the world," and Russia has increased investments in the technology. "His intent is to employ any possible advantage to expand Russia's influence and chip away at the sovereignty of others," Esper said.

The Russians used a sophisticated and well-coordinated combination of unmanned aerial vehicles, cyberattacks, and artillery barrages to inflict severe damage on Ukrainian forces when they invaded that country. "Since then, Moscow has announced the development of AI-enabled autonomous systems across ground vehicles, aircraft, nuclear submarines and command and control," he said. "We expect them to deploy these capabilities in future combat zones."

 These principles make clear to the American people — and the world — that the United States will once again lead the way in the responsible development and application of emerging technologies, reinforcing our role as the global security partner of choice."

Defense Secretary Dr. Mark T. Esper

The Chinese Communist Party has a goal of being the AI world leader in 10 years. The People's Liberation Army sees AI as a leap-frog technology that will allow the largest military on Earth to field low-cost, long-range autonomous vehicles and systems to counter America's conventional power projection. "At this moment, Chinese weapons manufacturers are selling autonomous drones they claim can conduct lethal, targeted strikes," the secretary said. "Meanwhile, the Chinese government is advancing the development of next-generation stealth UAVs [unmanned aerial vehicle], which they are preparing to export internationally."

"Beijing is constructing a 21st-century surveillance state designed to wield unprecedented control over its own people," Esper said. "With hundreds of millions of cameras strategically located across the country and billions of data points generated by the Chinese Internet of Things, the CCP will soon be able to identify almost anyone entering a public space, and censor dissent in real time."

The Chinese system can be used to invade private lives, leaving no text message, internet search, purchase or personal activity free from Beijing's ever tightening grip, the secretary said. "As we speak, the PRC is deploying — and honing — its AI surveillance apparatus to support the targeted repression of its Muslim Uighur population," he said. "Likewise, pro-democracy protesters in Hong Kong are being identified, seized, imprisoned or worse by the CCP's digital police state — unencumbered by privacy laws or ethical governing principles. As China scales this technology, we fully expect it to sell these capabilities abroad, enabling other autocratic governments to move toward a new era of digital authoritarianism."

The U.S. is pioneering a vision for the emerging technology that protects the U.S. Constitution and the rights of all Americans. U.S. officials would like to see allies and partners adopt the standards of individual liberty, democracy, human rights and respect for the rule of law.

"We approach AI as we have other high-tech breakthroughs throughout our department's history — with rigorous standards for testing and fielding capabilities and the highest ethical expectations," Esper said. "Technology may constantly change, but our commitment to our core values does not."

Earlier this year, DOD adopted ethical principles for the use of AI-based on core values, such as transparency, reliability and governability. "These principles make clear to the American people — and the world — that the United States will once again lead the way in the responsible development and application of emerging technologies, reinforcing our role as the global security partner of choice," he said.

Esper touted the work of the Joint Artificial Intelligence Center saying its more than 200 civil service and military professionals work diligently to accelerate AI solutions and deliver these capabilities to the warfighter.

The JAIC helps the joint force organize, fight and win at machine speed. For example, AI helps in enhancing wildfire and flood responses through computer vision technology. "The JAIC is utilizing every aspect of artificial intelligence as a transformative instrument at home and abroad," he said. "The JAIC is also lowering technical barriers to AI adoption by building a cloud-based platform to allow DOD components to test, validate and field capabilities with greater speed, at greater scale. The goal is to make AI tools and data accessible across the force, which will help synchronize projects and reduce redundancy, among many other benefits."

#### Chinese AI dominance increases incentives for China to be assertive in foreign policy

Chang 18 – Benjamin Angel Chang is the inaugural Andrew W. Marshall Fellow at Georgetown University's Center for Security and Emerging Technology (CSET).

Benjamin Angel Chang, December 2018, “Chapter 14. AI and US-China Relations,” in “AI, China, Russia, and the Global Order: Technological, Political, Global, and Creative Perspectives,” https://nsiteam.com/social/wp-content/uploads/2019/01/AI-China-Russia-Global-WP\_FINAL\_forcopying\_Edited-EDITED.pdf

Independent of effects on the US-China relationship, intensified PRC use of AI for domestic security may also encourage greater Chinese assertiveness. Again, I highlight two potential reasons. First, a pacified domestic sphere might free up attention for expanded external aims. China’s relative ability to weather the 2008 financial crisis significantly motivated its recently more assertive turn (Chen & Wang, 2011). Whereas many Chinese intellectuals had previously sought to emulate Western economic development, viewing the American stage of development as if a higher rung on a universally climbable ladder, the crisis incubated the view that, instead, the Chinese model might be a fine endpoint in and of itself. Similarly, if the CCP were to feel AI had successfully and permanently allowed it to address the full panoply of possible sources of broad public unrest, ranging from unbalanced growth to Xinjiang to income inequality, it would likely see this as one of the Party's Chang 109 crowning achievements in its leadership of the Chinese people. Chinese spending on domestic security has exceeded spending on external defense since 2010, with the gap increasing each year. In 2017, according to the best open-source estimate available, the former exceeded the latter by 18.6 percent (Zenz, 2018). Were the domestic sphere to be “solved,” some of this attention might then be turned outward. Second, concentrations of power generally tend to lead to more belligerence on the international stage. In particular, by substituting technology for manpower in carrying out the state's policing functions, an AI-empowered PRC may enable ever-smaller groups of elites to retain equivalent amounts of power. For de Mesquita et al. (1999, 2003), as the size of the coalition required for political survival (the "winning coalition") shrinks, corruption and war may become more likely, as leaders no longer fear being punished by other domestic actors for selfish arrangements or military defeats.37

#### Info and incentives – govts don’t have the knowledge or motive to pick the best tech in advance

**Karlson et al. 20** --- Ratio Institute, Linköping University, Stockholm, Sweden.

Nils, Christian Sandström, & Karl Wennberg, 2020, “Bureaucrats or Markets in Innovation Policy? – a critique of the entrepreneurial state,” The Review of Austrian Economics, vol. 34, pg. 81–95.

Information problems concern the difficulty a public actor face in collecting the information and acquiring the knowledge enabling correct decision-making regarding, for example, the allocation of resources. As Hayek (1945) showed, it is practically impossible to aggregate information and knowledge about production conditions, business opportunities, customer preferences, etc. to any central unit in society. Such information is dispersed, local, and time-bound in character, even in today’s modern digital economy. With regard to innovation policy and the results reviewed above, there are numerous implications of Hayek’s argument.

First, the existence of a market failure is empirically difficult to prove, or measure. The original argument by Arrow (1962) was of a theoretical nature and has not been validated. One could expect the potential size of such a market failure to vary greatly depending upon institutional characteristics, industrial context, regional and national setting. Such differences along with the fact that it is a very methodologically challenging task to locate and compute the size of a market failure means that policymakers are put in the awkward position of trying to solve a problem that is unknown both in terms of its existence, size and location. Needless to say, such a situation is almost bound to result in malinvestments.

The second implication concerns that a market economy is more compatible with the notion of dispersed knowledge than a public policy intervention. Industrial development in a market economy characterized by innovations is often described as a complex evolutionary process (Nelson and Winter 1982). Through experimental search characterized by failures and unpredictable breakthroughs, the economy develops over time (Aldrich 1999). Individual market actors make mistakes and invest in the wrong technical solution or the wrong business model for a new technology (Delmar et al. 2011). If the actors themselves who operate in a market are unable to know which technology or business model is optimal, there is reason to question how a public actor in the form of a government agency or a policymaker can perform this task satisfactorily. Government involvement in the form of “picking winners,” that is, attempts to generate growth through government selection of technologies or firms, risks becoming expensive for taxpayers (Lerner 2009). Previous research has shown that venture capital investments tend to be highly spatial and build on social networks (Hochberg et al. 2007). The price mechanism provides aggregate information about customers’ demand, and the firms’ profits and losses. Information and knowledge are thus conveyed and generated among market actors in competitive markets who are nested together through social, economic and technological interdependencies, and this information is hard to extract from its origin and locate in a central policy unit.

#### Empirics go aff – consensus of academic studies

Thierer 8/18 – Adam Thierer is a Senior Research Fellow at the Mercatus Center at George Mason University. He specializes in innovation, entrepreneurialism, Internet, and free-speech issues, with a particular focus on the public policy concerns surrounding emerging technologies.  
Adam Thierer, August 18 2021, “Government Planning and Spending Won’t Replicate Silicon Valley,” Discourse, https://www.discoursemagazine.com/economics/2021/08/18/government-planning-and-spending-wont-replicate-silicon-valley/

Good Intentions Only Get You So Far

While these are noble goals, similar reasoning motivated earlier efforts to spawn innovation hubs, research parks and the like. Setting good intentions aside, however, the government’s past track record has been disappointing. “Despite several attempts, Silicon Valley has not been successfully copied elsewhere,” notes Mark Zachary Taylor, author of “[The Politics of Innovation: Why Some Countries Are Better Than Others at Science and Technology](https://oxford.universitypressscholarship.com/view/10.1093/acprof:oso/9780190464127.001.0001/acprof-9780190464127).” Judge Glock, a senior policy adviser with the Cicero Institute, offers a more [blistering assessment](https://www.city-journal.org/manufacturing-needs-fewer-regulations) of such efforts: “Almost every American state has tried to fund the creation of biotech clusters, projects that almost inevitably end with weeds growing through the parking-lot pavement and a trail of corrupt bargains.”

Glock’s assessment is backed by economic studies of efforts to incubate various types of high-tech hubs or science parks that stretch back over several decades. Twenty years ago, for instance, economist Scott Wallsten [surveyed](https://www.researchgate.net/publication/313726958_The_Role_of_Government_in_Regional_Technology_Development_The_Effects_of_Public_Venture_Capital_and_Science_Parks) government programs through 1997 aimed at promoting regional science and technology parks. He also [reviewed](https://www.researchgate.net/publication/24049109) the effectiveness of [Small Business Innovation Research (SBIR) program](https://www.sbir.gov/) efforts to boost capital investment in this regard. Wallsten found that “neither SBIR funds nor research parks have significant impacts on regional technology indicators. Indeed, the results seem to suggest that SBIR funds chase success, rather than vice versa, while research parks chase failure (regions experiencing reduced economic growth) and do not generally reverse it.”

A decade later, Harvard Business School economist Josh Lerner evaluated dozens of similar targeted development efforts from around the globe in his 2009 book “[Boulevard of Broken Dreams: Why Public Efforts to Boost Entrepreneurship and Venture Capital Have Failed—and What to Do About It](https://press.princeton.edu/books/paperback/9780691154534/boulevard-of-broken-dreams).” He concluded that “for each effective government intervention, there have been dozens, even hundreds, of failures, where substantial public expenditures bore no fruit.”

A major culprit for these failures, Lerner argues, is “outright distortions by special interests” and a vocal “subsidy lobby,” including trade associations and other groups and lobbyists who “are benefiting far more from the subsidies than the entrepreneurs the programs are designed to help.” For example, he found that the Small Business Investment Companies (SBICs)—federally backed risk capital programs sponsored by the Small Business Administration that started in the late 1950s—have included “hundreds of funds whose managers were incompetent or crooked.” Another study he highlights showed that “nine out of ten SBICs violated federal regulations in some way.”

Another [major survey](https://www.journals.uchicago.edu/doi/10.1086/674023) of efforts to create tech clusters was conducted by Aaron Chatterji, Edward Glaeser and William Kerr in 2014. They collected all the research conducted on the topic and concluded that existing evidence “suggests that the regional foundation for growth-enabling innovation is complex and that we should be cautious of single policy solutions that claim to fit all needs.” Furthermore, “even if clusters of entrepreneurship are good for local growth, it is less clear that cities or states have the ability to generate those clusters.” The more targeted the efforts, the more likely failures become, they concluded.

National Efforts Have Not Fared Much Better

These studies focused primarily on state and local governments’ attempts to incentivize the formation of clusters or hubs. There have also been many federal efforts to promote the geographic spread of high-tech sectors and jobs since 2000. In 2008, the Brookings Institution reviewed federal initiatives aimed at stimulating regional innovation and entrepreneurialism [and found that](https://www.brookings.edu/research/clusters-and-competitiveness-a-new-federal-role-for-stimulating-regional-economies/) during fiscal year 2006, the government had spent almost $77 billion across 14 different federal agencies and departments on 250 separate programs. The authors noted that with so many different efforts in play, “a lack of coordination is understandable” and that the programs “have evolved in a wildly ad hoc, idiosyncratic, and uncoordinated fashion.”

But that did not stop such programs from proliferating. In 2012, the [Obama administration launched](https://www.eda.gov/archives/2016/challenges/jobsaccelerator/index.htm) the multiagency Rural Jobs and Innovation Accelerator Challenge and Advanced Manufacturing Jobs and Innovation Accelerator Challenge. This occurred at roughly the same time President Obama was launching his [Startup America initiative](https://obamawhitehouse.archives.gov/economy/business/startup-america). He also signed the JOBS Act (Jump-start Our Business Startups) in 2012. All these efforts included various measures to support the spread of advanced manufacturing and high-tech startups across the U.S. But none of these efforts have borne much fruit so far.