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# 1AC

**1AC---Platforms**

Advantage 1 is Platforms---

**Platform companies facilitate transactions between two sets of users—the *Amex* decision made it extremely difficult to challenge anticompetitive conduct in platform 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.

**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 fin**ancial **tech**nology 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, **fin**ancial **tech**nology **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.

**Fin**ancial **tech**nologies 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 U**nited **S**tates **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 U**nited **S**tates **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---that obviates the 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** **U**nited **S**tates - 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.

**Strong sanctions 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 preempts Iran prolif---draws in all 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.

**Loss of economic leverage alone is sufficient to trigger the impact.**

**Zilber 21** --- Journalist covering Middle East politics and an adjunct fellow at the Washington Institute for Near East Policy.

Neri, 9-14-2021, "Israel Can Live With a New Iran Nuclear Deal, Defense Minister Says," Foreign Policy, https://foreignpolicy.com/2021/09/14/israel-iran-nuclear-deal-defense-minister-gantz/

TEL AVIV, Israel—Israel would be willing to **accept a return** to a **U.S.-negotiated nuclear deal** with Iran, Defense Minister Benny Gantz told Foreign Policy—but Israeli officials are also pressing Washington to prepare a serious “demonstration of power” in case negotiations with Tehran fail.

The remarks, made during an exclusive interview last week, appear to reflect a shift in policy for Israel, which under the leadership of former Prime Minister Benjamin Netanyahu loudly opposed the 2015 nuclear agreement and worked to undermine it.

Former U.S. President Donald Trump pulled the United States out of the agreement in 2018, but the Biden administration has **renewed the diplomacy**—even as Iran moves closer to enriching enough uranium to make a nuclear weapon.

Gantz, asked about efforts by the Biden administration to get back to an agreement with Iran, said: “The **current U.S. approach** of putting the Iran nuclear program back in a box, **I’d accept that**.”

He added that **Israel would want to see** a “viable **U.S.-led plan B**” that **includes broad economic pressure on Iran in case the talks fail**. And he gestured at **Israel’s own “plan C**,” which would **involve military action**.

Gantz estimated that Iran was two to three months away from having the materials and capabilities to produce one nuclear bomb. Iran has steadily ramped up its nuclear work since the United States withdrew from the deal, despite a so-called maximum pressure campaign advanced by Trump and Netanyahu that included sanctions and sabotage efforts.

**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.

**The aff 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 memb+ers 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**.

**1AC---Plan**

Plan---

**The United States federal government should increase prohibitions on those anticompetitive business practices which cause net-harm on one side of platforms.**

**1AC---Conduct**

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.**

***Amex* undermines enforcement against nascent acquisitions**

**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.**

**Exclusionary practices suppress innovation---sole big tech innovation has reached its ceiling**

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

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

E. Whither Innovation?

As a theoretical matter, big tech’s refusals to deal and predatory copying **suppress innovation**. A retailer with a new idea for a household product will be **less inclined to invest** in producing it if he knows Amazon can **appropriate the returns**. A developer with a better “app for that” will be less likely to bring it to market if she believes Apple or Facebook might someday **remove it from their platforms.** And if a rival search company cannot hope to keep its data private from Google, it will not invest in building a better search engine to try to take on the giant.

Whether big tech stifles innovation as an empirical matter is less clear, but there is anecdotal evidence that it does. During a recent hearing following the House Judiciary Committee’s investigation into competition abuses among high-tech firms, Representative Cicilline read a quote that he said was typical of the entrepreneurs he interviewed: “If someone came to me with an idea for a website or a web service today, I’d tell them to run. Run as far away from the web as possible.”111 **Venture capital,** while booming overall,112 **is shy about funding projects that might compete with Big Tech**. The best-case scenario for a start-up is acquisition by one of the big four—a lucrative payday, for sure, but nothing compared to what could come from **actually toppling a dominant firm**. This puts a **ceiling on the upside**, and with the **ever-present risk of failure**, **it likely leads to under-investment in new ideas**. As one funder put it, **“[w]e don’t touch anything that comes too close to Facebook, Google or Amazon**.”113

CONCLUSION: “ANTITRUST IS GREEDY”

The promise that we saw in high tech during its first boom—that it would change the way we work, communicate, shop, and play—**has largely been realized**. Few can argue with the efficiencies that digital communication and commerce have brought to our lives and markets. But, as Professor Herbert Hovenkamp has said, **“antitrust is greedy.”**114 It wants not only efficiency in end products, but efficiency in the competitive process that brings them about. During the dot-com era, American antitrust institutions became enthralled with the idea that encouraging the development of dynamic, innovative products required **compromising our commitment to dynamic**, innovative markets. That compromise contributed—in a way that is often overlooked—to the current competition crisis in big tech.

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

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(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.**

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

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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 econom**y (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.**

#### Critical infrastructure attacks 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.

**1AC---Access**

Advantage 3 is Access---

**Innovation not all created equal – Only nascent firms foster transformative tech innovation across sectors, AND it can’t be predicted or directed**

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(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.

**Only a tech ecosystem that supplements Big Tech with many small disruptive innovators which are independent BUT able to access platforms’ data will allow us to beat China in AI. Centralization guarantees defeat, because China’s better at it and has way more people! Try or die for competitive innovation.**

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(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**.

**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 display** in 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 **a**rtificial **i**ntelligence (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**.

#### Scale and novelty of innovation crater after mergers---empirics.

Seru 14 --- University of Chicago Business Professor.

Amit, “Firm boundaries matter: Evidence from conglomerates and R&D activity,” Journal of Financial Economics, 2014, 381-405, Elsevier

This paper examines the impact of the conglomerate form on the scale and novelty of corporate Research and Development (R&D) activity. I exploit a quasi-experiment involving failed mergers to generate exogenous variation in acquisition outcomes of target firms. A difference-in-differences estimation reveals that, relative to failed targets, firms acquired in diversifying mergers produce both a smaller number of innovations and also less-novel innovations, where innovations are measured using patent-based metrics. The treatment effect is amplified if the acquiring conglomerate operates a more active internal capital market and is largely driven by inventors becoming less productive after the merger rather than inventor exits. Concurrently, acquirers move R&D activity outside the boundary of the firm via the use of strategic alliances and joint ventures. There is complementary evidence that conglomerates with more novel R&D tend to operate with decentralized R&D budgets. These findings suggest that conglomerate organizational form affects the allocation and productivity of resources.

1. Introduction

Do firm boundaries affect the allocation of resources? This question had spawned significant research in economics since it was raised in Coase (1937). A large body of work has focused on comparing the resource allocation in conglomerates relative to stand-alone firms to shed light on this issue. Theoretically, there are completing views on this aspect. On the one hand, Alchian (1969), Wiliamson (1985), and Stein (1997), among others, have put forth the view that conglomerates, by virtue of exerting centralized control over the capital allocation process, may do a better job in directing investments than the external capital markets. On the other hand, the “dark side” view of internal capital markets argues that problems of corporate socialism are more prevalent in conglomerates making them less efficient in resource allocation (Rajan, Servaes, and Zingales, 2000; Scharfstein and Stein, 2000).

Estimating the effects predicted by these theories has proven challenging. On the one hand, there is a broad brush approach that argues that efficiency of conglomerates can be compared to stand-alone firms by examining their relative market values. This approach has, however, been criticized as being indirect and tainted by endogeneity bias which is hard to account for.1 The other, more direct approach, has been to examine the productivity differences across organizational forms to make assessment about resource allocation (Maksimovic and Philips, 2002; Sc hoar, 2002). In this paper, 1 extend the latter by focusing on one activity and demonstrating that a causal link exists between R&D productivity differences and organizational form. By doing so, I hope to provide evidence that firm boundaries can matter for allocation of resources.

I choose to focus on innovative activity following the argument made in Wiliamson (1985) that “... in the presence of asset specificity, uncertainty, and opportunistic behavior—differences in internal organization may impact innovative behavior ..." The intuition behind this idea is simple. Novel research projects are especially characterized by significant informational asymmetries between researchers and outside evaluators. This may provide researchers in divisions leeway to manipulate the information they transmit to corporate bosses, especially if they are faced with the possible threat of reallocation of resources by corporate headquarters. Recognizing this problem, high-level managers may be reluctant to embark on novel projects in the first place. Thus, it is precisely those organizations that attempt to exploit the efficiencies of a centralized resource allocation process that may end up fostering mediocrity in their divisional R&D activities.2

I use information in the Compustat files and from the 423,640 patents granted by the United States Patent and Trademark Office (USPTO) during the sample period to shed light on this question. I measure the scale of a company’s R&D output by the number of patents its research generates. In addition, I measure the novelty of its research program by the average number of citations its patents receive in subsequent patent applications. I start by providing some suggestive evidence by evaluating these measures for Compustat firms over 1980-1998. In particular, an average patenting single-segment firm produces patents that generate more citations than those obtained by the multi-segment firms. In addition, conglomerates with more active internal capital markets and higher implied competition for R&D resources do, on average, conduct less-novel research.

These results, however, only show an association between internal capital markets and research output. There may be a concern that these effects are driven by endogenous selection rather than the impact of organizational form on R&D activity. For instance, many conglomerates may have grown by acquiring firms that have the potential to come up with novel ideas in the future. Alternatively, they may acquire firms with one big idea which has already been developed. Both these arguments would lead to different biases in estimates that compare the average R&D productivity of conglomerate firms relative to stand-alone firms. The main identification strategy of the paper accounts for these selection concerns by exploiting a quasi-experiment.

The experiment constructs two groups of firms: a “treatment group” comprised of firms taken over in a friendly merger and a “control group” that is assembled from a sample of targets whose mergers failed to go through. The important consideration for empirical design is that the reasons for failure of the friendly merger of the control group be unrelated to R&D policy of the target. I read news articles for each of the failed mergers in my sample and select only those to be a part of the control group where one can argue this to be the case (e.g., deals around 1987 crash). The two groups then comprise a sample where 1 claim that the assignment of a firm into an acquirer is random. Under this assumption, I can difference out any selection concerns by comparing the R&D productivity of the firms in the treatment group pre-and post-merger with those of the control group.

This research design allows for two tests. The identification of the main estimate comes from the unsuccessful targets that were going to conglomerate acting as a counterfactual for how the successful targets would have performed R&D after the merger, had they not been acquired by conglomerates. In addition, the research design allows me to conduct a placebo test that involves targets in non-conglomerating mergers.

I employ a difference-in-differences specification which exploits within-firm variation and find that, relative to the control group, firms in the treatment group suffer a significant decline (about 60%) in novelty of their research output after the merger. This drop is driven by diversifying mergers with targets involved in non-conglomerating mergers not exhibiting any change in their R&D output What is more, I find that the drop in novelty is significantly more in treatment firms that were acquired by diversified firms which already had an active capital market in operation. These results suggest that the very internal workings of a conglomerate bring about a reduction in the novelty of research conducted there and confirm the ‘new-toy’ effect in diversified firms documented in Schoar (2002).

These findings also alleviate concerns that my results are driven by firms in the control group being more productive after the event, due to elevated market pressure after the unsuccessful merger. If it was the case, I would have also found similar effects for firms that were involved in unrelated mergers. As well, it would not immediately follow that market pressure would intensify for firms where I find the strongest results—i.e., in firms that are involved in mergers where acquirers operated a conglomerate with an active 1CM.

I further investigate the drivers of the treatment effect by examining the R&D productivity of inventors around the merger event There are two margins which could be responsible for a decline in the R&D productivity of the treatment group: on the extensive margin, individuals with ‘entrepreneurial spirit’ may leave the diversified firm; on the intensive margin, individuals may chose to stay in the firm but become less productive on the R&D dimension—both because the combined firm might be reluctant to fund their entrepreneurial ideas (Bhide, 2000; Gompers, Lemer and Scharfstein, 2005).3 I hand-collect information on all the inventors responsible for patents in the sample and exploit within-inventor variation in the data. The results suggest that the treatment effect is largely driven on the intensive margin. In particular, the impact of invention of an average inventor in the treatment group falls more than 50% post-merger. While there is an exodus of inventors after the merger event, the rate of exit is similar for both the control and treatment groups.

#### Independently, small firms are necessary to optimize military AI:

#### 1---Large firms spur DoD contracting – start-ups tailor innovations to defense needs.

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3. Are smaller vendors more likely to produce innovative products that meet the Pentagon’s needs?

Tech industry leaders have relatively **little incentive** to work with the Pentagon. Their companies already enjoy **broad customer bases** and financial independence from U.S. government contracts—including those **at the Pentagon**.89 DOD contracts involve **applying** AI technology in varied, complex, and **operationally demanding** environments with **low tolerance** for error. Similarly, industry has **little motivation** to take on unique DOD **data management** and privacy requirements, such as data compartmentalization, protection against deceptive or compromised data inputs, and strict **data accountability** provisions complicating **algorithm training**.90 Finally, some commercial AI advances will easily convert into Pentagon applications. Others will require significant, difficult adaption and productization.

Antitrust action could create **smaller AI firms** targeting DOD business as their “**niche**.” With the Pentagon as their **sole customer**, these firms could focus on its unique needs, tailoring broader AI innovations for the Pentagon through **productization** and **organizational adaptation**. They could follow the example of **Palantir**, which makes 50 percent of its revenue from **government contracts**,91 or Kratos (60 percent).92 In the last five years, a **number of companies** have emerged in this mold, including Anduril Labs (2017), Shield AI (2015), Descartes Labs (2014), and Uptake (2014). As smaller firms’ primary, high-value customer, the Pentagon can **dictate** their innovation objectives, ultimately yielding AI applications better suited to **defense needs**.

#### 2---Foreign linkages render large firms vulnerable to outside influence.

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Dakota Foster, Zachary Arnold, “Antitrust and Artificial Intelligence: How Breaking Up Big Tech Could Affect the Pentagon’s Access to AI,” CSET Issue Brief, Center for Security and Emerging Technology, May 2020, https://www.geopolitic.ro/wp-content/uploads/2020/05/CSET-Antitrust-and-Artificial-Intelligence.pdf

A post-breakup AI sector composed of smaller firms might have fewer foreign governments and technology linkages, reducing the risks of U.S. government contracting for both the Pentagon and companies themselves. International expansion and domestic government contracting sometimes stand at odds. Yet the leading U.S. tech firms all have an international presence and prioritize foreign expansion.143 [FOOTNOTE 143 STARTS] For example, Google opened an AI research lab in Beijing in 2017 and has repeatedly explored growth in Chinese markets. See Douglas MacMillan, Shan Li, and Liza Lin, “Google Woos Partners for Potential China Expansion,” The Wall Street Journal, August 12, 2018, https://www.wsj.com/articles/google-woos-partners-for-potential-chinaexpansion-1534071600; Bowdeya Tweh, “Treasury Secretary Finds No Security Concerns With Google Work in China,” The Wall Street Journal, July 24, 2019, <https://www.wsj.com/articles/treasury-secretary-finds-no-security-concerns-with-googlework-in-china-11563976459>. [FOOTNOTE 143 ENDS]

As companies become more intertwined with and subject to pressure from foreign customers and governments, the Pentagon and other national security customers may view those companies and their products as too risky for defense purposes. The Pentagon has previously ended contracts on the basis of contractors’ foreign entanglements. In 2017, it terminated its relationship with Kaspersky Lab, a Russian software and cyber firm, following concerns about Russian intelligence bugs in Kaspersky products.144 In 2019, it cut ties with Huawei, the Chinese telecommunications giant,145 going so far as to ban the sale of Huawei phones on U.S. military bases.146 Huawei joined a growing list of Chinese companies the DOD monitors in an effort to protect American supply chains.147

At the same time, as U.S. firms become more entangled globally, they may choose foreign markets over U.S. government contracts. Foreign markets, particularly in China, have high sales volumes and potential for large profits. The allure of these markets could outweigh a few, large contracts with the U.S. government. Larger companies will more likely encounter this choice given their international opportunities of significant scale. Companies choosing to expand abroad would more probably accumulate foreign creditors, regulatory requirements, supply chain relationships, and other exposures reducing their appeal for the U.S. government. Smaller firms are less likely to face this tradeoff, and less inclined to choose foreign markets; for these firms, the value of international expansion often does not exceed that offered by domestic growth.

Moreover, just as the U.S. government has warned private and public entities from partnering with foreign companies like Huawei and Kaspersky, foreign governments may cut off American firms’ access to their citizens if seen as too close to Washington.

### If time

**Empirical evidence shows competition policy DOES solve**

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Ruben Maximiano and Cristina Volpin, December 2 2020, “The Role of Competition Policy in Promoting Economic Recovery,” OECD, https://one.oecd.org/document/DAF/COMP(2020)6/en/pdf

A significant array of empirical evidence shows that competition delivers many benefits at both macro and micro-economic levels. At the macro-economic level **competition promotes the optimal use of scarce economic resources, drives economic growth, boosts firms’ productivity and production levels, multiplies business opportunities and can help reduce inequality and create more and better jobs** (OECD, 2014[34]). At the micro level, **competition leads to better prices, greater choice and higher quality of goods and services**. Competition also accelerates the adoption of new technologies and encourages innovation. This works as a virtuous circle, since a competitive and innovative firms will spur its competitors to compete and innovate. It is this mechanism that then leads to the macro economic benefits boost of growth, benefits that accumulate over time, increasing prosperity in the long run. When the variety of innovation is not protected, consumers are more exposed and more severely affected by demand or supply shocks. This is particularly relevant in a pandemic and post-pandemic world. Using the example of the US market for medical ventilators during the Covid-19 pandemic, Scott Morton (2020[35]) underlines the importance of competition as a key driver of quality, choice and innovation and, in particular, in preserving the variety of innovation. **Competition can help ensure more stable distribution of essential goods**. Even when disruption occurs, in competitive supply chains, these may be corrected by competitors’ entry. Moss and Alexander (2020[36]) have argued that competition can help ensure that food systems (including agricultural inputs, processing, manufacturing, and distribution) are more resilient. The authors state that, while shocks such as extreme weather conditions, diseases and conflict regularly affect food supply chains, those economies where competition is vigorous are less likely to suffer disruptions.

**Regulatory approaches are systemically compromised—capture and comfort means anticompetitive conduct becomes the norm**

**Lambert**, Wall Family Chair in Corporate Law and Governance Professor of Law, University of Missouri Law School, November, **‘11/1/21**

(Thomas, “Tech Platforms and Market Power: What’s the Optimal Policy Response?” Mercatus Working Paper)

The agency oversight approach, however, **is not simply “faster antitrust** with expert adjudicators.” While standards-based and flexible, the approach differs from antitrust along three significant dimensions: **focus**, political **susceptibility**, and duration of **control**. Taken together, antitrust **courts’** more **narrowly focused objectives**, **greater insulation** from **political influences**, and **limited jurisdiction** over their subjects render them far less susceptible to **adverse public choice concerns** than agencies like the UK’s DMU.

In crafting remedies for anticompetitive harm, antitrust courts have a tremendous reservoir of authority.174 But antitrust’s focus—and the objective of any court-ordered remedy—**is narrow:** the restoration of market output **to competitive levels** for the benefit of consumers.175 This **precludes** successful claims by, and remedies in favor of, parties **seeking some private benefit** apart from the enhancement of market output. A digital markets **regulator** is unlikely to be as laser-**focused** on output effects as an antitrust court and will therefore be a more attractive target to rentseeking firms. The DMU’s “open choices” objective, for example, **invites a laggard competitor** that might otherwise be driven out of business to seek some rule **hindering its more efficient rivals**, on the ground that preserving its own offering will create a broader range of options for consumers.

A second important difference between antitrust courts and agencies relates to the decision makers’ incentives. The **federal judges** determining liability and imposing remedies in antitrust cases have **little reason to please** the parties before them. Possessing life tenure and fearing no retribution save possible reversal, they are **insulated from outside pressure** and motivated to make decisions calculated to enhance market output and thereby benefit consumers. The bureaucrats staffing agencies, by contrast, **do not enjoy this level of political insulation**. Many will have been appointed by or **have ties to a political leader**, whom they will wish to please. They may also contemplate **future employment** at one of their regulatees or at a regulatee’s rival. **Even absent** contemplation of a job change, they may have a **stake** in one regulatory outcome over another, as the budget or prestige of their agency **may be affected** by the regulatory choices they make. **Their personal interests** are therefore less aligned with the public’s interest **in maximizing overall market output.**

A third difference between antitrust and agency oversight is that antitrust courts’ involvement with parties is **limited in duration**, while overseeing agencies **remain perpetually involved** with the firms they regulate. Ongoing oversight requires **continuous contact** with the regulatee, whose perspective the regulator needs in order to make sound decisions. Eventually, however, the regulator may begin seeing things from the perspective of the regulatee.176 This is **especially likely** if the individuals with interests adverse to the regulatee’s position are widely dispersed and difficult to organize.177 The benefits to a regulatee from a decision may be outweighed by the **aggregate costs it would impose**, but if the costs are so widely spread that no individual or group has an incentive to incur the cost of arguing against the decision, the only argument the regulator will hear is that of the **regulatee-beneficiary**.178 In light of the relationships that develop from perpetual supervision and the common “concentrated benefits-diffused costs” dynamic, agencies possessing continuing oversight over their regulatees are **frequently captured by those firms,** **to the detriment of the public at large**.179

It seems, then, that the ongoing agency oversight model for addressing market power from digital platforms **may not be the panacea** its proponents have suggested. Combining broad discretion that invites interest group **manipulation**, **exposure to political pressures** that may sway regulators from pursuing the public interest, and the sort of continuous regulatee contact **that often leads to capture**, the approach raises **serious public choice concerns**. The UK’s experience with its new DMU will be informative. But US policymakers would do well to wait on the results of the UK’s experiment, and the resolution of the numerous pending antitrust actions, before abandoning antitrust in favor of a digital platforms regulator.

# 2AC

## Adv 1

#### Aff reinvigorates EU-US digital democratic alliance—big tech antitrust key

Muscolo, Commissioner, Italian Competition Authority, Rome, and Massolo, Economic advisor of Commissioner Gabriella Muscolo, Italian Competition Authority, Rome, ‘21

(Gabriella and Alessandro, “Will the Biden Presidency Forge a Digital Transatlantic Alliance on Antitrust?” Concurrences, Issue 1, <https://www.concurrences.com/en/review/issues/no-1-2021/on-topic/the-new-us-antitrust-administration-en>)

5. Finally, the deterrence principle will catalyse the third pillar. Democracy will in fact be the main criterion for choosing US partners in order to consolidate the West against the expansion of the East.

6. Within this context, the digital economy represents an extremely important battlefield for the US to regain world leadership. The USA is well placed when it comes to digital competition—indeed, almost all the prominent Western online platforms are American.

7. However, over the last decade, Google, Amazon, Facebook, Apple and Microsoft (hereinafter “GAFAM”) have come under severe antitrust and regulatory scrutiny, starting in the European Union and ending in the United States. A “break-up” sentiment is spreading on both sides of the Atlantic and this will certainly represent one of the main issues on Biden’s agenda. Indeed, GAFAM’s huge market power is perceived as a threat to Western democracies and has been accused of hampering competition and innovation. Both the USA and the EU know that it is fundamental to shape global standards in order to face security and privacy concerns posed by the rise of Eastern tech giants. [247] Moreover, there is a growing feeling that the growth of big tech, combined with non-democratic governments, could lead to “techno-authoritarianism.” [248]

8. Therefore, will there be a transatlantic unity when clamping down on online giants in the name of protecting and strengthening Western “techno-democracies?” A digital transatlantic alliance shall not be taken for granted.

9. Indeed, over the last decade, the EU has markedly shaped its own way of building a European data market and of facilitating the emergence of European tech companies.

#### That’s key to various geopolitical threats—hybrid war, cyber estalation

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(Marietje, “How democracies can claim back power in the digital world,” September 29, <https://www.technologyreview.com/2020/09/29/1009088/democracies-power-digital-social-media-governance-tech-companies-opinion/>)

Today, technology regulation is often characterized as a three-way contest between the state-led systems in China and Russia, the market-driven one in the United States, and a values-based vision in Europe. The reality, however, is that there are only two dominant systems of technology governance: the privatized one described above, which applies in the entire democratic world, and an authoritarian one.

The laissez-faire approach of democratic governments, and their reluctance to rein in private companies at home, also plays out on the international stage. While democratic governments have largely allowed companies to govern, authoritarian governments have taken to shaping norms through international fora. This unfortunate shift coincides with a trend of democratic decline worldwide, as large democracies like India, Turkey, and Brazil have become more authoritarian. Without deliberate and immediate efforts by democratic governments to win back agency, corporate and authoritarian governance models will erode democracy everywhere.

Does that mean democratic governments should build their own social-media platforms, data centers, and mobile phones instead? No. But they do need to urgently reclaim their role in creating rules and restrictions that uphold democracy’s core principles in the technology sphere. Up to now, these governments have slowly begun to do that with laws at the national level or, in Europe’s case, at the regional level. But to bring globe-spanning technology firms to heel, we need something new: a global alliance that puts democracy first.

Teaming up

Global institutions born in the aftermath of World War II, like the United Nations, the World Trade Organization, and the North Atlantic Treaty Organization, created a rules-based international order. But they fail to take the digital world fully into account in their mandates and agendas, even if many are finally starting to focus on digital cooperation, e-commerce, and cybersecurity. And while digital trade (which requires its own regulations, such as rules for e-commerce and criteria for the exchange of data) is of growing importance, WTO members have not agreed on global rules covering services for smart manufacturing, digital supply chains, and other digitally enabled transactions.

What we need now, therefore, is a large democratic coalition that can offer a meaningful alternative to the two existing models of technology governance, the privatized and the authoritarian. It should be a global coalition, welcoming countries that meet democratic criteria.

The Community of Democracies, a coalition of states that was created in 2000 to advance democracy but never had much impact, could be revamped and upgraded to include an ambitious mandate for the governance of technology. Alternatively, a “D7” or “D20” could be established—a coalition akin to the G7 or G20 but composed of the largest democracies in the world.

Such a group would agree on regulations and standards for technology in line with core democratic principles. Then each member country would implement them in its own way, much as EU member states do today with EU directives.

What problems would such a coalition resolve? The coalition might, for instance, adopt a shared definition of freedom of expression for social-media companies to follow. Perhaps that definition would be similar to the broadly shared European approach, where expression is free but there are clear exceptions for hate speech and incitements to violence.

Or the coalition might limit the practice of microtargeting political ads on social media: it could, for example, forbid companies from allowing advertisers to tailor and target ads on the basis of someone’s religion, ethnicity, sexual orientation, or collected personal data. At the very least, the coalition could advocate for more transparency about microtargeting to create more informed debate about which data collection practices ought to be off limits.

The democratic coalition could also adopt standards and methods of oversight for the digital operations of elections and campaigns. This might mean agreeing on security requirements for voting machines, plus anonymity standards, stress tests, and verification methods such as requiring a paper backup for every vote. And the entire coalition could agree to impose sanctions on any country or non-state actor that interferes with an election or referendum in any of the member states.

Why Facebook’s political-ad ban is taking on the wrong problem

A moratorium on new political ads just before election day tackles one kind of challenge caused by social media. It’s just not the one that matters.

Another task the coalition might take on is developing trade rules for the digital economy. For example, members could agree never to demand that companies hand over the source code of software to state authorities, as China does. They could also agree to adopt common data protection rules for cross-border transactions. Such moves would allow a sort of digital free-trade zone to develop across like-minded nations.

China already has something similar to this in the form of eWTP, a trade platform that allows global tariff-free trade for transactions under a million dollars. But eWTP, which was started by e-commerce giant Alibaba, is run by private-sector companies based in China. The Chinese government is known to have access to data through private companies. Without a public, rules-based alternative, eWTP could become the de facto global platform for digital trade, with no democratic mandate or oversight.

Another matter this coalition could address would be the security of supply chains for devices like phones and laptops. Many countries have banned smartphones and telecom equipment from Huawei because of fears that the company’s technology may have built-in vulnerabilities or backdoors that the Chinese government could exploit. Proactively developing joint standards to protect the integrity of supply chains and products would create a level playing field between the coalition’s members and build trust in companies that agree to abide by them.

The next area that may be worthy of the coalition’s attention is cyberwar and hybrid conflict (where digital and physical aggression are combined). Over the past decade, a growing number of countries have identified hybrid conflict as a national security threat. Any nation with highly skilled cyber operations can wreak havoc on countries that fail to invest in defenses against them. Meanwhile, cyberattacks by non-state actors have shifted the balance of power between states.

Right now, though, there are no international criteria that define when a cyberattack counts as an act of war. This encourages bad actors to strike with many small blows. In addition to their immediate economic or (geo)political effect, such attacks erode trust that justice will be served.

#### Fintech essential to solve

Elizabeth Rosenberg, Elizabeth Rosenberg Former Senior Fellow and Director, Energy, Economics and Security Program, CNAS, and ​Neil Bhatiya Former Adjunct Fellow, Energy, Economics, and Security Program, CNAS, March 4, 2020, Busting North Korea’s Sanctions Evasion, https://www.cnas.org/publications/commentary/busting-north-koreas-sanctions-evasion

Taking some of these actions will be very challenging as a political and technical matter. It will involve an overhaul of exiting legal and regulatory frameworks and, in many cases, require more money. However, the stark reality of the threat from North Korea dramatically underscores the need to consider substantial reform to safeguard global security. North Korea appears likely to be a formidable threat to the United States and many allies for the foreseeable future.

This effort would be particularly worthwhile to the extent it would deter other states of proliferation concern, like Iran and Syria, who use similar methodologies that exploit similar weaknesses. These recommendations would also insulate the global financial and commercial sectors from states that do not already have WMD programs but may wish to pursue them in the future. And the benefits will continue: spurring creativity and innovation by companies to spot and stop illicit financial activity, and more, safe information sharing platforms, will help push back on a broad array of criminal and security threats.

If the U.S. government takes a few brave steps to combat North Korea’s financing of proliferation, whether alongside or in the absence of a diplomatic denuclearization process, it could lead us to a much safer and more secure world.

#### Current economic conditions in North Korea create a window for U.S. pressure – missile testing is a move to bring Washington to the table BUT effective leverage requires refining the sanctity of sanctions

Bosco 21 – Joseph Bosco served as China country director for the secretary of Defense from 2005 to 2006 and as Asia-Pacific director of humanitarian assistance and disaster relief from 2009 to 2010. He is a nonresident fellow at the Institute for Corean-American Studies and a member of the advisory board of the Global Taiwan Institute.

Joseph Bosco, 8-10-2021, "Biden should pressure Kim Jong Un —&nbsp;and help the North Korean people," TheHill, <https://thehill.com/opinion/international/567062-biden-should-pressure-kim-jong-un-and-help-the-north-korean-people?rl=1>

Still, the female Kim’s dismissive statements lacked the vitriol and bombast of her brother’s past rhetoric. **Economic desperation** — **brought on by international sanctions, the pandemic, a drought and floods** — may have persuaded Pyongyang that it can obtain sanctions relief **only if** denuclearization talks restart.

The Kims are confident that Moon and his team will offer some economic aid as an inducement, and that they can pressure the Biden administration to do the same. North Korea’s growing nuclear and missile arsenal already incentivizes Washington to talk, even if it means first making unilateral concessions wrapped in the moral comforter of humanitarian assistance.

Once talks start, Pyongyang predictably will demand further giveaways before making even the semblance of substantive progress toward denuclearization — and the North Korea nuclear problem will return to its sterile default dynamic. **Without a changed U.S. strategy,** the result will be tacit acceptance of North Korea as a nuclear weapons state to be “managed” rather than confronted.

After the White House completed its review of North Korea policy in April, spokesperson Jen Psaki reiterated that the administration’s goal is identical to that of every U.S. administration since Pyongyang began its nuclear program in the early 1990s: “Broadly speaking, we have a clear objective as it relates to North Korea, which is denuclearizing the … Korean Peninsula.”

She said Biden will try a creative approach to differentiate this president from Donald Trump and Barack Obama: “[O]ur policy will not focus on achieving a grand bargain, nor will it rely on strategic patience. … Our policy calls for a calibrated, practical approach.”

Yet, the **Biden administration would be well-advised to adopt** two of the three components of the early Trump “maximum-pressure campaign”: **a credible threat** of force, **increased economic sanctions**, and **a sustained challenge** to the Pyongyang regime’s moral legitimacy.

The Trump effort in 2017-2018 clearly caught the attention of not only Kim but also Chinese leader Xi Jinping, who summoned Kim for an urgent, first-time meeting just weeks before a planned Trump-Kim summit in Singapore. After the Beijing visit, Trump said Xi told him it “went very well” — and so it did from China’s perspective.

Whatever Xi’s instructions were to his young junior partner, **they produced a noticeable change of tone and a shift in North Korea’s negotiating tactics**. Pyongyang returned to its earlier harsh rhetoric, but cleverly directed it not at Trump personally, as Kim had done earlier, but at the working-level U.S. negotiating team. The goal was to separate them from the president who, they thought, was more likely to offer concessions in the hope of making a deal.

## Advantage 2

#### neutralize attacks before they even materialize.

Yamin et al. ’21 – PhD Candidate at NUST [Muhammad Mudassar; PhD Candidate, Department of Information Security and Communication Technology, Norwegian University of Science and Technology; Mohib Ullah; Postdoctoral Research Fellow at Norwegian University of Science and Technology, Ph.D. in Computer science from the Faculty of Information Technology and Electrical Engineering, Norwegian University of Science and Technology; Habib Ullah; PhD from the University of Trento, Italy; Basel Katt; Associate Professor at the Department of Information and Communication Technology at the Norwegian University of Science and Technology; 2021; "Weaponized AI for cyber attacks"; Journal of Information Security and Applications; https://www.sciencedirect.com/science/article/pii/S2214212620308620; accessed 8-15-2021]

Rege etal.[52] discussed how machine learning is being used for offensive and defensive purposes in the contex**t of cyberattacks. The new world is becoming** increasingly digital**, with much interconnection among various technologies; this has been made possible due to** network storage **and sharing capabilities. However, with all this progress comes the risk of** nefarious entities **that want to sabotage the system for their gains. This is why cybersecurity is** essential**; in their research, the researchers examine offensive cybersecurity tools, such as botnets, spearfishing, and evasive malware. Further, the researchers also examined the defensive utilization of machine learning tools such as malware detection, which can be used for network risk scoring. The attacker needs to be correct** one time**, while the defensive mechanism must be accurate** 100% of the time**. A breach in cybersecurity can be** devastating**, as personal, confidential, and financial information are at the** risk of compromise**.** With time, cyber intrusions are becoming more common and the complexity of these attacks is increasing day-by-day. Currently, cybersecurity has been enhanced using machine learning tools. Machine learning incorporates human behavior that duly creates data sets based on human behavior and then further recommends services based upon that behavior. Machine learning can prevent an attack before it can even take place using various threat detection protocols. For example, using data sets from the WannaCry[53] attack, machine learning can help mitigate attacks of the same nature in the future. Network risk scoring helps determine the most vulnerable parts of a network and what must be done to make these parts secure. In addition, machine learning can better predict them and lead toward a safer, more secure, and even more efficient network operation. Machine learning also helps to automate security-related tasks and increase human efficiency and response and analysis capabilities of the professionals concerned.

#### BUT AI isn’t capable yet – innovation is necessary before it’s effective in cyber environments.

Kott ’18 – US Army Chief Scientist [Alexander; PhD in Mechanical Engineering from the University of Pittsburgh, US Army Research Laboratory’s (ARL) Chief Scientist in Adelphi MD, was the Chief, Network Science Division, Computational and Information Sciences Directorate, received the Secretary of Defense Exceptional Public Service Award; 2018; "Intelligent Autonomous Agents are Key to Cyber Defense of the Future Army Networks"; The Cyber Defense Review; https://www.jstor.org/stable/pdf/26554997.pdf; accessed 8-14-2021]

AI will be challenged by the complex cyber battlefield

An intelligent cyber agent will have to operate on a highly complex and dynamic battlefield. Consider Fig. 2 that depicts an environment in which a highly-dispersed team of human Soldiers and intelligent agents (including but not limited to physical robots) is facing physical and cyber threats. The agents must be effective, in this unstructured, unstable, rapidly changing, chaotic, adversarial environments; they must learn in real-time, under extreme time constraints, using only a few observations that are potentially erroneous, of uncertain accuracy and meaning, or even intentionally misleading and deceptive.

Clearly, it is beyond the current state of AI to operate intelligently in such an environment– physical or cyber–and with such demands. While the use of AI for battlefield tasks has been explored on multiple occasions, e.g., (Rasch et al., 2002), and AI makes things individually and collectively more intelligent, it also makes the battlefield more difficult to understand and manage. Agents and Soldiers have to face a much more complex, and unpredictable world where intelligent agents have a mind of their own and perform actions that may appear inexplicable to the humans. Direct control of such intelligent agents by humans becomes impossible or limited to cases of whether to take specific destructive action.

An intelligent cyber agent will need to deal with a world where sheer number and diversity of cyber objects will be enormous. The number of connected computing devices, for example within a future Army brigade, is likely to be several orders of magnitude greater than in current practice. This, however, is just the beginning. Consider that computing devices belonging to such a brigade will inevitably interact–willingly or unwillingly–with devices owned and operated by other parties, such as those of the adversary or owned by the surrounding civilian population. If the brigade operates in a large city, where each apartment building can contain thousands of devices, the overall universe of connected items grows to enormous numbers. A million devices per square kilometer is not an unreasonable expectation.

The above scenario also points to a great diversity of devices within the environment of the intelligent cyber agent. Devices will come from different manufacturers, with different designs, capabilities, and purposes, configured or machine-learned differently, etc. No individual agent will be able to use pre-conceived (pre-programmed, pre-learned, etc.) assumptions about behaviors or performance of other agents or devices it meets on the battlefield. Instead, behaviors and characteristics will have to be learned and updated autonomously and dynamically during the operations. This includes humans, and therefore the behaviors and intents of humans, such as friendly warfighters, adversaries, and civilians and so on will have to be continually learned and inferred.

And yet, Machine Learning (ML), an area that has seen dramatic progress in the last decade, must experience major advances to become relevant to the real battlefield. Learning with a very small number of samples is a necessity in an environment where the adversary and friends change tactics continuously, and the environment itself is highly fluid, rich with details, dynamic and changing rapidly. Furthermore, very few if any of the available samples will be labeled, or at least not in a very helpful manner.

#### Scale and novelty of innovation crater after mergers---empirics.

Seru 14 --- University of Chicago Business Professor.

Amit, “Firm boundaries matter: Evidence from conglomerates and R&D activity,” Journal of Financial Economics, 2014, 381-405, Elsevier

This paper examines the impact of the conglomerate form on the scale and novelty of corporate Research and Development (R&D) activity. I exploit a quasi-experiment involving failed mergers to generate exogenous variation in acquisition outcomes of target firms. A difference-in-differences estimation reveals that, relative to failed targets, firms acquired in diversifying mergers produce both a smaller number of innovations and also less-novel innovations, where innovations are measured using patent-based metrics. The treatment effect is amplified if the acquiring conglomerate operates a more active internal capital market and is largely driven by inventors becoming less productive after the merger rather than inventor exits. Concurrently, acquirers move R&D activity outside the boundary of the firm via the use of strategic alliances and joint ventures. There is complementary evidence that conglomerates with more novel R&D tend to operate with decentralized R&D budgets. These findings suggest that conglomerate organizational form affects the allocation and productivity of resources.

1. Introduction

Do firm boundaries affect the allocation of resources? This question had spawned significant research in economics since it was raised in Coase (1937). A large body of work has focused on comparing the resource allocation in conglomerates relative to stand-alone firms to shed light on this issue. Theoretically, there are completing views on this aspect. On the one hand, Alchian (1969), Wiliamson (1985), and Stein (1997), among others, have put forth the view that conglomerates, by virtue of exerting centralized control over the capital allocation process, may do a better job in directing investments than the external capital markets. On the other hand, the “dark side” view of internal capital markets argues that problems of corporate socialism are more prevalent in conglomerates making them less efficient in resource allocation (Rajan, Servaes, and Zingales, 2000; Scharfstein and Stein, 2000).

Estimating the effects predicted by these theories has proven challenging. On the one hand, there is a broad brush approach that argues that efficiency of conglomerates can be compared to stand-alone firms by examining their relative market values. This approach has, however, been criticized as being indirect and tainted by endogeneity bias which is hard to account for.1 The other, more direct approach, has been to examine the productivity differences across organizational forms to make assessment about resource allocation (Maksimovic and Philips, 2002; Sc hoar, 2002). In this paper, 1 extend the latter by focusing on one activity and demonstrating that a causal link exists between R&D productivity differences and organizational form. By doing so, I hope to provide evidence that firm boundaries can matter for allocation of resources.

I choose to focus on innovative activity following the argument made in Wiliamson (1985) that “... in the presence of asset specificity, uncertainty, and opportunistic behavior—differences in internal organization may impact innovative behavior ..." The intuition behind this idea is simple. Novel research projects are especially characterized by significant informational asymmetries between researchers and outside evaluators. This may provide researchers in divisions leeway to manipulate the information they transmit to corporate bosses, especially if they are faced with the possible threat of reallocation of resources by corporate headquarters. Recognizing this problem, high-level managers may be reluctant to embark on novel projects in the first place. Thus, it is precisely those organizations that attempt to exploit the efficiencies of a centralized resource allocation process that may end up fostering mediocrity in their divisional R&D activities.2

I use information in the Compustat files and from the 423,640 patents granted by the United States Patent and Trademark Office (USPTO) during the sample period to shed light on this question. I measure the scale of a company’s R&D output by the number of patents its research generates. In addition, I measure the novelty of its research program by the average number of citations its patents receive in subsequent patent applications. I start by providing some suggestive evidence by evaluating these measures for Compustat firms over 1980-1998. In particular, an average patenting single-segment firm produces patents that generate more citations than those obtained by the multi-segment firms. In addition, conglomerates with more active internal capital markets and higher implied competition for R&D resources do, on average, conduct less-novel research.

These results, however, only show an association between internal capital markets and research output. There may be a concern that these effects are driven by endogenous selection rather than the impact of organizational form on R&D activity. For instance, many conglomerates may have grown by acquiring firms that have the potential to come up with novel ideas in the future. Alternatively, they may acquire firms with one big idea which has already been developed. Both these arguments would lead to different biases in estimates that compare the average R&D productivity of conglomerate firms relative to stand-alone firms. The main identification strategy of the paper accounts for these selection concerns by exploiting a quasi-experiment.

The experiment constructs two groups of firms: a “treatment group” comprised of firms taken over in a friendly merger and a “control group” that is assembled from a sample of targets whose mergers failed to go through. The important consideration for empirical design is that the reasons for failure of the friendly merger of the control group be unrelated to R&D policy of the target. I read news articles for each of the failed mergers in my sample and select only those to be a part of the control group where one can argue this to be the case (e.g., deals around 1987 crash). The two groups then comprise a sample where 1 claim that the assignment of a firm into an acquirer is random. Under this assumption, I can difference out any selection concerns by comparing the R&D productivity of the firms in the treatment group pre-and post-merger with those of the control group.

This research design allows for two tests. The identification of the main estimate comes from the unsuccessful targets that were going to conglomerate acting as a counterfactual for how the successful targets would have performed R&D after the merger, had they not been acquired by conglomerates. In addition, the research design allows me to conduct a placebo test that involves targets in non-conglomerating mergers.

I employ a difference-in-differences specification which exploits within-firm variation and find that, relative to the control group, firms in the treatment group suffer a significant decline (about 60%) in novelty of their research output after the merger. This drop is driven by diversifying mergers with targets involved in non-conglomerating mergers not exhibiting any change in their R&D output What is more, I find that the drop in novelty is significantly more in treatment firms that were acquired by diversified firms which already had an active capital market in operation. These results suggest that the very internal workings of a conglomerate bring about a reduction in the novelty of research conducted there and confirm the ‘new-toy’ effect in diversified firms documented in Schoar (2002).

These findings also alleviate concerns that my results are driven by firms in the control group being more productive after the event, due to elevated market pressure after the unsuccessful merger. If it was the case, I would have also found similar effects for firms that were involved in unrelated mergers. As well, it would not immediately follow that market pressure would intensify for firms where I find the strongest results—i.e., in firms that are involved in mergers where acquirers operated a conglomerate with an active 1CM.

I further investigate the drivers of the treatment effect by examining the R&D productivity of inventors around the merger event There are two margins which could be responsible for a decline in the R&D productivity of the treatment group: on the extensive margin, individuals with ‘entrepreneurial spirit’ may leave the diversified firm; on the intensive margin, individuals may chose to stay in the firm but become less productive on the R&D dimension—both because the combined firm might be reluctant to fund their entrepreneurial ideas (Bhide, 2000; Gompers, Lemer and Scharfstein, 2005).3 I hand-collect information on all the inventors responsible for patents in the sample and exploit within-inventor variation in the data. The results suggest that the treatment effect is largely driven on the intensive margin. In particular, the impact of invention of an average inventor in the treatment group falls more than 50% post-merger. While there is an exodus of inventors after the merger event, the rate of exit is similar for both the control and treatment groups.

## Advantage 3

#### Independently, small firms are necessary to optimize military AI:

#### 1---Large firms spur DoD contracting – start-ups tailor innovations to defense needs.

Foster and Arnold ’20 – Researchers at ***Georgetown’s*** Center for Security and Emerging Technology [Dakota; Visiting Researcher at Georgetown’s Center for Security and Emerging Technology, graduate student in the Department of War Studies at King’s College London, conducted research on terrorism and U.S. national security policy for the U.S. military, the House Foreign Affairs Committee, and the Washington Institute; Zachary; Research Fellow at Georgetown’s Center for Security and Emerging Technology, where he focuses on AI investment flows and workforce trends, J.D. from Yale Law School; 2020; "Antitrust and Artificial Intelligence: How Breaking Up Big Tech Could Affect the Pentagon’s Access to AI"; Center for Security and Emerging Technology at Georgetown University; https://www.geopolitic.ro/wp-content/uploads/2020/05/CSET-Antitrust-and-Artificial-Intelligence.pdf; accessed 8-10-2021]

3. Are smaller vendors more likely to produce innovative products that meet the Pentagon’s needs?

Tech industry leaders have relatively **little incentive** to work with the Pentagon. Their companies already enjoy **broad customer bases** and financial independence from U.S. government contracts—including those **at the Pentagon**.89 DOD contracts involve **applying** AI technology in varied, complex, and **operationally demanding** environments with **low tolerance** for error. Similarly, industry has **little motivation** to take on unique DOD **data management** and privacy requirements, such as data compartmentalization, protection against deceptive or compromised data inputs, and strict **data accountability** provisions complicating **algorithm training**.90 Finally, some commercial AI advances will easily convert into Pentagon applications. Others will require significant, difficult adaption and productization.

Antitrust action could create **smaller AI firms** targeting DOD business as their “**niche**.” With the Pentagon as their **sole customer**, these firms could focus on its unique needs, tailoring broader AI innovations for the Pentagon through **productization** and **organizational adaptation**. They could follow the example of **Palantir**, which makes 50 percent of its revenue from **government contracts**,91 or Kratos (60 percent).92 In the last five years, a **number of companies** have emerged in this mold, including Anduril Labs (2017), Shield AI (2015),

#### 2---Foreign linkages render large firms vulnerable to outside influence.

Foster & Arnold 20 – J.D. Candidate at Stanford Law School, Former Visiting Researcher at the Center for Security and Emerging Technology; Legislative Fellow at United States Senate Committee on Foreign Relations, Research Fellow at the Center for Security and Emerging Technology

Dakota Foster, Zachary Arnold, “Antitrust and Artificial Intelligence: How Breaking Up Big Tech Could Affect the Pentagon’s Access to AI,” CSET Issue Brief, Center for Security and Emerging Technology, May 2020, https://www.geopolitic.ro/wp-content/uploads/2020/05/CSET-Antitrust-and-Artificial-Intelligence.pdf

A post-breakup AI sector composed of smaller firms might have fewer foreign governments and technology linkages, reducing the risks of U.S. government contracting for both the Pentagon and companies themselves. International expansion and domestic government contracting sometimes stand at odds. Yet the leading U.S. tech firms all have an international presence and prioritize foreign expansion.143 [FOOTNOTE 143 STARTS] For example, Google opened an AI research lab in Beijing in 2017 and has repeatedly explored growth in Chinese markets. See Douglas MacMillan, Shan Li, and Liza Lin, “Google Woos Partners for Potential China Expansion,” The Wall Street Journal, August 12, 2018, https://www.wsj.com/articles/google-woos-partners-for-potential-chinaexpansion-1534071600; Bowdeya Tweh, “Treasury Secretary Finds No Security Concerns With Google Work in China,” The Wall Street Journal, July 24, 2019, <https://www.wsj.com/articles/treasury-secretary-finds-no-security-concerns-with-googlework-in-china-11563976459>. [FOOTNOTE 143 ENDS]

As companies become more intertwined with and subject to pressure from foreign customers and governments, the Pentagon and other national security customers may view those companies and their products as too risky for defense purposes. The Pentagon has previously ended contracts on the basis of contractors’ foreign entanglements. In 2017, it terminated its relationship with Kaspersky Lab, a Russian software and cyber firm, following concerns about Russian intelligence bugs in Kaspersky products.144 In 2019, it cut ties with Huawei, the Chinese telecommunications giant,145 going so far as to ban the sale of Huawei phones on U.S. military bases.146 Huawei joined a growing list of Chinese companies the DOD monitors in an effort to protect American supply chains.147

At the same time, as U.S. firms become more entangled globally, they may choose foreign markets over U.S. government contracts. Foreign markets, particularly in China, have high sales volumes and potential for large profits. The allure of these markets could outweigh a few, large contracts with the U.S. government. Larger companies will more likely encounter this choice given their international opportunities of significant scale. Companies choosing to expand abroad would more probably accumulate foreign creditors, regulatory requirements, supply chain relationships, and other exposures reducing their appeal for the U.S. government. Smaller firms are less likely to face this tradeoff, and less inclined to choose foreign markets; for these firms, the value of international expansion often does not exceed that offered by domestic growth.

Moreover, just as the U.S. government has warned private and public entities from partnering with foreign companies like Huawei and Kaspersky, foreign governments may cut off American firms’ access to their citizens if seen as too close to Washington.

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## CP

**Empirical evidence shows competition policy DOES solve**

**Maximiano and Volpin 20** – Ruben Maximiano is a Senior Competition Expert at the OECD and a lecturer at Lille Catholic University, where he teaches EU competition law. Cristina is a Competition Law & Policy Expert at the OECD

Ruben Maximiano and Cristina Volpin, December 2 2020, “The Role of Competition Policy in Promoting Economic Recovery,” OECD, https://one.oecd.org/document/DAF/COMP(2020)6/en/pdf

A significant array of empirical evidence shows that competition delivers many benefits at both macro and micro-economic levels. At the macro-economic level **competition promotes the optimal use of scarce economic resources, drives economic growth, boosts firms’ productivity and production levels, multiplies business opportunities and can help reduce inequality and create more and better jobs** (OECD, 2014[34]). At the micro level, **competition leads to better prices, greater choice and higher quality of goods and services**. Competition also accelerates the adoption of new technologies and encourages innovation. This works as a virtuous circle, since a competitive and innovative firms will spur its competitors to compete and innovate. It is this mechanism that then leads to the macro economic benefits boost of growth, benefits that accumulate over time, increasing prosperity in the long run. When the variety of innovation is not protected, consumers are more exposed and more severely affected by demand or supply shocks. This is particularly relevant in a pandemic and post-pandemic world. Using the example of the US market for medical ventilators during the Covid-19 pandemic, Scott Morton (2020[35]) underlines the importance of competition as a key driver of quality, choice and innovation and, in particular, in preserving the variety of innovation. **Competition can help ensure more stable distribution of essential goods**. Even when disruption occurs, in competitive supply chains, these may be corrected by competitors’ entry. Moss and Alexander (2020[36]) have argued that competition can help ensure that food systems (including agricultural inputs, processing, manufacturing, and distribution) are more resilient. The authors state that, while shocks such as extreme weather conditions, diseases and conflict regularly affect food supply chains, those economies where competition is vigorous are less likely to suffer disruptions.

**Regulatory approaches are systemically compromised—capture and comfort means anticompetitive conduct becomes the norm**

**Lambert**, Wall Family Chair in Corporate Law and Governance Professor of Law, University of Missouri Law School, November, **‘11/1/21**

(Thomas, “Tech Platforms and Market Power: What’s the Optimal Policy Response?” Mercatus Working Paper)

The agency oversight approach, however, **is not simply “faster antitrust** with expert adjudicators.” While standards-based and flexible, the approach differs from antitrust along three significant dimensions: **focus**, political **susceptibility**, and duration of **control**. Taken together, antitrust **courts’** more **narrowly focused objectives**, **greater insulation** from **political influences**, and **limited jurisdiction** over their subjects render them far less susceptible to **adverse public choice concerns** than agencies like the UK’s DMU.

In crafting remedies for anticompetitive harm, antitrust courts have a tremendous reservoir of authority.174 But antitrust’s focus—and the objective of any court-ordered remedy—**is narrow:** the restoration of market output **to competitive levels** for the benefit of consumers.175 This **precludes** successful claims by, and remedies in favor of, parties **seeking some private benefit** apart from the enhancement of market output. A digital markets **regulator** is unlikely to be as laser-**focused** on output effects as an antitrust court and will therefore be a more attractive target to rentseeking firms. The DMU’s “open choices” objective, for example, **invites a laggard competitor** that might otherwise be driven out of business to seek some rule **hindering its more efficient rivals**, on the ground that preserving its own offering will create a broader range of options for consumers.

A second important difference between antitrust courts and agencies relates to the decision makers’ incentives. The **federal judges** determining liability and imposing remedies in antitrust cases have **little reason to please** the parties before them. Possessing life tenure and fearing no retribution save possible reversal, they are **insulated from outside pressure** and motivated to make decisions calculated to enhance market output and thereby benefit consumers. The bureaucrats staffing agencies, by contrast, **do not enjoy this level of political insulation**. Many will have been appointed by or **have ties to a political leader**, whom they will wish to please. They may also contemplate **future employment** at one of their regulatees or at a regulatee’s rival. **Even absent** contemplation of a job change, they may have a **stake** in one regulatory outcome over another, as the budget or prestige of their agency **may be affected** by the regulatory choices they make. **Their personal interests** are therefore less aligned with the public’s interest **in maximizing overall market output.**

A third difference between antitrust and agency oversight is that antitrust courts’ involvement with parties is **limited in duration**, while overseeing agencies **remain perpetually involved** with the firms they regulate. Ongoing oversight requires **continuous contact** with the regulatee, whose perspective the regulator needs in order to make sound decisions. Eventually, however, the regulator may begin seeing things from the perspective of the regulatee.176 This is **especially likely** if the individuals with interests adverse to the regulatee’s position are widely dispersed and difficult to organize.177 The benefits to a regulatee from a decision may be outweighed by the **aggregate costs it would impose**, but if the costs are so widely spread that no individual or group has an incentive to incur the cost of arguing against the decision, the only argument the regulator will hear is that of the **regulatee-beneficiary**.178 In light of the relationships that develop from perpetual supervision and the common “concentrated benefits-diffused costs” dynamic, agencies possessing continuing oversight over their regulatees are **frequently captured by those firms,** **to the detriment of the public at large**.179

It seems, then, that the ongoing agency oversight model for addressing market power from digital platforms **may not be the panacea** its proponents have suggested. Combining broad discretion that invites interest group **manipulation**, **exposure to political pressures** that may sway regulators from pursuing the public interest, and the sort of continuous regulatee contact **that often leads to capture**, the approach raises **serious public choice concerns**. The UK’s experience with its new DMU will be informative. But US policymakers would do well to wait on the results of the UK’s experiment, and the resolution of the numerous pending antitrust actions, before abandoning antitrust in favor of a digital platforms regulator.

## Courts DA

#### Single decision don’t matter

Barry **Friedman**, Prof. of law @ NYU, **‘3** [101 Mich. L. Rev. 2596, “Judging Judicial Review: Marbury in the Modern Era: Mediated Constitutionalism,” ln]

To the extent the public is sufficiently informed, the implications of the diffuse-support hypothesis cut heavily in favor of normative theories resting on judicial independence, and against those who criticize the Court as having strayed from popular views (including as to constitutional meaning). That is to say, the **public apparently remains satisfied with** the practice of judicial review, even if this means letting judges go their own way, so long as there are bounds to judicial discretion. As the Durr, Martin, and Wolbrecht model suggests, the store of "capital" that the Court possesses is not infinite. 132 But then, it is also **not a matter** of direct expenditure. 133 The store of capital **is not spent** with **every unpopular** opinion. The public seems to understand the Court's independent job, and cuts it a certain amount of slack. This bodes well for those who envision a countermajoritarian role for the Court. It indicates that the public will tolerate the Court playing this role, within bounds. The Court can act contrary to popular preference - Bush v. Gore **suggests resoundingly so** - and still find a reservoir of public support. Those bounds likely are not unlimited, however, and as we will see, public opinion is subject to some manipulation by those who take an interest in doing so.

#### Court won’t stop making conservative rulings suddenly due to low legitimacy – care too much about conservative cases – last term proves

Wolf 18

(Richard Wolf is a columnist for USA Today, “Supreme Court's conservatives mark return to power with major rulings and minor punts”, USA Today, June 28, 2018, <https://www.usatoday.com/story/news/politics/2018/06/27/conservative-supreme-court-term-trump-travel-ban/715254002/>)

From President Donald Trump's immigration travel ban to workers' rights, voting rights and religious rights, the high court handed conservatives a nearly unbroken string of victories in a divisive term that came to a screeching halt Wednesday.

Time after time in the term's waning days, the court's conservative majority thumped its liberal minority in 5-4 decisions, noteworthy in some cases for their breadth and in others for their narrow, almost tortured reasoning. The mood was so divisive that on the 2017 term's penultimate day, two decisions on immigration and abortion prompted liberal justices to read three dissents from the bench.

That was in contrast to several recent terms in which the court delighted liberals with decisions on same-sex marriage, affirmative action, abortion and Obamacare. The best liberals could muster this term were a couple of punts in which the justices sent cases on partisan election maps and same-sex wedding services back to lower courts on procedural grounds.

To be sure, Justice Elena Kagan penned concurring opinions in those cases mapping out potential return trips to the high court. But this week, the justices turned down the most promising new challenges on both issues, delaying any final resolution.

“The court is moving in a somewhat conservative direction," said Neal Devins, who directs the Institute of Bill of Rights Law at William & Mary Law School. "At the same time, they’re making compromises and ruling narrowly."

Several factors have contributed to the rightward trend, none more important than Justice Neil Gorsuch's first full term as successor to the late Justice Antonin Scalia. It was Scalia's death in February 2016 that left the court with only eight members for more than a year, resulting in several deadlocked votes.

Gorsuch, at 50 the court's youngest member, was in the majority more often than anyone but Chief Justice John Roberts and retiring Justice Anthony Kennedy, the perennial swing vote. He wrote several 5-4 decisions, including a major one upholding corporations' use of individual arbitration rather than class-action lawsuits to resolve workplace disputes.

Had Scalia's seat been filled instead by federal appeals court Judge Merrick Garland – President Barack Obama's choice, who was denied consideration in 2016 by Senate Republicans – that case and the entire term probably would have looked very different.

“The conservatives have had such a bad run the last couple years that by comparison, this is such a demonstrable change," said Josh Blackman, a South Texas College of Law associate professor and creator of the FantasySCOTUS blog.

Five to four, over and over

Thirteen times this term, the court ruled 5-4 along the same ideological lines. That included several decisions beneficial to Republicans and harmful to Democrats: denying public employee unions the right to collect fees from non-members, approving a strict method of purging voters from registration rolls in Ohio (a swing state) and upholding most GOP-drawn election districts in Texas.

By contrast, the court's four most conservative justices have not been on the losing end of any 5-4 rulings – a frequent occurrence in prior years, when Kennedy would join the liberals.

Further pointing to the term's divisiveness: Less than one-third of the court's cases were decided unanimously, a low yield not seen in nearly a decade. Instead, the justices wrote lengthy opinions and dissents almost by rote, turning what had appeared to be routine cases into major disputes.

Kennedy, most often the deciding vote in close cases, represents another key factor. Before announcing his retirement at age 81, he returned to the conservative fold. Over the course of the term, he sided with each of his conservative colleagues more often than any of the liberals – a 180-degree reversal from three years ago.

"The 5-4 decisions broke for the conservatives because Justice Kennedy was on their side," said Michael McConnell, a former federal appeals court judge who directs the Constitutional Law Center at Stanford Law School. "These things depend heavily on the happenstance of what cases occur in particular terms. I do not think any of the cases this term, taken separately, were surprising votes for Kennedy."

Kennedy's metamorphosis was most apparent this month. Despite a long history of support for gay rights, he authored the court's 7-2 opinion on narrow grounds that absolved a Colorado baker of discrimination for refusing to create a wedding cake for a same-sex couple. Two cases on political manipulation of election districts that hinged on his vote were punted on procedural grounds without a word from him.

That followed several terms in which Kennedy delivered unlikely victories for the court's liberal wing, led by Justice Ruth Bader Ginsburg. Two years ago, his votes upheld the use of affirmative action in college admissions and struck down burdensome restrictions on abortion rights. The year before, he wrote the court's landmark decision in favor of same-sex marriage and helped to uphold federal subsidies under Obamacare.

Leah Litman, assistant professor of law at the University of California-Irvine School of Law, said many of those victories were "by and large holding down the fort" by blocking conservatives' efforts on issues such as abortion and health care. By contrast, conservatives' wins – such as a decision in 2010 that let corporations spend unlimited amounts on elections and a ruling in 2013 striking down a key section of the Voting Rights Act – represented changes in the law.

Unions, travel ban cap off term

Another step in that direction was taken Wednesday when the court overruled a 41-year-old precedent that allowed public employee unions to collect fees from non-members. The court's conservatives had been on the brink of such a ruling since 2012; two years ago, without Scalia, they could muster only a 4-4 tie.

"The majority's road runs long, and at every stop are black-robed rulers overriding citizens' choices," Kagan said from the bench — marking the liberal justices' fifth public dissent of the week. "The First Amendment was meant for better things."

Perhaps the biggest test for conservatives was the uphill battle to win approval of Trump's travel ban. Federal appeals courts dominated by liberal judges declared it unlawful and unconstitutional, but Tuesday, the five conservative justices gave it their blessing.

#### Justices will push conservative court regardless – Kennedy’s time on court proves

Liptak 18

(ADAM LIPTAK and ALICIA PARLAPIANO are writers for the NYT, “The Supreme Court’s Biggest Decisions in 2018,” NYT, June 27, 2018, https://www.nytimes.com/interactive/2018/06/18/us/politics/supreme-court-decisions.html)

The nation’s highest court, now at full strength with the appointment of Justice Neil M.

Gorsuch last year, faced a far-reaching list of cases that renewed its central role in American life.

Labor Unions Janus v. American Federation of State, County and Municipal Employees DECIDED JUNE 27, 2018 5-4 The court ruled that government workers who choose not to join unions may not be required to help pay for collective bargaining.

Travel Ban Trump v. Hawaii DECIDED JUNE 26, 2018 5-4 The court ruled that President Trump had the legal authority to restrict travel from several mostly Muslim countries.

Pregnancy Centers and Abortion National Institute of Family and Life Advocates v. Becerra DECIDED JUNE 26, 2018 5-4 The court blocked a California law that required “crisis pregnancy centers” to provide information about abortion.

Digital Privacy Carpenter v. United States DECIDED JUNE 22, 2018 5-4 The court ruled that the government generally needs a warrant to collect troves of location data about the customers of cellphone companies.

Internet Sales Taxes South Dakota v. Wayfair DECIDED JUNE 21, 2018 5-4 The court ruled that states can require internet retailers to collect sales taxes in states where they have no physical presence.

Partisan Gerrymandering Gill v. Whitford JUNE 18, 2018 The court sent back the challenge to Wisconsin’s legislative map to the lower courts. Partisan Gerrymandering Benisek v. Lamone JUNE 18, 2018 The court ruled in an unsigned opinion against Republican voters who had challenged the congressional map drawn by Democratic lawmakers in Maryland.

Voting Rights Husted v. A. Philip Randolph Institute DECIDED JUNE 11, 2018 5-4 The court upheld Ohio’s aggressive program to purge its voting rolls.

Gay Rights and Religion Masterpiece Cakeshop v. Colorado Civil Rights Commission DECIDED JUNE 4, 2018 7-2 The court ruled in favor of a Colorado baker who refused to create a wedding cake for a gay couple. The court said the baker had been mistreated by a state civil rights commission based on remarks of one of its members indicating hostility to religion.

Workplace Arbitration Epic Systems Corp. v. Lewis DECIDED MAY 21, 2018 5-4 The court ruled that employers can require workers to pursue claims for wage theft and other workplace issues in individual arbitrations.

Sports Betting Murphy v. National Collegiate Athletic Association DECIDED MAY 14, 2018 7-2 The court struck down a federal law that effectively banned commercial sports betting in most states, clearing the way for legal wagering.

Human Rights Violations Jesner v. Arab Bank DECIDED APRIL 24, 2018 5-4 The court ruled that foreign corporations may not be sued in American courts for complicity in human rights abuses abroad.

Immigration Jennings v. Rodriguez DECIDED FEB. 27, 2018 5-3 The court ruled that immigrants held in detention facilities have no rights under a federal law to periodic hearings to decide whether they may be released on bail.

## States

#### Rogue state DA—CP creates mass uncertainty that chills all business – that crushes innovation - our competitiveness impact on the case

Robert W Hahn Is Executive Director of the American Enterprise Institute, Brookings Joint Center, which focuses on antitrust and regulatory policy, and Anne Layne-Farrar is a Senior Consultant with NERA Economic Consulting, 2003, Federalism in Antitrust, 26 Harv. J. L. & Pub. Pol'y 877

When states file antitrust cases under state statutes rather than under the Clayton or Sherman Acts, the likelihood of inconsistent and conflicting antitrust precedent is even higher. As a result, state action affects not only current cases, but can also affect future firm behavior. With mergers, the possibility of a challenge from any of the fifty states, each with its own standard of evaluation, could prevent companies from even attempting a beneficial transaction. As Lande points out, "it is confounding enough for antitrust counselors to have to contend with two potential federal enforcement agencies.

Even if state laws were identical, the interpretation and application of those laws would differ "since enforcers with divergent philosophies necessarily will interpret ambiguous terms differently in various factual contexts." Philosophical differences in approaches to antitrust enforcement are likely to stem from many sources, such as political affiliation, educational training, and personal experience. The National Association of Attorneys General (NAAG) Merger Guidelines for the states explicitly allow for this, noting that the general policy can be supplemented or varied in light of differing precedents, and "in the exercise of [the AGs'] individual prosecutorial ... discretion." While differing views can be helpful in some areas of law, such as when different states provide a testing ground for new regulations appropriate for federal adoption, this kind of experimentation is likely to be wasteful in the antitrust arena.

#### Links to the net benefit –

1. Innovation—perceived as every state acting in unison to disrupt big business
2. Tradeoff—if they’re right about normal means, cp requires federal enforcement
3. Courts—CP looks like it’s undermining SCOTUS legitimacy

#### Even if the CP results in uniform LAW, patchwork ENFORCEMENT kills solvency

Robert W Hahn Is Executive Director of the American Enterprise Institute, Brookings Joint Center, which focuses on antitrust and regulatory policy, and Anne Layne-Farrar is a Senior Consultant with NERA Economic Consulting, 2004, The Case for Federal Preemption in Antitrust Enforcement, 18 Antitrust 79

State-to-State Conflicts

When states file antitrust cases under their own statutes, rather than under the Clayton or Sherman Acts, the likelihood the cases will be governed by Inconsistent or even conflicting antitrust precedents runs high. Even if state laws were uniform, with enforcers in each state coming from different backgrounds and holding divergent philosophies, legal Interpretations are bound to differ. While diverse views can be helpful in some areas of law-for example, varying state rules can provide a natural test for the efficacy of new regulations at the federal level-this kind of experimentation is likely to be wasteful in the antitrust arena.

## EU CP

#### Perm do both

#### Perm do the CP

#### No external NB – if it causes follow-on, it links bc it cracks down on the same conduct as the aff

#### Solvency empirically disproven – EU competition rules are stricter than the U.S.’s now – no reason the CP suddenly spurs a reaction in U.S. companies

#### International fiat is bad – introducing extra-resolutional actors is unpredictable, destroys aff ground, and opens the floodgates to private-actor fiat

### AT: Soft Power Net Beneft

#### No internal link – one antitrust policy won’t determine EU credibility, and can’t spill over to climate change/prolif

#### Multiple alt causes to EU influence – it’s nuked now – their ev is old

Politico 11/24

Eoin Drea, Europe has learned nothing from Brexit, 24 November 2021, <https://www.politico.eu/article/europe-brexit-lessons-single-market-economy/>

It remains remarkable that for such a seismic event, Brexit continues to be most noticeable by its absence in the formulation of future European Union strategy. From the Conference on the Future of Europe to European Commission President Ursula von der Leyen’s state of the union address, Brexit, Britain and the future of the Anglo-EU relationship struggle to elicit a single reference or positive soundbite. This in itself is a remarkable achievement given Britain’s unique role in the EU landscape. A European economic giant and a 47-year veteran of (mostly positive) EU policymaking is now deemed less relevant than Brussels’ unspecified vision for connected Global Gateway. It is almost as if — as in many a Parisian’s dreams — Britain never really existed at all. Alas, as the first anniversary of Brexit approaches, it’s clear that the EU has learned every wrong lesson from the divorce. Riled by the deliberately provocative actions of successive British governments since 2016, the EU has been unable to separate the U.K.’s bark from its bite — and the danger this poses is swiftly growing. Consider how the EU’s current approach to discussing Britain is based entirely on a strategy of “moving past Brexit.” This is an approach that has been strengthened by the pandemic, which has allowed the EU to subsume Brexit within a broader reimagining of a more relevant, more assertive, more global union. Europe, in its own mind, has bigger fish to fry. But while “moving past Brexit” may make the EU feel better about being jilted by one of its biggest members, it is a woefully short-sighted approach to understanding Brexit’s potential consequences for its own long-term development. Another weakness in the EU’s approach to “understanding” Brexit is that it has obsessively focused on Brexiteer misrepresentations of Europe. This “it’s not me, it’s you” approach has constructed a narrative that views Brexit as a wholly disfigured British issue. Feeding into lazy tropes of British detachment, this blueprint has trapped the EU in easy tales of British exceptionalism. No real attempt has been made to place the U.K.’s engagement in Europe in the specific context of the European integration process. Brexit was never just a wholly British affair. It was also shaped by the strategic choices made in Brussels over several decades. The final EU miscalculation when it comes to Britain may be its most damaging. Brussels is continuing to underestimate the U.K’s strategic importance and refusing to acknowledge — or even contemplate — the political risks of an even mildly successful Britain. The EU’s focus on the grinding technical details of “protecting” the single market — due to Britain’s annoying but highly effective diversionary focus on Northern Ireland — has resulted in Brussels misjudging the medium-term risks of Britain as a strategic competitor. But that risk is real. The coming years will bring a stabilization of Britain’s internal politics and a refocusing of the country’s economic priorities in areas where it has existing strengths. Finance, education, security and defense, Fintech and AI are just some of those areas that could lead to a stable, and relatively dynamic, economic framework for the country. And for all the talk of the economic costs of Brexit and COVID-19, Britain’s economic outlook in terms of public debt, economic growth and unemployment remain considerably better than most other major European economies, with the exception of Germany. Britain isn’t Italy, no matter how much the EU might wish it so. Britain’s return to growth will be complemented by London doubling down on its strategic partnerships with the United States and the other English-speaking economies of the “Anglosphere.” Although completely derided in the EU, Britain’s relationship with the U.S. remains the underpinning of its post-EU identity. This is a relationship whose strategic importance has been masked by Brussels’s perceptions of British weakness. For Westminster, it is irrelevant whether Britain is viewed as Washington’s most important partner — London’s preferred choice — or as a “vassal” of the U.S., in the words of Clément Beaune, France’s minister of state for European affairs. Even subjugation brings the benefits of proximity, relevance and inclusion in Washington’s wider geopolitical strategies. These are benefits lacking in other EU member countries’ relationships with the Anglosphere, as evidenced by the recent controversy over Australian submarines and the AUKUS defense pact. It’s clear that the EU needs to adopt a new strategy toward Britain. All the hard talk in Schuman coffee shops in Brussels of “punishing” or “going hard” on Britain if the Northern Ireland Protocol’s Article 16 is invoked is ridiculous. Europe missed its chance to impose its economic power on Westminster during the Brexit negotiations.

# 1AR

## Adv 2

### SP---China

#### Tech competition key to beating China---innovation is key, NOT size.

**Wheeler 21** --- Visiting Fellow - Governance Studies, Center for Technology Innovation.

Tom, 4-16-2021, "The Chinese government embraces tech industry competition," Brookings, https://www.brookings.edu/blog/techtank/2021/04/16/the-chinese-government-embraces-tech-industry-competition/

COMPETING WITH CHINA MEANS OUT-INNOVATING CHINA

The threat of Chinese dominance in the digital sphere is real. China remains a managed economy that is using digital technology to promote its ideology and expand its economic influence throughout the world. It has established a national goal to be the world leader in artificial intelligence by 2030.

But the myth propounded by Big Tech that monopolies are the way to protect a nation’s innovative future has been exposed by the very bogeyman with which the big companies have been trying to scare us.

China’s vibrant tech community and its huge population’s embrace of digital services are indeed a competitive threat to the United States. China’s competitive advantage is their ability to out-bulk the U.S. as 1.5 billion people generate data that can then be repurposed for other applications including artificial intelligence (AI) and new products and services.

With a population one-fifth the size of China, the U.S. will never be able to out-bulk China’s data collection. The American solution must be to out-innovate China. There are two keys to such innovation: competition and access to the necessary assets.

COMPETITION BEGINS AT HOME

The solution to competition with the Chinese begins with competition in the United States. It is competition that drives innovation.

The tech companies have been selling the idea that their size and dominant market position is a national competitive advantage enabling them to push the boundaries of innovation. But what kind of innovation? The companies’ fiduciary responsibility is to their shareholders, not the national interest. This means returns to the company come first. Innovation is for the purpose of advancing shareholder value. If there is a benefit to the national interest, it is a secondary effect.

The companies with the best potential for innovative expansion—the kind of growth needed to compete with China—are smaller, innovation-focused companies. These are the companies whose fiduciary responsibility is the entrepreneurial pushing of the boundaries of development rather than the continuation of market dominance.

The Chinese government, it would seem, has embraced the benefits of good old-fashioned American competition, and moved quickly on its implementation. In the United States, however, protecting domestic American competition—and consumers—remains a work in progress that legislators, regulators, and courts have yet to resolve.

Competition built the American economy. Competition drives innovation. “Competition, competition, competition” must be our national policy.

#### Technological innovation is necessary to sustain U.S. leadership and prevent great-power nuclear conflict

Economist 18 (1/25/18, The Leaders, “The Next War; The growing danger of great-power conflict; How shifts in technology and geopolitics are renewing the threat,” <https://www.economist.com/leaders/2018/01/25/the-growing-danger-of-great-power-conflict>)

IN THE past 25 years war has claimed too many lives. Yet even as civil and religious strife have raged in Syria, central Africa, Afghanistan and Iraq, a devastating clash between the world’s great powers has remained almost unimaginable.

No longer. Last week the Pentagon issued a new national defence strategy that put China and Russia above jihadism as the main threat to America. This week the chief of Britain’s general staff warned of a Russian attack. Even now America and North Korea are perilously close to a conflict that risks dragging in China or escalating into nuclear catastrophe.

As our special report this week on the future of war argues, powerful, long-term shifts in geopolitics and the proliferation of new technologies are eroding the extraordinary military dominance that America and its allies have enjoyed. Conflict on a scale and intensity not seen since the second world war is once again plausible. The world is not prepared.

The pity of war

The pressing danger is of war on the Korean peninsula, perhaps this year. Donald Trump has vowed to prevent Kim Jong Un, North Korea’s leader, from being able to strike America with nuclear-armed ballistic missiles, a capability that recent tests suggest he may have within months, if not already. Among many contingency plans, the Pentagon is considering a disabling pre-emptive strike against the North’s nuclear sites. Despite low confidence in the success of such a strike, it must be prepared to carry out the president’s order should he give it.

Even a limited attack could trigger all-out war. Analysts reckon that North Korean artillery can bombard Seoul, the South Korean capital, with 10,000 rounds a minute. Drones, midget submarines and tunnelling commandos could deploy biological, chemical and even nuclear weapons. Tens of thousands of people would perish; many more if nukes were used.

This newspaper has argued that the prospect of such horror means that, if diplomacy fails, North Korea should be contained and deterred instead. Although we stand by our argument, war is a real possibility (see article). Mr Trump and his advisers may conclude that a nuclear North would be so reckless, and so likely to cause nuclear proliferation, that it is better to risk war on the Korean peninsula today than a nuclear strike on an American city tomorrow.

Even if China stays out of a second Korean war, both it and Russia are entering into a renewal of great-power competition with the West. Their ambitions will be even harder to deal with than North Korea’s. Three decades of unprecedented economic growth have provided China with the wealth to transform its armed forces, and given its leaders the sense that their moment has come. Russia, paradoxically, needs to assert itself now because it is in long-term decline. Its leaders have spent heavily to restore Russia’s hard power, and they are willing to take risks to prove they deserve respect and a seat at the table.

Both countries have benefited from the international order that America did most to establish and guarantee. But they see its pillars—universal human rights, democracy and the rule of law—as an imposition that excuses foreign meddling and undermines their own legitimacy. They are now revisionist states that want to challenge the status quo and look at their regions as spheres of influence to be dominated. For China, that means East Asia; for Russia, eastern Europe and Central Asia.

Neither China nor Russia wants a direct military confrontation with America that they would surely lose. But they are using their growing hard power in other ways, in particular by exploiting a “grey zone” where aggression and coercion work just below the level that would risk military confrontation with the West. In Ukraine Russia has blended force, misinformation, infiltration, cyberwar and economic blackmail in ways that democratic societies cannot copy and find hard to rebuff. China is more cautious, but it has claimed, occupied and garrisoned reefs and shoals in disputed waters.

China and Russia have harnessed military technologies invented by America, such as long-range precision-strike and electromagnetic-spectrum warfare, to raise the cost of intervention against them dramatically. Both have used asymmetric-warfare strategies to create “anti-access/area denial” networks. China aims to push American naval forces far out into the Pacific where they can no longer safely project power into the East and South China Seas. Russia wants the world to know that, from the Arctic to the Black Sea, it can call on greater firepower than its foes—and that it will not hesitate to do so.

If America allows China and Russia to establish regional hegemonies, either consciously or because its politics are too dysfunctional to muster a response, it will have given them a green light to pursue their interests by brute force. When that was last tried, the result was the first world war.

Nuclear weapons, largely a source of stability since 1945, may add to the danger. Their command-and-control systems are becoming vulnerable to hacking by new cyber-weapons or “blinding” of the satellites they depend on. A country under such an attack could find itself under pressure to choose between losing control of its nuclear weapons or using them.

Vain citadels

What should America do? Almost 20 years of strategic drift has played into the hands of Russia and China. George W. Bush’s unsuccessful wars were a distraction and sapped support at home for America’s global role. Barack Obama pursued a foreign policy of retrenchment, and was openly sceptical about the value of hard power. Today, Mr Trump says he wants to make America great again, but is going about it in exactly the wrong way. He shuns multilateral organisations, treats alliances as unwanted baggage and openly admires the authoritarian leaders of America’s adversaries. It is as if Mr Trump wants America to give up defending the system it created and to join Russia and China as just another truculent revisionist power instead.

America needs to accept that it is a prime beneficiary of the international system and that it is the only power with the ability and the resources to protect it from sustained attack. The soft power of patient and consistent diplomacy is vital, but must be backed by the hard power that China and Russia respect. America retains plenty of that hard power, but it is fast losing the edge in military technology that inspired confidence in its allies and fear in its foes.

To match its diplomacy, America needs to invest in new systems based on robotics, artificial intelligence, big data and directed-energy weapons. Belatedly, Mr Obama realised that America required a concerted effort to regain its technological lead, yet there is no guarantee that it will be the first to innovate. Mr Trump and his successors need to redouble the effort.

The best guarantor of world peace is a strong America. Fortunately, it still enjoys advantages. It has rich and capable allies, still by far the world’s most powerful armed forces, unrivalled war-fighting experience, the best systems engineers and the world’s leading tech firms. Yet those advantages could all too easily be squandered. Without America’s commitment to the international order and the hard power to defend it against determined and able challengers, the dangers will grow. If they do, the future of war could be closer than you think.

#### And breaking up searches is good—Epistemic bubbles cause extinction

Di Minardi, The grim fate that could be ‘worse than extinction,’ BBC, October 15, 2020, https://www.bbc.com/future/article/20201014-totalitarian-world-in-chains-artificial-intelligence

What would totalitarian governments of the past have looked like if they were never defeated? The Nazis operated with 20th Century technology and it still took a world war to stop them. How much more powerful – and permanent – could the Nazis have been if they had beat the US to the atomic bomb? Controlling the most advanced technology of the time could have solidified Nazi power and changed the course of history.

When we think of existential risks, events like nuclear war or asteroid impacts often come to mind. Yet there’s one future threat that is less well known – and while it doesn’t involve the extinction of our species, it could be just as bad.

It’s called the “world in chains” scenario, where, like the preceding thought experiment, a global totalitarian government uses a novel technology to lock a majority of the world into perpetual suffering. If it sounds grim, you’d be right. But is it likely? Researchers and philosophers are beginning to ponder how it might come about – and, more importantly, what we can do to avoid it.

Existential risks (x-risks) are disastrous because they lock humanity into a single fate, like the permanent collapse of civilisation or the extinction of our species. These catastrophes can have natural causes, like an asteroid impact or a supervolcano, or be human-made from sources like nuclear war or climate change. Allowing one to happen would be “an abject end to the human story" and would let down the hundreds of generations that came before us, says Haydn Belfield, academic project manager at the Centre for the Study of Existential Risk at the University of Cambridge.

Toby Ord, a senior research fellow at the Future of Humanity Institute (FHI) at Oxford University, believes that the odds of an existential catastrophe happening this century from natural causes are less than one in 2,000, because humans have survived for 2,000 centuries without one. However, when he adds the probability of human-made disasters, Ord believes the chances increase to a startling one in six. He refers to this century as “the precipice” because the risk of losing our future has never been so high.

Researchers at the Center on Long-Term Risk, a non-profit research institute in London, have expanded upon x-risks with the even-more-chilling prospect of suffering risks. These “s-risks” are defined as “suffering on an astronomical scale, vastly exceeding all suffering that has existed on Earth so far.” In these scenarios, life continues for billions of people, but the quality is so low and the outlook so bleak that dying out would be preferable. In short: a future with negative value is worse than one with no value at all.

This is where the “world in chains” scenario comes in. If a malevolent group or government suddenly gained world-dominating power through technology, and there was nothing to stand in its way, it could lead to an extended period of abject suffering and subjugation. A 2017 report on existential risks from the Global Priorities Project, in conjunction with FHI and the Ministry for Foreign Affairs of Finland, warned that “a long future under a particularly brutal global totalitarian state could arguably be worse than complete extinction”.

Singleton hypothesis

Though global totalitarianism is still a niche topic of study, researchers in the field of existential risk are increasingly turning their attention to its most likely cause: artificial intelligence.

In his “singleton hypothesis”, Nick Bostrom, director at Oxford’s FHI, has explained how a global government could form with AI or other powerful technologies – and why it might be impossible to overthrow. He writes that a world with “a single decision-making agency at the highest level” could occur if that agency “obtains a decisive lead through a technological breakthrough in artificial intelligence or molecular nanotechnology”. Once in charge, it would control advances in technology that prevent internal challenges, like surveillance or autonomous weapons, and, with this monopoly, remain perpetually stable.

If the singleton is totalitarian, life would be bleak. Even in the countries with the strictest regimes, news leaks in and out from other countries and people can escape. A global totalitarian rule would eliminate even these small seeds of hope. To be worse than extinction, “that would mean we feel absolutely no freedom, no privacy, no hope of escaping, no agency to control our lives at all", says Tucker Davey, a writer at the Future of Life Institute in Massachusetts, which focuses on existential risk research.

“In totalitarian regimes of the past, [there was] so much paranoia and psychological suffering because you just have no idea if you're going to get killed for saying the wrong thing,” he continues. “And now imagine that there's not even a question, every single thing you say is being reported and being analysed.”

“We may not yet have the technologies to do this,” Ord said in a recent interview, “but it looks like the kinds of technologies we’re developing make that easier and easier. And it seems plausible that this may become possible at some time in the next 100 years.”

AI and authoritarianism

Though life under a global totalitarian government is still an unlikely and far-future scenario, AI is already enabling authoritarianism in some countries and strengthening infrastructure that could be seized by an opportunistic despot in others.

“We've seen sort of a reckoning with the shift from very utopian visions of what technology might bring to much more sobering realities that are, in some respects, already quite dystopian,” says Elsa Kania, an adjunct senior fellow at the Center for New American Security, a bipartisan non-profit that develops national security and defence policies.

In the past, surveillance required hundreds of thousands of people – one in every 100 citizens in East Germany was an informant – but now it can be done by technology. In the United States, the National Security Agency (NSA) collected hundreds of millions of American call and text records before they stopped domestic surveillance in 2019, and there are an estimated four to six million CCTV cameras across the United Kingdom. Eighteen of the 20 most surveilled cities in the world are in China, but London is the third. The difference between them lies less in the tech that the countries employ and more in how they use it.

What if the definition of what is illegal in the US and the UK expanded to include criticising the government or practising certain religions? The infrastructure is already in place to enforce it, and AI – which the NSA has already begun experimenting with – would enable agencies to search through our data faster than ever before.

In addition to enhancing surveillance, AI also underpins the growth of online misinformation, which is another tool of the authoritarian. AI-powered deep fakes, which can spread fabricated political messages, and algorithmic micro-targeting on social media are making propaganda more persuasive. This undermines our epistemic security – the ability to determine what is true and act on it – that democracies depend on.

“Over the last few years, we've seen the rise of filter bubbles and people getting shunted by various algorithms into believing various conspiracy theories, or even if they’re not conspiracy theories, into believing only parts of the truth,” says Belfield. “You can imagine things getting much worse, especially with deep fakes and things like that, until it's increasingly harder for us to, as a society, decide these are the facts of the matter, this is what we have to do about it, and then take collective action.”

#### Public-private collaboration is vital to beating China in the AI race

Chandra 21 – Bilva, data analyst at Zignal Labs

“Collaboration Or Chaos: Two Futures For Artificial Intelligence And Us National Security,” 2/15/21, https://mwi.usma.edu/collaboration-or-chaos-two-futures-for-artificial-intelligence-and-us-national-security/

The future of US national security will be monumentally shaped by how machines transform and accelerate the growth of humanity. Machine learning has already resulted in cutting-edge developments such as a natural language processing model called GPT-3 that can imitate human text, deep fakes enabled by general adversarial networks, and AlphaGo, the very first computer program to beat a professional Go player. Human-machine teaming is the vanguard of the future of military and defense innovation. However, effectively leveraging this mind-boggling phenomenon—and mitigating the dangers of an adversary’s nefarious use of it—is unimaginable without public-private partnerships.

Currently, much of the debate surrounding AI public-private partnerships is characterized by tech employees refusing to directly aid in what they view as the business of war. However, the actual sentiments by tech professionals toward collaboration with DoD are more nuanced. According to a survey conducted by Georgetown University’s Center for Security and Emerging Technology, only a small minority—7 percent—of respondents expressed extremely negative feelings about working on DoD AI projects. Still, the survey found that many AI professionals associate such projects with “killer drones.” Due to DoD’s technical readiness and modernization goals, however, the government’s involvement in the commercial development of emerging technologies cannot be avoided on a broader scale. For this reason, increased awareness in the private sector regarding the defense applications of AI is crucial.

The US government and private sector companies must partner on artificial intelligence; without such collaboration, the United States is at risk of both trailing behind its adversaries on AI development and failing to establish ethical AI frameworks.

Adversarial Applications of Military AI

Artificial intelligence is at the forefront of US great power competition with China, and the Chinese Communist Party (CCP) has displayed a deep commitment to developing AI. The CCP’s Military-Civil Fusion (MCF) strategy seeks to take advantage of the private sector to develop core technologies such as AI, quantum computing, semiconductors, big data, 5G, and others. Though only in its early stages, it aims to massively mobilize civilian economic sectors to serve the CCP’s defense ambitions by offering incentives to Chinese enterprises. Total investment for MCF over the span of several years is estimated at $68.5 billion. China is able to directly fund civilian innovation for military applications more directly than the United States, due to its unique system of authoritarian state capitalism.

The increasing expansion of AI in commercial products also raises the risk of nonstate actors employing AI maliciously. Apart from state adversaries, dangerous nonstate actors such as the Islamic State have dabbled in rudimentary AI technology, specifically drones, for use in their operations. Most standard commercial drones use computer-vision technology, which detects, classifies, and tracks objects. Unfortunately, the dual-use nature of drones and AI-enabled tech makes their regulation and proliferation difficult to control. The Islamic State’s drone of choice is the DJI Phantom, a model with obstacle sensing and avoidance capabilities, manufactured in China. Furthermore, the group has refurbished commercial drones to fit its purposes and used them for not just for reconnaissance and recording aerial videos, but also for geographic mapping and delivering explosives. By using commercially available drones, the Islamic State has been able to conduct reconnaissance and intelligence operations swiftly, while reducing threats to its fighters. As commercial drones become more advanced with enhanced machine-learning capabilities, nonstate groups will capitalize on their increased sophistication. According to a 2018 report, there is a credible threat of terrorists repurposing autonomous vehicles and advanced commercial AI drones for explosives delivery and targeted assaults. Nonstate actors’ interest in emerging technologies and AI is a dangerous trend with future implications for escalation.

No nation or private organization has a monopoly on AI technologies; therefore, we cannot directly curb the development of AI by nonstate actors or state adversaries. In fact, most AI scientists and researchers openly publish their algorithms, code libraries, and training data sets—the integral pieces that can be assembled by individuals and put to use, including for malign purposes. The United States and its allies could fall behind the AI curve if public-private collaboration is not prioritized, as its adversaries continue to accelerate technological acquisition and usage.

Collaboration for Ethical AI

Public-private collaboration is instrumental in the creation of ethical AI frameworks for US defense and national security and must expand to prevent the future detrimental use of AI. Several private-sector companies and academic consortiums have already developed their own guidelines. For example, the Institute of Electrical and Electronics Engineers has published a global treatise on AI, which emphasizes ethically designed AI systems that promote universal human values, and the Partnership on AI to Benefit People and Society unites civil society and research groups to create best practices, increase public awareness, and serve as a discussion forum for AI. Additionally, within DoD itself, DARPA is an excellent example of how private-sector expertise paired with government support produces ethical innovation. For example, DARPA’s Urban Reconnaissance through Supervised Autonomy program aims to prevent civilian casualty issues on the battlefield, falling well within ethical norms for AI use.

The value of public-private and cross-sector initiatives goes beyond just defense applications. In light of the recent domestic siege against the US Capitol by violent hostile actors, conversations surrounding online content moderation and Big Tech’s obligation to protect democracy have skyrocketed. Artificial intelligence is at the forefront of this challenge. Specifically, developing algorithmic accountability to mitigate AI’s blackbox dilemma is instrumental in reducing algorithmic bias, and conducting sustainable and repeatable content moderation policies. Effective content moderation is vital for the US government’s national security interests, and now increasingly more important for the brand reputations of technology companies such as Twitter, Facebook, and Apple—which means there are real incentives to work together.

Recommendations

There is a wide array of avenues for promising cooperation between public and private entities. US policymakers can work with technology companies to strengthen operational security, incentivize socially beneficial AI research, and enforce intellectual property regimes—all key steps toward the overarching objective of reducing the probability of the malign usage of AI by both non-state and state actors. Expanding public-private partnerships on AI will ensure that the United States does not trail China in AI strategy. While the United States may not have an equivalent of the CCP’s MCF strategy, through mutually beneficial contracts and private-sector incentives, it can bridge the gap in its ongoing AI race with China. Lastly, the US government can bolster ethical frameworks for AI by working in tandem with private entities and research institutions to utilize pre-existing private-sector guidelines for AI use, work on refining content moderation policies and machine-learning algorithms with Big Tech to help prevent offline threats, and use the private sector’s technical expertise for ethical AI designs for the battlefield.

Artificial intelligence is both a thrilling beacon of modernization for the government, and an area of promising growth for private firms. Neither can afford to silo themselves, as a lack of collaboration will hinder both US national security interests and opportunities for private-sector innovation. The labyrinthine threat environment of unyielding US adversarial interests and the need for ethical AI frameworks both require cooperation; without it, we are doomed to chaos.

#### Antitrust solves tech dominance

Sitaraman 20 – Ganesh, Chancellor Faculty Fellow and Professor of Law at Vanderbilt Law School

“The National Security Case for Breaking Up Big Tech,” 1/30/20, https://knightcolumbia.org/content/the-national-security-case-for-breaking-up-big-tech

The claim that breaking up and regulating big tech might have consequences for great power competition deserves to be taken seriously. The problem is that upon serious consideration, the national security case against breaking up and regulating big tech is not just weak—it is backwards. Far from being a threat to the United States, breaking up and regulating big tech are necessary to preserve America’s competitiveness, national defense, and democratic freedoms in an era of great power competition.

First, big tech companies are not competing with China in some kind of new Cold War arms race; rather, many are integrated with China, seeking to expand further into China, and cooperating with Chinese companies and (by extension) likely with the Chinese government. Big tech’s integration with China thus supports the rise and export of digital authoritarianism; deepens economic dependence that can be used as leverage against the United States in future geopolitical moments; forces companies to self-censor and contort their preferences to serve Chinese censors and officials; and makes profit-seeking corporations and their lobbyists less trustworthy in advocating for the interests of the United States in Washington, D.C. Second, in an era of great power competition, innovation and a strong defense industrial base are essential. But relying on a small number of big tech companies (and, in particular, failing to enforce antitrust laws and regulate the sector) means less competition—and that in turn means less innovation, particularly when compared with a system of robust competition and public investment in research and development. Concentration in the tech sector also weakens the defense industrial base by making the government dependent on a small number of contractors and redirecting taxpayer dollars from research to monopoly profits. Taking into account all of these dynamics, national security arguments do not favor protecting big tech companies from competition and regulation. American national security would be strengthened by breaking up and regulating big tech companies.

#### Market competition is only way to innovate fast enough to secure tech dominance

Sitaraman 20 – Ganesh, Chancellor Faculty Fellow and Professor of Law at Vanderbilt Law School

“The National Security Case for Breaking Up Big Tech,” 1/30/20, https://knightcolumbia.org/content/the-national-security-case-for-breaking-up-big-tech

Big Tech and the Foundations of American Power

American power is also critical in a time of great power competition. Here too, the case for protecting big tech and restricting competition in the tech sector is weak. Under conventional market theory—and economic practice—competition sparks innovation. If the United States wants to continue to be at the forefront of technological innovation, then more competition is desirable, not less. Breaking up and regulating big tech will thus improve innovation, not reduce it. America’s position in a great power rivalry also depends on its defense industrial base—the resilience and capacity of its defense sector. But a concentrated defense sector means less innovation in defense, higher prices for taxpayers to procure defense systems, and a functional redistribution of taxpayer funds from R&D or other kinds of spending to profits for defense contractors. As technology becomes more integrated with defense, the same dangers of a concentrated defense industrial base could emerge with respect to the defense technological base. Breaking up and regulating big tech, combined with R&D funding, would likely instead create a more competitive defense sector and a more innovative, more resilient, and cheaper one too.

Big Tech, Competitiveness, and Innovation

One of the central arguments against breaking up and regulating big tech on national security grounds is that big tech companies are essential for innovation in the tech sector and thus for American competitiveness and ultimately for national security. Historically, however, innovation has come from a mix of competition and public funding of research and development. Breaking up and regulating tech companies thus doesn’t mean ceding ground to the Chinese on technological innovation—it means creating a competitive marketplace with great innovative capacity.

Whether or not they say it explicitly, those who want to protect big tech from antitrust and regulation support a national champions model. The national champions approach suggests that innovation takes place within big companies that are protected from competition and therefore have resources to spend on research and development. Some associate this approach with Joseph Schumpeter, who suggested that firms in competitive markets might be less innovative than monopolists. In this vein, commentators celebrate how Bell Labs was able to innovate for generations and see Google X, Facebook, and other tech companies as similarly investing in frontier research that will ultimately lead to innovative breakthroughs.

While innovation can take place under a national champions model, innovation does not require national champions—and there are strong arguments that the national champions approach is limited and even counterproductive. First, as Tim Wu has noted, “[B]oth history and basic economics suggest we do much better trusting that fierce competition at home yields stronger industries overall.” This response, of course, has been commonplace in basic economics for decades and in debates on competition is linked to the views of Kenneth Arrow. Market competition is good for innovation because competitors have to find ways to differentiate themselves in order to survive and expand. In contrast, large protected firms get lethargic, are slow to innovate, and rest on their laurels.

Wu points out that we also have evidence—not just theory—to show that protecting national champions is inferior to encouraging competition. In the 1980s, Wu argues, Japan took the approach of protecting its national champions in the electronics industry. Powerhouses like NEC, Panasonic, and Toshiba had direct government support. In contrast, the United States took the opposite tack with IBM. The computer firm was brought under antitrust scrutiny, and the legal battle went on for more than a decade, along the way chilling Big Blue from engaging in any conduct that could even potentially run afoul of the antitrust laws. The result, Wu notes, was to create the space for a variety of hardware and software companies, Microsoft, Lotus, and Apple among them. Competition led to innovation and the creation of some of the most forward-looking companies of the era.

Second, national champions can actually limit innovation because they have an incentive to avoid research and innovations that might jeopardize their business model or undermine their dominant position. Bell Labs, for example, has long been celebrated for its role as an “ideas factory.” But Bell and AT&T also suppressed innovations when they threatened its business model. Bell inventors, for example, developed recording devices in the 1930s that could have been used for answering machines. But AT&T’s management blocked their emergence for fear that they would jeopardize use of the telephone.

An alternative approach to innovation is one that relies less on protectionism for national champions and more on market competition and on public investment in research and innovation. Competition, as noted already, can be a powerful motivator for innovation. When big tech incumbents face little competition, society forgoes the innovation benefits that come from competition. Who knows if Instagram or WhatsApp could have dethroned Facebook’s primacy and developed even more new and innovative products? Facebook’s moves to acquire those firms prevented us from ever finding out. What small businesses might emerge if they didn’t have to compete with Amazon Basics on Amazon’s Marketplace? Unwinding mergers and separating platforms from companies that do business on the platform would help spur competition and lead to innovation.

## Adv 3

#### R&D investments are critical to firm competitiveness AND innovation.

**II Editorial 12**, 2012, "The Importance Of R&D To Innovation," Incremental Innovation, http://www.incrementalinnovation.com/innovation-management-development/rd-to-innovation

Research and Development plays a critical role in the innovation process. It’s essentially an investment in technology and future capabilities which is transformed into new products, processes, and services.

In industry and technology sectors R&D is a crucial component of innovation and a key factor in developing new competitive advantages (Heneric, Licht, and Gofka in Europe’s Automative Industry On The Move: Competitiveness In A Changing World).

One company in particular has devoted itself to R&D and as a result constantly soars ahead of its competition. If you want a great example of an innovative firm…

Look No Further Than Intel

When it comes to R&D and innovation Intel is the holy grail company. This absolutely massive company entered the market with a bang, slid back slightly in the early 2000s but from 2006 onward has been doing spectacular.

What happened in 2006? Intel greatly sped up its product lifecycle process. Through something called Tick-tock, an alternating system of innovation (http://en.wikipedia.org/wiki/Intel\_Tick-Tock) which uses microarchitecture innovation and process innovation to continually drive ahead. This is fancy computer engineer speak for the fact that each year they modify one of two things that are critically important for the speed and power of microprocessors.

Intel regularly blows away their competition. The truth is that with their massive investment in R&D and never ending ability to ship new and better product other companies simply cannot keep up.

Where Intel releases products and people are delighted, competitors like AMD release theirs to not quite the same surprise.

Is R&D Really That Important?

Remember back to the article on the recipe for innovation? One of those ingredients was knowledge, another technology. R&D directly supports the development of both of these things (depending on your industry but certainly the former of the two).

When a company takes the time to invest in R&D they get a huge influx of knowledge. This is what makes Intel so amazingly successful: Their R&D all boils down to useful knowledge that the company can use to further develop its main product lines.

R&D really is that important – note that it is merely a tool (and an expensive one at that). R&D exists to gain knowledge, not as an entity in itself.

#### Google severed AI ties with the DOD – young startups are the only ones taking tech contracts.

Metz ’21 – correspondent at NYT [Cade; technology correspondent, covering artificial intelligence, driverless cars, robotics, virtual reality, and other emerging areas; 3-3-2021; "Away From Silicon Valley, the Military Is the Ideal Customer"; The New York times; https://www.nytimes.com/2021/02/26/technology/anduril-military-palmer-luckey.html; accessed 8-15-2021]

Though parts of Silicon Valley have kept the Pentagon at arm’s length in recent years, Mr. Luckey’s company, based 400 miles to the south in Irvine, is aggressively courting business from government agencies and the military.

It is one of a number of young tech companies, many of them far from Silicon Valley, that are shrugging off the concerns about the potential militarization of their creations that in recent years have stirred employee revolts at industry giants like Google and Microsoft.

On a recent afternoon, Mr. Luckey, dressed as if ready for the beach in a Hawaiian-like shirt, shorts and flip-flops, joined other Anduril employees at the company’s testing site near Camp Pendleton, a Marine training facility.

As the drone took off and swooped between the hills, Mr. Luckey said it could track an object and capture detailed images from seven football fields away. Using many of the artificial intelligence technologies that underpin self-driving cars, Anduril’s drones can identify and track vehicles, people and other objects largely on their own.

The drones are not armed, but could be useful for guarding bases or reconnaissance. The same sensor technologies that allow the drones to fly on their own could also be used to identify targets on a battlefield.

Mr. Luckey, who sold his previous company, the virtual-reality start-up Oculus, to Facebook for $2 billion, shrugged off the question of whether tech companies should willingly work with the military and intelligence communities.

“Most engineers want to engineer. They want to get stuff done,” the outspoken entrepreneur said as artillery fire echoed from a nearby range. “Most people have a pretty practical view.”

The military and intelligence communities have a long history with research labs and tech companies in Silicon Valley. ARPANET, the forerunner of the internet, was funded by the Defense Department. David Packard, one of the founders of Hewlett-Packard, served as deputy secretary of defense under President Richard Nixon. Oracle, one of the biggest software companies, got its start writing computer code for the Central Intelligence Agency.

But the idea of autonomous weapons has been controversial in Silicon Valley, and in recent years some in the tech industry have developed a new distrust of government work.

That distrust swelled in 2013 when the former defense contractor Edward J. Snowden leaked documents that revealed the breadth of spying on Americans by intelligence services, including monitoring the users of large internet companies. In 2018, Google *pulled out* of a Defense Department effort to develop artificial intelligence technology after sustained protests from company workers.

Parts of the Valley firmly draw the line at weaponization of their creations. Mike Volpi, a partner with the venture capital firm Index Ventures, said that Anduril’s drone technology impressed him but that his firm would not invest in any company whose technology could be used with weapons.

“There are many ways to make money,” Mr. Volpi said. “If a company has a stated strategy to hurt people, we would not invest.”

But a growing array of venture capital firms see things differently. Anduril is backed by several notable ones, including Founders Fund, created by the PayPal co-founder Peter Thiel; Andreessen Horowitz; and General Catalyst.

“We have the greatest technologists in the world in Silicon Valley,” said Katherine Boyle, a General Catalyst partner. “We really need to have Silicon Valley working with Washington.”

With seed funding from the Founders Fund, Anduril was created in 2017. The founders included several former employees of Palantir, the Founders Fund-backed company that helps collect and analyze data for the government, and Mr. Luckey.

Anduril chose Irvine, the heart of Orange County, partly because of the proximity to military posts and partly because the founders wanted to avoid the growing distrust for military work in Silicon Valley.

“We are 400 miles away from Silicon Valley,” Mr. Luckey said. “Attitudes in Orange County have always been more pro-military.”

Mr. Luckey is known for bucking Silicon Valley stereotypes. Just before Anduril was founded, he was pressured to leave Facebook after he donated to an organization built to spread anti-Hillary Clinton internet memes in the run-up to the 2016 presidential election. When I visited Anduril’s test site on a recent afternoon, other employees were wearing masks and standing six feet apart. But Mr. Luckey was maskless, and he asked if I would shake hands.

In the drone business, however, he is not alone. A host of start-ups are building similar technology for the military. Shield AI, founded by a former member of the Navy SEALs, is in San Diego, not far from Anduril. Teal Drones, whose founder emerged from Mr. Thiel’s internship program, is in Salt Lake City.

#### Technology is the new battlefield for US-China geopolitical competition.

Darby and Sewall ’21 – CEO of IQT and former US Undersecretary [Christopher; CEO of IQT, a not-for-profit investment firm working on behalf of the U.S. national security community; Sarah Sewall; Executive Vice President for Policy at IQT, from 2014 to 2017, she was U.S. Undersecretary of State for Civilian Security, Democracy, and Human Rights; 2021; " The Innovation Wars"; Foreign Affairs; https://heinonline.org/HOL/Page?handle=hein.journals/fora100&div=45&g\_sent=1&casa\_token=&collection=journals; accessed 8-10-2021]

THE CHINESE JUGGERNAUT

The changes in American **innovation** would matter less if the world had remained unipolar. Instead, they occurred alongside the rise of a **geopolitical rival**. Over the past two decades, China has evolved from a country that largely **steals** and imitates technology to one that now also improves and even **pioneers** it. This is no accident; it is the result of the state's **deliberate**, long-term focus. China has **invested massively** in R & D, with its share of global technology spending growing from **under five percent** in 2000 to over 23 percent in 2020. If current trends continue, China is expected to **overtake** the United States in such spending by 2025.

Central to China’s drive has been a strategy of “military-civil fusion,” a coordinated effort to ensure cooperation between the private sector and the defense industry. At the national, provincial, and local levels, the state backs the efforts of military organizations, state-owned enterprises, and private companies and entrepreneurs. Support might come in the form of research grants, shared data, government-backed loans, or training programs. It might even be as simple as the provision of land or office space; the government is creating whole new cities dedicated solely to innovation.

China's investment in 5G technology shows how the process works in practice. Equipment for 5G makes up the backbone of a country's cellular network infrastructure, and the Chinese company Huawei has emerged as a world leader in engineering and selling it-offering high-quality products at a lower price than its Finnish and South Korean competitors. The company has been buoyed by massive state support-by The Wall Street Journal's count, some $75 billion in tax breaks, grants, loans, and discounts on land. Huawei has also benefited from China's Belt and Road Initiative, which provides generous loans to countries and Chinese companies to finance infrastructure construction.

Massive state investments in artificial intelligence have also paid off. Chinese researchers now publish more scientific papers in that field than American ones do. Part of this success is the result of funding, but something else plays a big role: access to enormous amounts of data. Beijing has fueled the rise of powerhouse companies that sweep up endless information about their users. These include Alibaba, an e-commerce giant; Tencent, which developed the all-purpose WeChat app; Baidu, which began as a search engine but now offers a range of online products; DJI, which dominates the consumer drone market; and SenseTime, which provides facial recognition technology for China's video surveillance network and is said to be the world's most valuable artificial intelligence company. As a matter of law, these companies are required to cooperate with the state for intelligence purposes, a broad mandate that is almost certainly used to force companies to share data for many other reasons.

That information increasingly involves people living outside China. Chinese companies have woven a global web of data-gathering apps that collect foreigners' private information about their finances, their search history, their location, and more. Those who make a mobile payment through a Chinese app, for example, could have their personal data routed through Shanghai and added to China's growing trove of knowledge about foreign nationals. Such information no doubt makes it easier for the Chinese government to track, say, an indebted Western bureaucrat who could be convinced to spy for Beijing or a Tibetan activist who has taken refuge abroad.

China's hunger for data extends to some of the most personal information imaginable: our own DNA. Since the covID-19 pandemic began, BcI-a Chinese genome-sequencing company that began as a government-funded research group-has broken ground on some 50 new laboratories abroad designed to help governments test for the virus. China has legitimate reasons to build these labs, but it also has an ugly record of forcibly collecting DNA data from Tibetans and Uighurs as part of its efforts to monitor these minorities. Given that BGI runs China's national library of genomics data, it is conceivable that through BGI testing, foreigners' biological data might end up in that repository.

Indeed, China has shown great interest in biotechnology, even if it has yet to catch up to the United States. Combined with massive computing power and artificial intelligence, innovations in biotechnology could help solve some of humanity's most vexing challenges, from disease and famine to energy production and climate change. Researchers have mastered the gene-editing tool CRISPR, allowing them to grow wheat that resists disease, and have managed to encode video in the DNA of bacteria, raising the possibility of a new, cost-effective method of data storage. Specialists in synthetic biology have invented a new way of producing nylon-with genetically engineered microorganisms instead of petrochemicals. The economic implications of the coming biotechnology revolution are staggering: the McKinsey Global Institute has estimated the value of biotechnology's many potential applications at up to $4 trillion over the next ten to 20 years.

Like all powerful technologies, however, biotechnology has a dark side. It is not inconceivable, for example, that some malicious actor could create a biological weapon that targeted a specific ethnic group. On controversial questions-such as how much manipulation of the human genome is acceptable-countries will accept different degrees of risk in the name of progress and take different ethical positions. The country that leads biotechnology's development will be the one that most profoundly shapes the norms and standards around its use. And there is reason to worry if that country is China. In 2018, the Chinese scientist He Jiankui genetically engineered the DNA of twin babies, prompting an international uproar. Beijing portrayed him as a rogue researcher and punished him. Yet the Chinese government's disdain for human rights, coupled with its quest for technological supremacy, suggests that it could embrace a lax, even dangerous approach to bioethics.

THINKING BIGGER

Washington has monitored China's technological progress through a **military lens**, worrying about how it contributes to Chinese **defense** capabilities. But the challenge is **much broader**. China's push for technological supremacy is not simply aimed at gaining a **battlefield** advantage; Beijing is **changing the battlefield** itself. Although commercial technologies such as 5G, artificial intelligence, quantum computing, and biotechnology will undoubtedly have **military applications**, China envisions a world of **great-power competition** in which no shots need to be fired. Technological supremacy promises the ability to **dominate** the civilian infrastructure on which others depend, providing **enormous influence**. That is a major motivation behind Beijing's support for **high-tech** civilian infrastructure exports. The countries buying Chinese systems may think they are **merely receiving** electric grids, health-care technology, or online payment systems, but in reality, they may also be placing **critical national infrastructure** and citizens' data in **Beijing's hands**. Such exports are China's **Trojan horse**.

Despite the changing nature of geopolitical competition, the United States still tends to equate security with traditional defense capabilities. Consider microelectronics. They are **critical components** not only for a range of commercial products but also for virtually **every major defense system**, from aircraft to warships. Because they will power advances in artificial intelligence, they will also **shape** the United States' future economic competitiveness. Yet investment in microelectronics has fallen through the cracks. Neither the private sector nor the government is adequately funding innovation-the former due to the large capital requirements and long time horizons involved and the latter because it has focused more on securing current supplies than on innovating. Although China has had a **hard time** catching up to the United States in this area, it is only a **matter of time** before it moves up the **microelectronics** value chain.

Another casualty of the United States' **overly narrow conception** of security and innovation is **5G** technology. By dominating this market, China has built a **global telecommunications network** that can serve **geopolitical purposes**. One fear is that Beijing could **help itself** to data running on 5G networks. Another is the possibility that China might **sabotage** or disrupt adversaries' communications networks in a crisis. Most U.S. policymakers failed to predict the threat posed by Chinese 5G infrastructure. It wasn't until 2019 that Washington sounded the alarm about Huawei, but by then, there was little it could do. U.S. companies had never offered an **end-to-end** wireless network, instead focusing on manufacturing individual components, such as handsets and routers. Nor had any developed its own **radio access network**, a system for sending signals across network devices that is needed to build an end-to-end 5G system like that offered by Huawei and a few other companies. As a result, the United States found itself in an **absurd situation**: threatening to end intelligence cooperation if close allies **adopted** Huawei's 5G technology without having an attractive alternative to offer.

#### Tech concentration, specifically, creates downward productivity shocks throughout the economy, structurally limits business dynaimsm

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(Ryan A., John Haltiwanger, Ron S. Jarmin, and Javier Miranda, “Changing Business Dynamism and Productivity: Shocks vs. Responsiveness,” June, <http://econweb.umd.edu/~haltiwan/Shocks_06_30_17.pdf>)

A hallmark of market economies is the continual reallocation of resources from less-valued or less-productive activities to more-valued or more-productive ones. Business dynamics—the process of business birth, growth, decline and exit—is a critical driver of the reallocative process. An optimal pace of business dynamics balances the benefits of productivity and economic growth against the costs associated with reallocation—which can be high for certain groups of firms and individuals. While it is difficult to prescribe what the optimal pace should be, there is accumulating evidence from multiple datasets and a variety of methodologies that the pace of business dynamism in the U.S. has fallen over recent decades and that this downward trend accelerated after 2000.1

Canonical models of firm dynamics and empirical evidence imply that there is a tight link between business dynamism and productivity growth. As highlighted by Hopenhayn and Rogerson (1993), increases in the dynamic frictions of adjustment on the extensive or intensive margins will reduce the pace of reallocation and lower productivity. Thus, a prima facie concern arising from these trends in business dynamism is that they may have had adverse effects on aggregate productivity growth. The question is particularly important in light of the growing body of evidence showing that aggregate productivity growth in the U.S. has been declining since the early 2000s (Fernald (2014)).2

At first glance, medium-run fluctuations in economywide productivity growth do not match up with patterns of declining business formation and business dynamism. Productivity growth accelerated in the 1990s through the early 2000s before slowing down after 2003, while aggregate startup activity and job reallocation fell throughout the 1980-2014 period. However, a more careful review of theory and evidence resolves the inconsistency: during the 1980s and 1990s, the decline in entrepreneurship and reallocation was dominated by the Retail Trade sector, where evidence suggests that falling dynamism was actually consistent with rising productivity growth.3

Fernald (2014) highlights that the surge in productivity from the late 1980s to early 2000s and the subsequent decline were both led by the ICT-producing and intensive ICT-using sectors. Interestingly, the High Tech sector exhibits a rise in business formation and job reallocation over the first period and a sharp decline in the post-2000 period, with the period since 2000 also being characterized by a decline in high-growth firm activity throughout the US economy more generally (Haltiwanger, Hathaway and Miranda (2014)). 4

In this paper, we find that changes in how businesses respond to their idiosyncratic productivity conditions are an important driver of the evolution of aggregate job reallocation and productivity in recent decades, especially in the High-Tech sector. We argue that the observed decline in responsiveness is consistent with models of firm dynamics in which increases in adjustment frictions can reduce the pace of reallocation and, consequently, productivity growth. As noted above, the canonical model is Hopenhayn and Rogerson (1993), but this theme is consistent with a wide class of firm-level adjustment cost models (e.g., Cooper and Haltiwanger (2006), Cooper, Haltiwanger and Willis (2007, 2016), and Elsby and Michaels (2013)). The core hypothesis is intuitive. An increase in adjustment frictions makes firms more cautious in responding to idiosyncratic productivity shocks. This yields a decline in the pace of job reallocation (as firms’ hiring and downsizing decisions become more sluggish), an increase in the dispersion of marginal revenue products and a decline in aggregate productivity.

#### Sustained productivity growth is the key determinant of great power conflict—power cycle theory confirms demonstrates relative decline is the critical point

Jacob L. Heim, Senior Policy Researcher, RAND, and Benjamin M. Miller, PhD, Economist; Professor, Pardee RAND Graduate School, 2020, Measuring Power, Power Cycles, and the Risk of Great-Power War in the 21st Century, https://www.rand.org/pubs/research\_reports/RR2989.html

Global Power Dynamics and Global Conflict

There are many models that link the distribution of global power to the prospects for major interstate war, according to different theories of why wars occur.27 Put broadly, when assessing whether one scenario is more stable than another, analysts apply a model (ranging from a heuristic to a formal model) to assess the prospects for crisis or war under different distributions of global power. One such approach would be to use a quantitative metric (such as the GPI) within a theoretical model that evaluates the likelihood of a war erupting under different distributions of global power.

There are many theoretical models that an analyst could use for this purpose.28 Among these models, power cycle theory represents an intriguing option due to its quantitative nature and its ability to operate on aggregated metrics, such as the GPI.

*Power cycle theory* relates the relative distribution of power in the international system to the likelihood of major wars—that is, large wars that will reorder the international system.29 For this reason,