# Disclosure Northwestern R5

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#### FTC Tradeoff DA

#### The FTC will enforce ‘right to repair’ now---it spurs growth and innovation, particularly in agriculture.

Minter ’21 [Adam; July 11; Columnist and author; Bloomberg, “Americans Must Reclaim Their Right to Repair,” <https://www.bloomberg.com/opinion/articles/2021-07-11/americans-must-reclaim-their-right-to-repair>]

When the Apple II personal computer was shipped in 1977, it came with a [detailed manual](https://archive.org/details/Apple_II_Mini_Manual/page/n49/mode/2up) for upgrading and repairing the device. Parts were readily available from Apple Inc. (and, later, other manufacturers), and if Apple owners didn’t want to fix or upgrade at home, they could find plenty of small, competitive repair businesses to do the work for them.

That was then. These days, Apple’s products arrive sealed shut, often with [proprietary screws](https://www.ifixit.com/News/9905/bit-history-the-pentalobe). Service manuals, circuit-board schematics and repair parts are [reserved](https://www.ifixit.com/News/43179/apple-endangers-our-business-model-gets-a-repairability-point-for-it) for Apple’s technicians, shops and a handful of “authorized” partners. With no access to parts, manuals or indie repair shops, consumers pay much more to keep their devices running.

President Joe Biden’s new executive order to promote competition encourages the Federal Trade Commission to end such anti-competitive repair monopolies. It’s a contentious move. Apple and the makers of other technological products from farm tractors to [35mm cameras](https://www.ifixit.com/News/1349/how-nikon-is-killing-camera-repair) argue that their repair monopolies are good for consumers. But as these monopolies have grown, their toll on consumers, the environment and American productivity and innovation has risen. Biden’s recognition of a “right to repair” can help lower these costs and, at the same time, spur new kinds of growth across the economy.

Repair has always been a part of American life. The first prairie farmers had no option but to repair their own carts and plows. When mechanization came along, farmers became expert technicians — so skilled that companies often consulted them on tractor designs. During the past 15 years, as computers have been integrated into expensive farm equipment, that relationship has broken down. The handful of remaining implement manufacturers make sure that only dealerships, with specialized software tools, can diagnose problems. Those same tools are often also needed to install parts and authorize repairs.

The costs to farmers can be significant. Paying a Deere & Co dealership to plug in a computer to clear an error code on a tractor or combine can cost [hundreds of dollars](https://www.vice.com/en/article/xykkkd/why-american-farmers-are-hacking-their-tractors-with-ukrainian-firmware) — not including transporting the tractor to the dealership. Worse, by limiting access to crucial diagnostic and repair tools, manufacturers cause significant delays during harvest, planting and other busy periods. At certain times, a piece of equipment immobilized for even a few hours can cost a farmer thousands of dollars.

As farmers lose money, farm manufacturers with parts and service businesses [profit handsomely](https://uspirg.org/feature/usp/deere-headlights). From 2013 to 2019, Deere & Co annual sales of new equipment declined 19%, to $23.7 billion, while sales of parts increased 22%, to $6.7 billion. Harvester manufacturers aren’t the only ones who’ve spotted a growth market in restricting access to repair. In 2019, Apple’s Tim Cook [conceded](https://www.apple.com/newsroom/2019/01/letter-from-tim-cook-to-apple-investors/) that lower-cost iPhone battery replacements had negatively impacted new iPhone sales. More expensive repairs, on the other hand, lead customers to think they may as well buy a new phone.

That’s bad for the buyers of Apple’s expensive new phones and even worse for lower-income consumers who rely on secondhand devices. Lack of competition in repair markets raises the cost of owning older devices, and ultimately accelerates their untimely, wasteful disposal.

The first calls to roll back manufacturer restrictions on repair, in the early 2010s, were focused on cars. But the problem now encompasses everything from phones to farm equipment. Since 2014, [32 states](https://www.repair.org/legislation) have considered so-called Fair Repair bills. Earlier this year, the New York legislature became the [first](https://states.repair.org/states/newyork/) to pass one.

But manufacturers have pushed hard to defeat such legislation. In 2017, Apple warned Nebraska lawmakers that Fair Repair “would make it very easy for hackers to relocate to Nebraska.” [TechNet](http://technet.org/), a trade group that represents Apple, Amazon Inc. and Google, has [warned](https://www.bloomberg.com/news/articles/2021-05-20/microsoft-and-apple-wage-war-on-gadget-right-to-repair-laws) several states that Fair Repair legislation would somehow jeopardize the safety of devices. (TechNet did not respond to requests for examples of such consumer safety threats.)

The federal government has not bought these arguments. In May, the Federal Trade Commission [reported](https://www.ftc.gov/news-events/blogs/business-blog/2021/05/nixing-fix-report-explores-consumer-repair-issues) that “many of the explanations manufacturers gave for repair restrictions aren’t well-founded.” Biden’s executive order now encourages the FTC to “limit powerful equipment manufacturers from restricting people’s ability to use independent repair shops or do DIY repairs.”

#### The plan trades off.

Nylen ’20 [Leah; December 10; Antitrust journalist; Politico, “FTC suffering a cash crunch as it prepares to battle Facebook,” <https://www.politico.com/news/2020/12/10/ftc-cash-facebook-lawsuit-444468>]

The agency that just launched a landmark antitrust suit to break up Facebook is so strapped for cash that its leaders have discussed shrinking their staff and warned against taking on more cases.

In a series of emails to all Federal Trade Commission staff, obtained by POLITICO, Executive Director David Robbins said the agency would face a period of “belt tightening” to cut costs — and that filing fewer cases and trimming litigation expenses must be on the table.

“[W]e will either need to bring fewer expert intensive cases or significantly decrease our litigation costs (e.g. experts, transcripts, litigation support contractors, etc.),” Robbins said in an Oct. 29 email.

The emails offer an increasingly dire portrait of the money woes facing the FTC, which has launched a record amount of litigation in the past year even as the pandemic has caused a sharp reduction in the corporate merger filing fees that normally supply about half its budget. The crunch also raises the possibility that the FTC may not have the cash it needs to win its case against Facebook, which is gearing up for an expensive fight, or to take on additional companies like Amazon.

#### Extinction.

Castellaw ’18 [John; March 14; Lieutenant General in the United States Marine Corps, member of the Center for Climate and Security’s Advisory Board, teaching fellow in the College of Business and Global Affairs at the University of Tennessee; Senate Committee on Foreign Relations, “Why Food Security Matters,” <https://www.foreign.senate.gov/imo/media/doc/031418_Castellaw_Testimony.pdf>]

Food Security Is Critical to Our National Security

The United States faces many threats to our National Security. These threats include continuing wars with extremist elements such as ISIS and potential wars with rogue state North Korea or regional nuclear power Iran. The heated economic and diplomatic competition with Russia and a surging China could spiral out of control. Concurrently, we face threats to our future security posed by growing civil strife, famine, and refugee and migration challenges which create incubators for extremist and anti-American government factions. Our response cannot be one dimensional but instead must be nuanced and comprehensive, employing “hard” as well as “soft” power in a National Security Strategy combining all elements of National Power, including a Food Security Strategy.

An American Food Security Strategy is an imperative factor in reducing the multiple threats impacting our National wellbeing. Recent history has shown that reliable food supplies and stable prices produce more stable and secure countries. Conversely, food insecurity, particularly in poorer countries, can lead to instability, unrest, and violence. Food insecurity drives mass migration around the world from the Middle East, to Africa, to Southeast Asia, destabilizing neighboring populations, generating conflicts, and threatening our own security by disrupting our economic, military, and diplomatic relationships. Food system shocks from extreme food-price volatility can be correlated with protests and riots. Food price related protests toppled governments in Haiti and Madagascar in 2007 and 2008. In 2010 and in 2011, food prices and grievances related to food policy were one of the major drivers of the Arab Spring uprisings.

These conclusions are based on my decades of experience while serving as a Marine around the world and from a lifetime as a steward of the soil on my family farm in Tennessee. I see food security strategy in military terms as either being “defensive” or “offensive”. “Defensive” includes those actions we take to protect our agricultural infrastructure including crops, livestock and the food chain here in the United States. Conversely, the “Offensive” side of food security takes the initiative to deal with food security issues overseas and this is where I will spend most of my time today.

There is a good reason for our success on the “defensive” here at home in ensuring our own food security. As my good friend and former Tennessee Deputy Agriculture Commissioner Louis Buck points out to me, American agriculture has always been about public/private enterprise. The Morrill Act of 1862 – showing our Country’s foresight and confidence in the future even in the dark days of our Civil War – created our Land Grant University model of teaching, research and extension. And equally importantly, we have a private sector that values individual initiative, unleashing an unparalleled vitality. With that vitality driving innovation, our farmers and ranchers leverage the expertise and information from the public sector to manage risks and seek profits from deployed capital. But above all, American farmers and ranchers are our “citizen soldiers” on the front lines here at home fighting to guarantee our food security.

America is also blessed with fertile soil, water availability, moderate climate, and the advanced technology to successfully utilize our abundance. Whether I walk the corn fields of Indiana or the cotton fields of Tennessee, I see agricultural technology in use that is amazing. Soon after I retired from the Marines and came home to the family farm, I climbed into the cab of a self-propelled sprayer. Settling into the seat was like strapping into the cockpit of one of the aircraft I flew, except the sprayer had more computing power and better data links. All these factors, public and private, natural and manmade, hard work and innovation, combine to provide the American people with the widest choices in the world of wholesome foods to eat and clothes to wear.

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States CP:

The fifty states and relevant subnational entities should substantially increase prohibitions on private sector conduct that is more restrictive of competition than reasonably necessary to enable creation of information technology standards.

#### State action is coordinated, well-resourced, and solves.

Arteaga ’21 [Juan and Jordan Ludwig; January 28; former Deputy Assistant Attorney General for the U.S. Department of Justice’s Antitrust Division, J.D. from Columbia Law School; partner in the Antitrust and Competition Group at Crowell and Moring firm, J.D. from Loyola Law School; Global Competition Review, “The Role of US State Antitrust Enforcement,” <https://globalcompetitionreview.com/guide/private-litigation-guide/second-edition/article/the-role-of-us-state-antitrust-enforcement>]

In the United States, competition laws have been implemented and enforced through a dual system where the state and federal governments play distinct, yet complementary, roles in regulating the competitive process. While the Department of Justice (DOJ) Antitrust Division and Federal Trade Commission (FTC) are widely viewed as the stewards of US antitrust laws, state attorneys general have long played an important, albeit varying, role within the United States’ antitrust enforcement regime. This has been especially true during the past 30 years because state attorneys general have become much more effective at coordinating their antitrust enforcement efforts to ensure that they have a meaningful seat at the table in any actions brought jointly with their federal counterparts or are able to bring their own actions when the DOJ and FTC decide not to do so.

Prior to the enactment of the first federal antitrust law – the Sherman Act – in 1890, state antitrust enforcement was quite robust in the United States because at least 26 states had already enacted some form of antitrust prohibition.[[2]](https://globalcompetitionreview.com/guide/private-litigation-guide/second-edition/article/the-role-of-us-state-antitrust-enforcement#footnote-126) In addition, state enforcers had often used general corporation law and common law restraint of trade principles to regulate anticompetitive business practices and transactions.[[3]](https://globalcompetitionreview.com/guide/private-litigation-guide/second-edition/article/the-role-of-us-state-antitrust-enforcement#footnote-125) This well-established state antitrust enforcement infrastructure – coupled with the fact that the Antitrust Division and FTC had only recently been created – permitted state attorneys general to continue playing a leading enforcement role for the first 30 years after the Sherman Act’s passage.[[4]](https://globalcompetitionreview.com/guide/private-litigation-guide/second-edition/article/the-role-of-us-state-antitrust-enforcement#footnote-124) Indeed, state attorneys general successfully prosecuted a number of the most consequential antitrust enforcement actions during this period.[[5]](https://globalcompetitionreview.com/guide/private-litigation-guide/second-edition/article/the-role-of-us-state-antitrust-enforcement#footnote-123)

In the early 1920s, however, state antitrust enforcers began playing a less prominent role because ‘the national dimension of the most important trusts, . . . as well as their ability to restructure in order to evade problematic state laws’, made clear that the federal government needed to step forward in order to adequately protect consumers and the competitive process.[[6]](https://globalcompetitionreview.com/guide/private-litigation-guide/second-edition/article/the-role-of-us-state-antitrust-enforcement#footnote-122) As a result, the DOJ and FTC – whose national jurisdiction and greater resources enabled them to tackle the most pressing competition issues of the time – displaced state attorneys general as the primary source of government antitrust enforcement within the United States.[[7]](https://globalcompetitionreview.com/guide/private-litigation-guide/second-edition/article/the-role-of-us-state-antitrust-enforcement#footnote-121) This largely remained true until the mid-1970s when Congress, in response to the DOJ and FTC’s perceived inactivity, passed two laws that expanded the authority of state attorneys general to enforce the federal antitrust laws and provided them with financial resources to do so.[[8]](https://globalcompetitionreview.com/guide/private-litigation-guide/second-edition/article/the-role-of-us-state-antitrust-enforcement#footnote-120)

In 1976, Congress passed the Hart-Scott-Rodino Antitrust Improvement Act, which, among other things, authorized state attorneys general to bring parens patriae suits (i.e., legal actions brought on behalf of natural persons residing within their states) seeking monetary (treble damages) and injunctive relief for Sherman Act violations.[[9]](https://globalcompetitionreview.com/guide/private-litigation-guide/second-edition/article/the-role-of-us-state-antitrust-enforcement#footnote-119) Congress also passed the Crime Control Act of 1976, which, among other things, provided state attorneys general with tens of millions in federal grants as ‘seed money’ for the creation of antitrust bureaus within their offices.[[10]](https://globalcompetitionreview.com/guide/private-litigation-guide/second-edition/article/the-role-of-us-state-antitrust-enforcement#footnote-118) These laws had their intended effect of reinvigorating state antitrust enforcement.

During the 1980s, for example, state attorneys general once again emerged as vigorous antitrust enforcers, especially with respect to the prosecution of resale price maintenance practices and other vertical restraints.[[11]](https://globalcompetitionreview.com/guide/private-litigation-guide/second-edition/article/the-role-of-us-state-antitrust-enforcement#footnote-117) The rise in the level and prominence of state antitrust enforcement during this period was largely due to a perceived enforcement void at the federal level, where the DOJ and FTC had mostly limited their focus to ‘prohibiting cartels and large horizontal mergers’.[[12]](https://globalcompetitionreview.com/guide/private-litigation-guide/second-edition/article/the-role-of-us-state-antitrust-enforcement#footnote-116) No longer content with ceding antitrust enforcement to federal enforcers, state attorneys general expanded their antitrust dockets from prosecuting purely ‘local matters, such as bid-rigging on state contracts’, to actively investigating and litigating matters with multistate and national implications.[[13]](https://globalcompetitionreview.com/guide/private-litigation-guide/second-edition/article/the-role-of-us-state-antitrust-enforcement#footnote-115) To help ensure that they had a larger seat at the antitrust enforcement table, state attorneys general also increased the coordination of their enforcement efforts and competition advocacy through organizations such as the National Association of Attorneys General (NAAG), which created a Multistate Antitrust Task Force and issued state Vertical Restraints and Horizontal Merger Guidelines during this period.[[14]](https://globalcompetitionreview.com/guide/private-litigation-guide/second-edition/article/the-role-of-us-state-antitrust-enforcement#footnote-114)

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#### Integration between pharma and biotech is accelerating, unlocking innovation.

Cancherini ’21 [Laura; April 30; Consultant in McKinsey’s Brussels office; McKinsey, “What’s ahead for biotech: Another wave or low tide?” https://www.mckinsey.com/industries/pharmaceuticals-and-medical-products/our-insights/whats-ahead-for-biotech-another-wave-or-low-tide]

Fundamentals continue strong

When we asked executives and investors why the biotech sector had stayed so resilient during the worst economic crisis in decades, they cited innovation as the main reason. The number of assets transitioning to clinical phases is still rising, and further waves of innovation are on the horizon, driven by the convergence of biological and technological advances.

In the present day, many biotechs, along with the wider pharmaceutical industry, are taking steps to address the COVID-19 pandemic. Together, biotechs and pharma companies have [more than 250 vaccine candidates in their pipelines](https://www.mckinsey.com/industries/pharmaceuticals-and-medical-products/our-insights/on-pins-and-needles-will-covid-19-vaccines-save-the-world), along with a similar number of therapeutics. What’s more, the crisis has shone a spotlight on pharma as the public seeks to understand the roadblocks involved in delivering a vaccine at speed and the measures needed to maintain safety and efficacy standards. To that extent, the world has been living through a time of mass education in science research and development.

Biotech has also benefited from its innate financial resilience. Healthcare as a whole is less dependent on economic cycles than most other industries. Biotech is an innovator, actively identifying and addressing patients’ unmet needs. In addition, biotechs’ top-line revenues have been less affected by lockdowns than is the case in most other industries.

Another factor acting in the sector’s favor is that larger pharmaceutical companies still rely on biotechs as a source of innovation. With the [top dozen pharma companies](https://www.mckinsey.com/business-functions/m-and-a/our-insights/a-new-prescription-for-m-and-a-in-pharma) having more than $170 billion in excess reserves that could be available for spending on M&A, the prospects for further financing and deal making look promising.

For these and other reasons, many investors regard biotech as a safe haven. One interviewee felt it had benefited from a halo effect during the pandemic.

More innovation on the horizon

The investors and executives we interviewed agreed that biotech innovation continues to increase in quality and quantity despite the macroeconomic environment. Evidence can be seen in the accelerating pace of assets transitioning across the development lifecycle. When we tracked the number of assets transitioning to Phase I, Phase II, and Phase III clinical trials, we found that Phase I and Phase II assets have transitioned 50 percent faster since 2018 than between 2013 and 2018, whereas Phase III assets have maintained much the same pace. There could be many reasons for this, but it is worth noting that biotechs with Phase I and Phase II assets as their lead assets have accounted for more than half of biotech IPOs. Having an early IPO gives a biotech earlier access to capital and leaves it with more scope to concentrate on science.

Looking forward, the combination of advances in biological science and accelerating developments in technology and artificial intelligence has the potential to take innovation to a new level. A [recent report](https://www.mckinsey.com/industries/pharmaceuticals-and-medical-products/our-insights/the-bio-revolution-innovations-transforming-economies-societies-and-our-lives) from the McKinsey Global Institute analyzed the profound economic and social impact of biological innovation and found that biomolecules, biosystems, biomachines, and biocomputing could collectively produce up to 60 percent of the physical inputs to the global economy. The applications of this “Bio Revolution” range from agriculture (such as the production of nonanimal meat) to energy and materials, and from consumer goods (such as multi-omics tailored diets) to a multitude of health applications.

#### Antitrust law is a battering ram for innovation and chills patent stability.

Mosoff et al. ’19 [Adam, Kristen Osenga, Randall Rader, Mark Schultz, and Saurabh Vishnubhakat; January 28; Professor of Law at George Mason University; Regulatory Transparency Project, “How Antitrust Overreach is Threatening Healthcare Innovation,” <https://regproject.org/paper/how-antitrust-overreach-is-threatening-healthcare-innovation/>]

II. The FTC’s Heavy-Handed Meddling Upsets the Delicate Balance Between Branded and Generic Drug Companies, Hindering Innovation and Harming Consumers

Since the late 1990s, the FTC has devoted substantial resources to combating what it views as anticompetitive behavior on the part of drug companies in the healthcare market. The FTC has interposed its scrutiny even where the FDA has approved drugs and when the branded and generic companies have decided a legal fight is no longer worth having. The FTC’s meddling restricts behavior that is lawful under the Federal Food, Drug, and Cosmetic Act (FDCA). The FTC’s meddling also usurps the regime Congress carefully crafted for resolving patent disputes between branded and generic drug companies.

The FTC has devised a series of novel theories to justify treating lawful behavior as anticompetitive and worthy of enforcement action and legislative changes. These theories have been adopted—and adapted—by state antitrust enforcers as well as private antitrust plaintiffs. The FTC has conducted industry-wide investigations and prepared massive reports on supposed anticompetitive conduct to recommend legislative changes despite neither the branded nor generic drug industry seeking such changes. These changes to the law would restrict or punish patent owners and even patent challengers. The FTC has, on its own initiative, made the already volatile world of drug development more uncertain and more hostile, ultimately resulting in less innovation and fewer choices for consumers in the short term (e.g., generic options) and long term (e.g., new drugs).

The FTC’s aggression extends to the courtroom. For nearly two decades, the FTC and other antitrust plaintiffs have attacked patent settlements reached by branded and generic drug companies. As explained above, the regulatory scheme for new drugs gives rise to an unusual type of patent litigation in which the generic drug company—the defendant—is not at risk of money damages for infringement because litigation generally occurs before the generic drug has obtained FDA approval and enters the market. Because of this unusual arrangement, where each side had to yield something of value to the other at the settlement table, a patent owner occasionally pays a settlement to the defendant (rather than forgiveness of damages, which is typically not an option) in exchange for the defendant agreeing to slightly delay the launch of its generic drug. Other considerations, such as the generic company agreeing to source materials from the branded company or other business or research partnerships, are not uncommon.

Beginning in the 1990s, the FTC took the position that such settlements were a categorically illegal restraint of trade. Courts did not agree, as modern antitrust jurisprudence recognizes that declaring something categorically illegal in the absence of more facts and details is dubious. Courts generally concluded that a settlement within the scope of the patent—where the defendant agreed to remain off the market no more than already required by the patent but perhaps longer than a successful court challenge—did not itself violate the antitrust laws. Yet the FTC persisted in arguing its position to the Supreme Court. In the 2013 Actavis case, the Supreme Court declined the FTC’s invitation to find reverse payment settlements categorically anticompetitive, ruling instead that these settlements must be evaluated under antitrust law’s “rule of reason,”, which is a detailed look at all the relevant facts and circumstances of the individual case.7 Still undeterred in the wake of Actavis, the FTC continues to argue that a variety of patent settlements are anticompetitive and accuse district courts of misinterpreting Actavis.

The FTC’s basic position is that antitrust scrutiny is triggered when the patent owner offers anything of value beyond the litigation expenses that settlement would save. Any patent owner who tries to entice a generic competitor to settle by offering anything more than litigation costs is treated suspiciously by the FTC. Even if the settlement is a complex corporate transaction that involves manufacturing and promotion deals or other products—where both parties might benefit beyond merely the ending of a lawsuit—the FTC’s basic position is to presume an antitrust violation.

Not surprisingly, the FTC’s overzealous actions against drug makers make it very difficult to settle pharmaceutical patent litigation without branded and generic drug companies both expecting an antitrust case, which may itself end up effectively revisiting the patent issues the parties sought to move beyond by settling. Companies still try to craft agreements that eliminate the risk that both face in litigation while ensuring that generic market entry occurs well before patent expiry, but no matter the terms, the FTC stands ready to argue that the companies should not have settled. In the end, these parties seem to want patent litigation cases to continue to final judgment, even when this is not in the interest of the branded companies, generic drug companies, consumers or the federal court system.

The FTC has also started to interfere with the ordinary cycle of incremental innovation in the drug industry. Incremental drug innovation is both commonplace and can be medically important. New dosage forms and routes of administration can make life-sustaining drugs easier to administer to new populations. New formulations, such as extended release formulations, can simplify dosing, thus increasing patient compliance.

In recent years, however, the FTC has targeted these patents. The chief complaint advanced by the FTC is that incremental innovations are trivial advances and do not deserve patent protection. Where the branded company replaces an older version of its product with the patented new version, the FTC accuses the branded company of “product hopping” to force the market to move to new drugs. The problem with this argument is threefold. First, these innovations have satisfied the requirements of the Patent Act. Second, if they are indeed trivial, the patents will likely be held invalid in federal court when challenged by generic competitors.  Third, if the branded company’s new product does not provide better outcomes, insurers are unlikely to cover the product and will instead require a patient to use the generic version of the branded company’s first product. The FTC’s actions are thus a solution in search of a problem.

Conclusion

The FTC’s goals may be well-intentioned, but its intrusion into domains that other, more expert agencies already oversee and comprehensively regulate is troubling. By substituting its own agenda for the business judgment of sophisticated parties in the marketplace, the FTC has overreached its proper role and begun to disrupt the cycle of investment, product development, recoupment, further incremental advancement, and risk management that drives the creation of new drugs that save lives and promote greater public health.

#### Innovation optimizes synthetic biology---extinction.

Karoui et al. ’19 [Meriem, Monica Hoyos-Flight, and Liz Fletcher; August 7; Centre for Synthetic and Systems Biology in the School of Biological Sciences at the University of Edinburgh; Innogen Institute in the School of Social and Political Sciences at the University of Edinburgh; Frontiers, “Future Trends in Synthetic Biology—A Report,” <https://www.frontiersin.org/articles/10.3389/fbioe.2019.00175/full>]

Tackling Risk

Synthetic biology is an example of a dual-use technology: it promises numerous beneficial applications, but it can also cause harm. This has led to fears that it could, intentionally or unintentionally, harm humans or damage the environment. For example, there is huge value in our ability to engineer viruses to be more effective and specific shuttles for gene therapies of devastating inherited disorders; however, engineering viruses may also lead to the creation of even more deadly pathogens by those intent on harm.

“Synthetic biology should be regarded as an extension of earlier developments and technologies”

Some would argue that synthetic biology poses an existential risk and needs to be treated with extreme caution. However, many new technological advances across the decades have met similar concerns. The uncertainty and remote possibility of such risks could hamper the development of useful technology. Scientists, their host institutions and funding bodies should (and indeed already do) consider whether the research planned could be misused. Measures that reduce the likelihood of misuse and its consequences should be implemented and clearly communicated. The synthetic biology community needs to be aware of, and respond to, these challenges by engaging in horizon scanning exercises as well as open dialogue with regulatory bodies and the media.

“Don't avoid risk – manage it”

Being more open about risks, and how they are controlled, provides an opportunity to shift discourse toward the benefits of synthetic biology in addressing urgent global needs, such as the production of biofuels, food security and more effective medicines, and potentially improve public acceptance.

“The questions should not be ‘what’s the next big thing for synthetic biology' but ‘where is the greatest unmet need’.”

Despite the efforts by individual countries to establish synthetic biology research roadmaps, broader, international agreement on common standards (and red lines) across the field may help establish trust and to advance the best pre-competitive research into useful applications.

Meeting participants highlighted the importance of training in responsible research conduct and ethics. Given students' future role as science ambassadors and influencers, their training should not only convey skills and knowledge but also awareness and critical thinking about the prospects and potential for dual use of synthetic biology. All researchers must remain vigilant regardless of the many pressures and distractions of running a successful research lab; they may not have specialist training in identifying the risks of misuse but they are the people best placed to maintain informed oversight of risks.

One example of current synthetic biology research with potential dual use is gene drive technology, which can be used to propagate a particular suite of genes throughout a population. The benefits of using gene drive technology include the eradication of disease-carrying insect populations and the elimination of invading pest species but it has raised concerns about the unintended ecological impacts of reducing or eliminating a population ([Callaway, 2018](https://www.frontiersin.org/articles/10.3389/fbioe.2019.00175/full#B5); [Collins, 2018](https://www.frontiersin.org/articles/10.3389/fbioe.2019.00175/full#B9)).

Similar release concerns surround research that is harnessing the ability of pathogens to target particular tissues in the body or particular chemicals in the environment, which could greatly aid efforts to deliver targeted therapies or clean-up contaminated sites. To date, such large-scale release for environmental bioremediation interventions has not been possible.

“We need to mind the gap between R&D scale up and communications …. One bad blog can kill a commercial product”

There was consensus that the need for regulation over this community remains important. Regulation needs to keep up to speed with the emerging technologies and should focus on the product rather than the process used to create it ([Tait et al., 2017](https://www.frontiersin.org/articles/10.3389/fbioe.2019.00175/full#B34)). Unsuitable regulatory frameworks (as well as unfavorable public perception) could discourage private sector investment in synthetic biology.

## 1NC

### CP---1NC

The United States federal government should reform patent law to limit:

* patent continuance,
* findings of willfulness,
* reasonable royalty rates, and
* damage calculations.

The United States federal government should:

* provide research and development incentives for 5G innovation and cooperate with allies on an alternative to Chinese 5G,
* promote democracy, including by reforming gerrymandering and voting rights,
* establish interoperability standards for smart cities,
* deploy carbon negative technology and regulated geoengineering,
* invest in cybersecurity resilience, and
* emphasize non-military responses to cyber provocations.

#### Patent law solves better than antitrust.

Lemley ’7 [Mark; January; Law Professor at Stanford University; Boston College Law Review, “Ten Things to Do About Patent Holdup of Standards (And One Not To),” Vol. 47]

C. Antitrust Law Can't Solve the Holdup Problem

Note what is not on this list: antitrust law. I have made ten more or less radical proposals for doing something about patent holdup, and not one of them mentions antitrust, except to say antitrust law should get out of the way of SSOs. That's not an accident. I think antitrust law serves a valuable purpose, but where the holdup problem is concerned, it is a backstop. In this particular circumstance, it's a backstop that's going to apply only if private efforts in SSOs and IP law have already failed us.

Even then, it is not clear that antitrust law is up to the task of policing patent holdup. 88 Courts may be reluctant to second-guess what they see as the judgment of patent law to give certain rights to patent owners. 89 Certainly, some courts have shown undue deference to patents even in circumstances that more clearly violate the antitrust laws. 90 Further, proving an antitrust violation requires detailed evidence [\*168] of both causation and intent, something that may be difficult even when, as a policy matter, a patentee should not be permitted to extend its rights. 91 We have yet to see a successful contested prosecution of standard-setting abuse. 92 Antitrust law can play a role here in extreme cases, such as in In re Ramous, Inc. 93 But if we design the patent law and the SSO rules correctly, those cases should not arise.

CONCLUSION

Patents provide needed incentives. But in certain circumstances, they can give a patentee too much power to restrict an integrated product on the basis of a patent covering a minor component of that product. That fact, coupled with unscrupulous behavior of some patentees, creates serious problems in the IT industry in general and SSOs in particular. Patent law should seek to realign incentives so that the value any given patentee can capture bears a reasonable relationship to the contribution its invention makes. SSOs should be diligent in finding out what patents exist and what it will cost to license them. And antitrust law should facilitate rather than interfere with this process. If we can accomplish these changes, we can ensure that patent law serves its proper role in encouraging rather than stifling innovation.

#### America can outcompete Chinese 5G.

Soon ‘19 [Stella, Tech reporter. “Here’s how the US can beat China in the race for dominance in next generation networks.” CNBC. 11-26-2019. <https://www.cnbc.com/2019/11/26/5g-race-how-the-us-can-beat-china-in-the-competition-for-dominance.html>]

While China has embraced next generation networks at a faster pace, experts say the U.S. still has some advantages in the competition for dominance.

U.S. technology companies have already been working on autonomous vehicles, augmented reality, and virtual reality, which one analyst explained could be the first few killer applications of 5G.

While China has embraced next generation networks at a faster pace, experts say the U.S. still has some advantages in the competition for dominance.

China rolled out its 5G networks nationwide on Nov. 1, with three of its state-owned carriers offering plans for the service. One week later, Beijing said it launched research and development efforts into 6G networks.

5G refers to mobile networks with super-fast data speeds that can support technologies like driverless cars. While 6G refers to the next generation of networks, 5G is still in its early stages as much of the world still operates on 4G networks.

“There will be a tendency to cast these developments as another sign that the United States is losing the race for the next generation of communication technologies,” Adam Segal, director of the digital and cyberspace policy program at CFR, wrote in a separate note earlier this month.

“But the United States still has strengths to play,” Segal said. “U.S. companies can dominate the applications and services that run over 5G.”

Just because China switched on its networks first does not mean that the competition is over.

That’s where the United States’ innovative capacity could give it an advantage, said Paul Triolo, geo-technology practice head at Eurasia Group. U.S. technology companies have already been working on autonomous vehicles, augmented reality, and virtual reality, which he explained could be the first few killer applications of 5G.

“Even as China rolls out 5G a little faster, the U.S. will eventually roll out 5G in enough breadth and scope that U.S. will be able to innovate on top of it,” said Triolo.

#### It solves climate change.

Pearce ’19 [Fred; May 29; Environmental journalist and author, citing former British Government Chief Scientist David King, Harvard University Physicist David Keith, Kelly Wanser for the Marine Cloud Brightening Project, and other academics; Yale Environment 360, “Geoengineer the Planet? More Scientists Now Say It Must Be an Option,” <https://e360.yale.edu/features/geoengineer-the-planet-more-scientists-now-say-it-must-be-an-option>]

Once seen as spooky sci-fi, geoengineering to halt runaway climate change is now being looked at with growing urgency. A spate of dire scientific warnings that the world community can no longer delay major cuts in carbon emissions, coupled with a recent surge in atmospheric concentrations of CO2, has left a growing number of scientists saying that it’s time to give the controversial technologies a serious look.

“Time is no longer on our side,” one geoengineering advocate, former British government chief scientist David King, [told a conference last fall.](https://www.edie.net/news/9/Sir-David-King--Policy-and-business-action-needed-on-climate--restoration-/) “What we do over the next 10 years will determine the future of humanity for the next 10,000 years.”

King helped secure the Paris Climate Agreement in 2015, but he no longer believes cutting planet-warming emissions is enough to stave off disaster. He is in the process of establishing a Center for Climate Repair at Cambridge University. It would be the world’s first major research center dedicated to a task that, he says, “is going to be necessary.”

Technologies earmarked for the Cambridge center’s attention include a range of efforts to restrict solar radiation from reaching the lower atmosphere, including spraying aerosols of sulphate particles into the stratosphere, and refreezing rapidly warming parts of the polar regions by deploying tall ships to pump salt particles from the ocean into polar clouds [to make them brighter.](https://www.bbc.co.uk/news/science-environment-48069663)

United States scientists are on the case, too. The National Academies last October launched a study into [sunlight reflection](http://www8.nationalacademies.org/onpinews/newsitem.aspx?RecordID=10162018) technologies, including their feasibility, impacts and risks, and governance requirements. Marcia McNutt, president of the National Academy of Sciences, said: “We are running out of time to mitigate catastrophic climate change. Some of these interventions… may need to be considered in future.”

The study’s prospective authors held their [first meeting](http://nas-sites.org/dels/studies/reflecting-sunlight-to-cool-earth/meetings-and-events/) in Washington, D.C., at the end of April. Speakers included David Keith, a Harvard University physicist who has developed his own patented technology for using chemistry to remove CO2 directly from the atmosphere, and Kelly Wanser of the [Marine Cloud Brightening Project](http://www.geoengineeringmonitor.org/2018/04/marine-cloud-brightening-project-geoengineering-experiment-briefing/), which is studying the efficacy of seeding clouds with sea salt and other materials to reflect more sunlight back into space. The project is preparing for future field trials.

China too has an active government-funded research program. It insists it has no current plans for deployment, but is looking, among other things, at how solar shading might [slow the rapid melting](https://royalsocietypublishing.org/doi/full/10.1098/rsta.2012.0086) of Himalayan glaciers.

Geoengineering the climate to halt global warming has been discussed almost as long as the threat of warming itself. American researchers back in the 1960s suggested floating billions of white objects such as golf balls on the oceans to reflect sunlight. In 1977, Cesare Marchetti of the Austria-based International Institute for Applied Systems Analysis discussed ways of catching all of Europe’s CO2 emissions and injecting them into [sinking Atlantic Ocean currents.](https://link.springer.com/article/10.1007/BF00162777)

In 1982, Soviet scientist Mikhail Budyko proposed filling the stratosphere with sulphate particles to reflect sunlight back into space. The first experiments to test the idea of fertilizing the oceans with iron to stimulate the growth of CO2-absorbing algae were carried out by British researchers in 1995. Two years later, Edward Teller, inventor of the hydrogen bomb, proposed putting [giant mirrors](https://www.newscientist.com/article/mg18124403-700-a-mirror-to-cool-the-world/) into space.

Still, many climate scientists until recently regarded such proposals as fringe, if not heretical, arguing that they undermine the case for urgent reductions in greenhouse gas emissions. A group of scientists writing in Nature as recently as April last year, called solar geoengineering “outlandish and unsettling… [redolent of science fiction](https://www.nature.com/articles/d41586-018-03917-8).”

But the mood is shifting. There is broad, international scientific agreement that the window of opportunity to avoid breaching the Paris climate target of staying “well below” 2 degrees Celsius (3.6 degrees Fahrenheit), is narrowing sharply. A pause in the rise in CO2 emissions that brought hope in 2015 and 2016 has ended; the increase has resumed at a time when we should be making progress toward a goal of [halving emissions by 2030](https://report.ipcc.ch/sr15/pdf/sr15_headline_statements.pdf), says Johan Rockstrom, science director of the Potsdam Institute for Climate Impacts Research. CO2 concentrations in the atmosphere — the planetary thermostat — are now at 415 parts per million (ppm) and rising by almost 3 ppm each year, reaching levels that have not been seen in 3 million years. “We have two years left to bend the curve” downward, says Rockstrom.

Some experts contend we may be approaching a moment when nothing other than geoengineering can meet the international community’s promise — made when signing the UN Climate Change Convention at the Earth Summit in 1992 — to prevent “dangerous anthropogenic interference with the climate system.” Myles Allen of Oxford University’s Environmental Change Institute says: “Every year we are not even trying to reduce emissions is another 40 billion tons of CO2 dumped into the atmosphere that we are blithely committing future generations to scrub out again.”

## 1NC

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#### Corporate optimism will drive self-sustaining recovery.

Van der Welle ’21 [Peter; July 7; Strategist within the Global Macro team, M.A. in Economics from Tilburg University; Robeco, “How capex holds the key to a self-sustaining economic recovery,” <https://www.robeco.com/latam/en/insights/2021/07/how-capex-holds-the-key-to-a-self-sustaining-economic-recovery.html>]

Title:

How capex holds the key to a self-sustaining economic recovery.

Capital expenditure to fix supply shortages and meet burgeoning demand is seen figuring strongly in the post-Covid recovery.

[Author and summary omitted].

Companies are expected to invest heavily in new equipment and capacity as they seek to meet the pent-up demand released from economic reopening.

“The world is emerging from the pandemic, and much of the focus has been on the release of huge pent-up demand for goods and services that have been inaccessible for much of the past year,” says Peter Van der Welle, strategist with Robeco’s multi-asset team.

“But there is a bigger issue regarding the ability of companies to supply these goods and services, due to the supply side constraints that have emerged through economic reopening. We believe this is powering a resurgence in capital expenditure by companies, and those which are investing in new equipment to meet greater demand will be the more sought after stocks.”

Capex intentions

Van der Welle says this trend can already be seen in the US Federal Reserve’s Capex Intentions Index, which shows that steep year-on-year increases in capital expenditures are planned.

“So, that's promising for a near-term rebound in the capex cycle,” he says. “The market has already picked up on that theme because you can see a clear outperformance of capex-intensive stocks compared to the broader market year to date.”

Fiscal dominance

Van der Welle says five elements support the multi-asset team’s view that capex will rise from here onwards. “The first is the overarching macroeconomic picture in that we are increasingly moving towards an environment of fiscal dominance and away from one that has been monetary-led via quantitative easing,” he says.

“Central banks have pursued very easy monetary policies, but they have hit the nominal lower bounds with regard to policy rates.”

“This is a hard constraint because real rates are difficult for central banks to push even lower than they are nowadays, given the strong consensus among both central bankers and market participants that inflation is transitory.”

Big spending plans

For stimulus, fiscal policy is better suited to address the negative supply shock that Covid-19 has posed. Fiscal dominance can be seen in the huge infrastructure spending planned in the US, with the USD 1.9 trillion American Rescue Plan already in motion, and the USD 2 trillion American Jobs Plan going through Congress. In Europe, the disbursement of the EUR 750 billion EU Recovery Fund is due to start later in July.

“An era of fiscal dominance is able to say goodbye to the secular stagnation thesis, which holds that the economy is suffering from under-investment,” says Van der Welle. “Under-investment due to insufficient demand, which was the biggest problem after the global financial crisis, has become less likely.”

“We saw very subdued consumption growth both in the US and elsewhere between 2009 and 2019. That story is reversing in the US. Households’ income has been supported by fiscal policy during the Covid-19 recession, while burgeoning consumer demand in the reopening phase could prove to be more sticky as employment prospects continue to improve in the medium term.”

Tobin’s Q looks good

A third reason to expect higher capex is driven by ‘Tobin’s Q’ – the market value of a company divided by its assets' replacement cost. If this ratio is above one, then corporates have an incentive to invest directly in the underlying assets rather than buying another company at market value to acquire the same assets.

The Tobin’s Q ratio is currently at 1.7 for the US. “So it's very expensive to do M&A, and it is wiser for corporates to invest in the underlying capital goods themselves,” Van der Welle says.

“We should therefore expect a gradual move away from M&A activity towards companies making direct investments in capital goods.”

Supply-side constraints

The fourth element is the severe supply-side constraints seen in the global economy, as capacity shut down during the pandemic.

“This is reflected in the ISM Prices Paid Index, which reached an all-time high in June in reflection of rampant shortages of raw materials and labor,” says Van der Welle.

“Clearly the issue today following the pandemic is not demand related, but supply related. This will also trigger more awareness to push the productivity frontier and incentivize capital expenditure.”

Less reliance on labor

The fifth element is the partial substitution from labor to capital in the US against the backdrop of lingering labor shortages.

“A decline in the labor force participation rate shows that people are not quickly returning to the labor force, as they have been disincentivized by the subsidies and pay checks they have gained from the stimulus plans, and/or structural changes in their work/life balance due to the pandemic,” says Van der Welle.

“When the cost of labor becomes more expensive, substituting labor with capital becomes more attractive for employers. Typically, the inflection point for capex intentions becoming positive is when unit labor costs rise by more than 2% year on year, which is the case today.”

Capex will lengthen the earnings cycle

Regarding earnings, there is a significant relationship between capex intentions and productivity, though the lag from intending to invest to actually getting a realized productivity gain is quite long – up to several years.

Higher capex that eventually brings higher productivity growth will sustain the earnings cycle, Van der Welle says. Higher productivity gives corporates more pricing power because they suppress unit labor costs, and that means profit margins can stay elevated for longer.

#### Changing the legal standards of antitrust spills over to crush otherwise surging growth.

Thierer ’21 [Adam; February 25; Senior Research Fellow with the Mercatus Center at George Mason University; The Hill, “Open-ended antitrust is an innovation killer,” <https://thehill.com/opinion/technology/540391-open-ended-antitrust-is-an-innovation-killer>]

Unfortunately, the calls for more bureaucracy and regulation emanating from all corners of the political world could have an unintended consequence: discouraging the sort of vibrant innovation and consumer choice that made America’s tech companies household names across the globe.

Sen. [Amy Klobuchar](https://thehill.com/people/amy-klobuchar) (D-Minn.) is leading one charge. Klobuchar, who chairs the Judiciary Subcommittee on Antitrust, Competition Policy and Consumer Rights, [recently introduced](https://www.klobuchar.senate.gov/public/_cache/files/e/1/e171ac94-edaf-42bc-95ba-85c985a89200/375AF2AEA4F2AF97FB96DBC6A2A839F9.sil21191.pdf) the “Competition and Antitrust Law Enforcement Reform Act.” This sweeping measure seeks to expand the powers and budgets of antitrust regulators at the Federal Trade Commission and the Department of Justice. It also includes new filing requirements and potentially hefty civil fines.

The most important feature is the proposed change to the legal standard by which regulators approve business deals. It would allow the government to stop any deal that creates an “appreciable risk of materially lessening competition,” and it also defines exclusionary behavior as, “conduct that materially disadvantages one or more actual or potential competitors.”

These may sound like simple, semantic tweaks, but – much like some of the other policy ideas currently circulating – they would upend decades of settled law and create a sea change in U.S. antitrust enforcement. This change could undermine business dynamism, innovation and investment in ways that inhibit the global competitiveness of U.S. businesses.

Critics of merger and acquisition (M&A) activity by large tech firms include not only Sen. Klobuchar but also Republicans such as Sen. [Josh Hawley](https://thehill.com/people/joshua-josh-hawley) (R-Mo.). Hawley recent [offered an amendment](https://www.axios.com/josh-hawley-big-tech-merger-ban-1467081d-216c-45a2-9d09-9416dfbde330.html) to a budget bill that would preemptively prohibit mergers and acquisitions by dominant online firms. Klobuchar and Hawley believe that M&A skews the market in favor of today’s largest firms, entrenching their market power and discouraging innovation.

History teaches a different lesson. Consider DirecTV and Skype, both once considered innovative market leaders in their respective fields of satellite TV and internet telephony. Both firms stumbled, however, and they might not even be with us today without creative business deals. DirecTV has been partially or fully controlled by Hughes Electronics, News Corp., Liberty Media and now AT&T. Skype has swapped hands multiple times, moving from eBay, to a private investment firm and now to Microsoft.

These were complex deals, and some didn’t work, leading to divestitures. But each was a learning experience that illustrated how dynamic media and technology markets can be with firms constantly searching for value-added arrangements that serve their customers and shareholders. If we make this type of activity presumptively illegal, we’re imagining that government bureaucrats are better suited to make these calls than businesspeople and the consumers who choose whether or not to buy the product.

Worse yet, legal tests like those Klobuchar proposes – “conduct that materially disadvantages potential competitors” – are remarkably open-ended and could be easily abused. The system will be gamed by opponents of deals for business reasons. They will claim that their own failure to attract investors or customers must all be the fault of more creative rivals. That’s a recipe for cronyism and economic stagnation.

Those who worry about today’s largest tech giants becoming supposedly unassailable monopolies should consider how similar fears were expressed not so long ago about other tech titans, many of which we laugh about today. Just 14 years ago, headlines [proclaimed](https://www.technewsworld.com/story/55185.html) that “MySpace Is a Natural Monopoly,” and [asked](https://www.theguardian.com/technology/2007/feb/08/business.comment), “Will MySpace Ever Lose Its Monopoly?” We all know how that “monopoly” ceased to exist.

At the same time, pundits [insisted](https://www.marketwatch.com/story/apple-should-pull-the-plug-on-the-iphone) “Apple should pull the plug on the iPhone,” since “there is no likelihood that Apple can be successful in a business this competitive.” The smartphone market of that era was viewed as completely under the control of BlackBerry, Palm, Motorola and Nokia. A few years prior to that, critics lambasted the merger of AOL and TimeWarner as a new [corporate “Big Brother”](http://www.ojr.org/ojr/workplace/1017966109.php?__cf_chl_jschl_tk__=67a5f6a101935b8e3586ca48216d31ba6d4e03de-1612467283-0-AXvbGCtUx-p_N4T-8_2m8OHezQUhQ9kelg9-pVuD6IzKvFfXrllJujU9ERvjqjyIsAeCovUw9bfZqq75_NYasBM87SnQT_027hDJOhjXeowzK1QQH_7vcmr1tS4XgCGC_NNx6UGbAvVgcJNFhSkqkVKKeRJ-BjdDA7Vus-gwmr7wQXcS7KKfTtHyqxdRfureL9alpZHU2IJcbbdYaZpTjTrfcJHCKa8pIZcdiScjaRJmON9X1Ip20Vuv7tyDHbZSvcrn88WrY_9N_qBpKvZhQ4PAe90w5Fx5iHjjNIzoNMKSpToTFGLbPdqawgge9PVubSQbkS7xXDXxCBMA2Sh-Y_U) that would decimate digital diversity and online competition.

Today, we know these tales of the apocalypse ended up instead becoming case studies in the continuing power of “creative destruction.” New innovations and players emerged from many unexpected quarters, decimating whatever dreams of continued domination the old giants once had.

Today’s biggest players face similar pressures, and it’s better to let rivalry and innovation emerge organically, not through the wrecking ball of heavy-handed antitrust regulation.

#### Extinction---recovery caps numerous geopolitical crises.

Baird ’20 [Zoe; October 2020; C.E.O. and President of the Markle Foundation, Member of the Aspen Strategy Group and former Trustee at the Council on Foreign Relations, J.D. and A.B. from the University of California at Berkeley; Domestic and International (Dis)order: A Strategic Response, “Equitable Economic Recovery is a National Security Imperative,” Ch. 13]

A strong and inclusive economy is essential for American national security and global leadership. As the nation seeks to return from a historic economic crisis, the national security community should support an equitable recovery that helps every worker adapt to the seismic shifts underway in our economy.

Broadly shared economic prosperity is a bedrock of America’s economic and political strength—both domestically and in the international arena. A strong and equitable recovery from the economic crisis created by COVID-19 would be a powerful testament to the resilience of the American system and its ability to create prosperity at a time of seismic change and persistent global crisis. Such a recovery could attack the profound economic inequities that have developed over the past several decades. Without bold action to help all workers access good jobs as the economy returns, the United States risks undermining the legitimacy of its institutions and its international standing. The outcome will be a key determinant of America’s national security for years to come.

An equitable recovery requires a national commitment to help all workers obtain good jobs—particularly the two-thirds of adults without a bachelor’s degree and people of color who have been most affected by the crisis and were denied opportunity before it. As the nation engages in a historic debate about how to accelerate economic recovery, ambitious public investment is necessary to put Americans back to work with dignity and opportunity. We need an intentional effort to make sure that the jobs that come back are good jobs with decent wages, benefits, and mobility and to empower workers to access these opportunities in a profoundly changed labor market.

To achieve these goals, American policy makers need to establish job growth strategies that address urgent public needs through major programs in green energy, infrastructure, and health. Alongside these job growth strategies, we need to recognize and develop the talents of workers by creating an adult learning system that meets workers’ needs and develops skills for the digital economy. The national security community must lend its support to this cause. And as it does so, it can bring home the lessons from the advances made in these areas in other countries, particularly our European allies, and consider this a realm of international cooperation and international engagement.

Shared Economic Prosperity Is a National Security Asset

A strong economy is essential to America’s security and diplomatic strategy. Economic strength increases our influence on the global stage, expands markets, and funds a strong and agile military and national defense. Yet it is not enough for America’s economy to be strong for some—prosperity must be broadly shared. Widespread belief in the ability of the American economic system to create economic security and mobility for all—the American Dream— creates credibility and legitimacy for America’s values, governance, and alliances around the world.

After World War II, the United States grew the middle class to historic size and strength. This achievement made America the model of the free world—setting the stage for decades of American political and economic leadership. Domestically, broad participation in the economy is core to the legitimacy of our democracy and the strength of our political institutions. A belief that the economic system works for millions is an important part of creating trust in a democratic government’s ability to meet the needs of the people.

The COVID-19 Crisis Puts Millions of American Workers at Risk

For the last several decades, the American Dream has been on the wane. Opportunity has been increasingly concentrated in the hands of a small share of workers able to access the knowledge economy. Too many Americans, particularly those without four-year degrees, experienced stagnant wages, less stability, and fewer opportunities for advancement.

Since COVID-19 hit, millions have lost their jobs or income and are struggling to meet their basic needs—including food, housing, and medical care.1 The crisis has impacted sectors like hospitality, leisure, and retail, which employ a large share of America’s most economically vulnerable workers, resulting in alarming disparities in unemployment rates along education and racial lines. In August, the unemployment rate for those with a high school degree or less was more than double the rate for those with a bachelor’s degree.2 Black and Hispanic Americans are experiencing disproportionately high unemployment, with the gulf widening as the crisis continues.3

The experience of the Great Recession shows that without intentional effort to drive an inclusive recovery, inequality may get worse: while workers with a high school education or less experienced the majority of job losses, nearly all new jobs went to workers with postsecondary education. Inequalities across racial lines also increased as workers of color worked in the hardest-hit sectors and were slower to recover earnings and income than White workers.4

The Case for an Inclusive Recovery

A recovery that promotes broad economic participation, renewed opportunity, and equity will strengthen American moral and political authority around the world. It will send a strong message about the strength and resilience of democratic government and the American people’s ability to adapt to a changing global economic landscape. An inclusive recovery will reaffirm American leadership as core to the success of our most critical international alliances, which are rooted in the notion of shared destiny and interdependence. For example, NATO, which has been a cornerstone of U.S. foreign policy and a force of global stability for decades, has suffered from American disengagement in recent years. A strong American recovery—coupled with a renewed openness to international collaboration—is core to NATO’s ability to solve shared geopolitical and security challenges. A renewed partnership with our European allies from a position of economic strength will enable us to address global crises such as climate change, global pandemics, and refugees. Together, the United States and Europe can pursue a commitment to investing in workers for shared economic competitiveness, innovation, and long-term prosperity.

The U.S. has unique advantages that give it the tools to emerge from the crisis with tremendous economic strength— including an entrepreneurial spirit and the technological and scientific infrastructure to lead global efforts in developing industries like green energy and biosciences that will shape the international economy for decades to come.

## 1NC

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The United States, through a limited constitutional convention called for by at least thirty-four of the States and ratified by at least thirty-eight of the States, should substantially increase prohibitions on private sector conduct that is more restrictive of competition than reasonably necessary to enable creation of information technology standards.

#### It solves, causes follow on, and avoids politics.

Cooper ’21 [Charlie; 2021; President of Get Money Out Maryland and Retired Human Services Administrator; Get Money Out Maryland, “A Convention of States is Wise and Safe,” <https://www.getmoneyoutmd.org/peoples_convention>]

When Congress fails to represent the people who elected them, the U.S. Constitution provides a path for the people to propose a Constitutional amendment through the states. Article V lays out two equal alternatives:

"The Congress, whenever two thirds of both Houses shall deem it necessary, shall propose Amendments to this Constitution, or, on the Application of the Legislatures of two thirds of the several States, shall call a Convention for proposing Amendments, which, in either Case, shall be valid to all Intents and Purposes, as Part of this Constitution, when ratified by the Legislatures of three fourths of the several States..."

Thus there are only two ways to amend the U.S. Constitution:

* A proposal passed by two-thirds of each chamber of Congress, then ratified by three-quarters of the states
* A proposal passed by a convention called by two-thirds of the states, then ratified by three-quarters of the states

As former U.S. Supreme Court Justice Antonin Scalia said about this second option: "[When] the Congress is simply unwilling to give attention to many issues which it knows the people are concerned with—and which issues involve restrictions upon the federal government’s own power—I think the founders foresaw that and they provided this method in order to enable a convention to remedy that.”

In a 2016 report, the Congressional Research Service noted that an Article V Convention “was included [in the Constitution] to provide the people, through applications by their state legislatures, with the means to call a convention having the authority to consider and propose changes to the Constitution, particularly if Congress proved incapable of, or unwilling to, initiate amendments on its own."

All 27 Amendments to the Constitution were passed using the first of the two methods: Congress proposed an amendment, then two-thirds of state legislatures ratified it. So why is a convention of states necessary to obtain a 28th Amendment? As George Mason argued when he proposed the convention language: It is necessary when Congress itself is the problem.

The 17th Amendment is the best example of a convention campaign working effectively to add an amendment to the U.S. Constitution. The 17th Amendment, which allows for the popular election of U.S. Senators, came about in reaction to Senators being appointed by state legislatures until the early 1900s. That process was widely recognized as corrupt due to the disproportionate influence of wealthy individuals and special interests. In fact, the Senate became so corrupt that individual senators took nicknames such as the "Coal Senator," the "Bank Senator," and the "Oil Senator."

Citizens responded to this overt venality by using every tool of democracy available including petitions, local legislation, ballot referendums, educational campaigns, resolutions calling on Congress to propose a Constitutional amendment, and finally, after all else failed, applying for an Article V Convention to propose an amendment.

When that movement was just one state shy of the two-thirds needed to force a convention on this topic, Congress reacted by proposing an amendment requiring the direct election of U.S. Senators for the states to ratify—resulting in the 17th Amendment to the U.S. Constitution. The Congressional Research Service has called this technique the "prodding effect." It worked then, and it could work today.

Arguments Against an Article V Convention

Both left- and right-leaning groups—Common Cause and the John Birch Society among them—have argued vehemently against the use of Article V Conventions. They say correctly that such a convention has never been used to amend the Constitution. Never having held an Article V Convention, however, is hardly a reason to avoid one, since the framers provided this Constitutional alternative in anticipation of a time when Congress fails to represent the people. Opponents also fear the prospect of a "runaway" convention, where any topic could be proposed, possibly threatening the process for ratifying amendments or the Constitution itself. See authoritative answers to these arguments below.

Experts Respond

The Constitution’s framers foresaw a time—when Congress itself is the problem—for citizens to have the Constitutional authority to pursue an amendment through the states. That time is now: Supreme Court rulings in Citizens United and other cases have created no-holds-barred politics in which Big Money steamrolls the democratic process. A Congress that is the result of this increasingly lawless system can hardly be expected to propose an amendment to dismantle that system without an extraordinary level of public pressure. A citizens’ drive toward a convention of states under Article V would apply such pressure.

Government and legal agencies have responded to critics opposing a convention of states:

* Criticism: Individual delegates could bring up matters unrelated to those the convention was originally called to address.

Response #1: For a convention to stray from its original topic, delegates would have to propose topics that were not included in the original resolution approved by their state legislatures. Nine states to date have made it a felony for any delegate to a state-called convention to call for or vote on any topic that was not part of the original convention topic.

Response #2: The Justice Department concluded in 1987 that Article V Conventions can be called "for limited purposes, and that a variety of practical means to enforce such limitations are available." In addition, "Congress may decline to designate the mode of ratification for those proposed amendments that it determines are outside the scope of the subject matter limitation and therefore beyond the authority of the convention to propose."

## Adv---FRAND

### Turn---1NC

#### American leads on 5G now, BUT antitrust can flip it.

Abbott ’21 [Alden Abbott, Paul Redmond Michel, Adam Mossoff, Kristen Jakobsen Osenga, and Brian O’Shaughnessy; March 10; the Federal Trade Commission’s General Counsel (2018-2021), adjunct professor at George Mason University, J.D. from Harvard Law School, M.A. in economics from Georgetown University; Retired Chief Judge and United States Circuit Judge of the United States Court of Appeals for the Federal Circuit; Law Professor at George Mason University; Law Professor at the University of Richmond; chair of Dinsmore’s IP Transactions and Licensing Group; the Regulatory Transparency Project, “Aligning Intellectual Property, Antitrust, and National Security Policy,” https://regproject.org/wp-content/uploads/Paper-Aligning-Intellectual-Property-Antitrust-and-National-Security-Policy.pdf]

The U.S. government has recognized that “5G is a critical strategic technology [such that] nations that master advanced communications technologies and ubiquitous connectivity will have a long-term economic and military advantage.”8 The U.S. has had a substantial technological edge over our military and intelligence rivals in foundational R&D for 5G and other next-generation technologies. U.S. companies have long been leaders in the development of previous generations of core mobile standards (2G, 3G, 4G, and LTE). This technological leadership has made it possible for U.S. companies to ensure the security and integrity of the hardware and software products that make up the backbone of the U.S. telecommunication systems. This leadership must continue for the U.S. government to more effectively anticipate potential security risks and take the necessary steps to protect national security.9

Despite this history of clear technological leadership, there are causes for concern. First, a very small number of U.S. companies have made the investments in the overwhelming majority of the R&D necessary to develop 5G.10 Historically, U.S. companies have heavily invested in R&D, which has propelled the U.S. into leadership positions in critical standard development organizations working on foundational next-generation technologies like 5G.11 U.S. companies like Qualcomm play a significant and important role in this process through innovation, patenting, and standard setting, but they are not alone in the global community of high-tech companies.12 Backed by their nations’ leadership, Chinese and Korean companies have also invested heavily in developing the core technologies for 5G.13

The willingness of U.S. companies to invest in R&D is threatened, however. The development of 5G is a bit like a race, with the companies who develop the best technology coming out ahead. While U.S. companies are savvy and talented competitors in this race, aggressive and unwarranted use of antitrust law by U.S. regulators, as well as by foreign antitrust authorities, threatens to put obstacles in these companies’ paths and hinder their ability to lead.

#### Antitrust in IP hammers innovation, especially in American 5G.

Abbott ’21 [Alden Abbott, Paul Redmond Michel, Adam Mossoff, Kristen Jakobsen Osenga, and Brian O’Shaughnessy; March 10; the Federal Trade Commission’s General Counsel (2018-2021), adjunct professor at George Mason University, J.D. from Harvard Law School, M.A. in economics from Georgetown University; Retired Chief Judge and United States Circuit Judge of the United States Court of Appeals for the Federal Circuit; Law Professor at George Mason University; Law Professor at the University of Richmond; chair of Dinsmore’s IP Transactions and Licensing Group; the Regulatory Transparency Project, “Aligning Intellectual Property, Antitrust, and National Security Policy,” https://regproject.org/wp-content/uploads/Paper-Aligning-Intellectual-Property-Antitrust-and-National-Security-Policy.pdf]

Although much of the excitement about 5G wireless technology focuses on how it will improve every aspect of our lives – from smart homes to smart cities, from healthcare to food to business to entertainment – this technology is also critical for an often-invisible, but even more critical, application: national security. 5G is a vast improvement over existing mobile technology, with massively increased speeds of data transfer and other enhanced capacities. The benefits this unprecedented speed and capacity will have for the United States military include improved surveillance and reconnaissance systems, new and more accurate methods of command and control, and integrated and streamlined logistics systems for increased efficiency.1 On the other hand, the same technological advancements facilitated by 5G technology may also give rise to new cybersecurity vulnerabilities.

Although it is the future of everything, 5G does not pose a potential problem in some far-off future. Today, the U.S. is already depending on a wide array of 5G technology suppliers for its national security system. For example, the national security programs of the Department of Defense (DOD) rely on continued access to telecommunication products made by companies with security clearance on a range of active classified and unclassified prime government contracts.2 Devices that rely on such wireless technology include those used to command troops in combat, control drones, target smart munitions, and perform other vital military functions.3 Allied partnerships with the U.S. also depend on its efforts to address cybersecurity in the next generation of wireless, 5G, and Internet of things.4

To ensure the safety of the systems on which the U.S. military relies and avoid unknown and unexpected cybersecurity vulnerabilities, the U.S. must remain an active and competitive participant in 5G development. Antitrust policies that undermine the intellectual property rights of U.S. innovators will diminish U.S. companies’ ability to invest in research and development (R&D) and to compete in the global 5G ecosystem. Even more important than increased economic growth, new jobs, and enhanced daily lives, these antitrust policies must be changed for the sake of U.S. national security.

### Impact---AT: Democracy---1NC

Alt causes:

Internationally---repression in Turkey, Russia, and Hungary.

Domestically---gerrymandering, domestic surveillance, and police brutality.

#### It’s inevitable because of Europe even in spite of U.S. democratization.

Stelzenmueller ’20 [Constanze; December 2; Kissinger Chair on Foreign Policy and International Relations at the Library of Congress, Senior Fellow in the Center on the United States and Europe at the Brookings Institution; Financial Times, “The west must live up to its own principles on democracy,” <https://www.ft.com/content/19d44ecb-152e-4db7-b2c6-de5928712cca>]

One of President-elect Joe Biden’s promises is that the US will recommit itself to defending democracy in the world, together with other democratic allies. The EU, it appears, plans to firmly embrace this proposal, with a particular focus on presenting a united front to China.

Yet criticising Beijing’s mass internment of Muslim Uighurs — or the Kremlin’s attempts to manipulate elections — draws accusations of hypocrisy at a time when many western governments struggle to convince their citizens that representative democracy remains the most trustworthy way to deliver good governance. If the transatlantic alliance is to hold its own in competition with illiberal authoritarian rivals, its members had better fix their democratic problems at home. But how?

Granted, in the context of a decade of global democratic recession, the US and Europe still look quite respectable on the surface. The US presidential election last month was in many ways a triumph of democracy: Americans saw historic voter turnout, a process that broadly worked and officials and judges who refused to be intimidated. In Europe, populists hoping to exploit the Covid-19 pandemic to stoke fear and polarisation have instead seen voters support centrist governments and fact-based policies.

Yet it is also true that the widespread commitment to liberal democracy — a foundational value of the west — is under fire. The fact that, in some cases, the attacks come from opposition parties within the political system is no cause for complacency.

In Germany, for example, the hard-right Alternative for Germany has been plateauing in the polls at around 10 per cent, and its leadership is mired in shambolic infighting. But it continues to wage a quiet and disciplined campaign to undermine and delegitimise democratic institutions. In France, Marine Le Pen, the leader of the far-right National Rally, remains a serious contender in the 2022 presidential election.

Elsewhere, in Hungary, Poland and Turkey, the authoritarians are in government and have used their positions to change the rules of governance in order to expand or perpetuate their hold on power. And in the US, the alliance’s anchor democracy, an outgoing president is claiming against all evidence and with the support of his party’s leadership that a massive fraud has denied him an election victory.

This democratic backsliding undercuts the cohesion of NATO at a time when conflicts around the world are heating up. It undermines trust between allies, limits intelligence sharing and reduces the effectiveness of diplomacy, deterrence and operations.

As for the EU, which the incoming US administration (unlike its predecessor) sees as a key provider of diplomatic and economic leverage, its budget is being blocked by Budapest and Warsaw in a fight over the rule of law. All this allows adversaries to exploit the west’s divisions — and gives them a welcome pretext to dismiss critiques of their own failings.

The transatlantic alliance, born out of the crucible of the second world war and the Holocaust, always had liberal democracy at its heart. For decades, the American security umbrella enabled the conditions for stable representative governance to take root in Europe: functioning states, open market economies, inclusive social contracts. Yet when some NATO member states took authoritarian turns — as happened in Greece, Portugal and Turkey — others turned a blind eye. Our allies’ domestic affairs, it was held, were none of our business.

This has to change. The alliance is based on the principle that the security of one member is the security of all. The 2008 financial crisis and its long aftermath taught us a hard lesson: in an interdependent world, the vulnerability of one is the vulnerability of all. And security today begins with resilient domestic governance.

#### It’s resilient, but irrelevant.

Doorenspleet ’19 [Renske; 2019; Professor of Politics at the University of Warwick; Palgrave Macmillan, “Rethinking the Value of Democracy: A Comparative Perspective,” p. 239-243]

Key Findings: Rethinking the Value of Democracy

The value of democracy has been taken for granted until recently, but this assumption seems to be under threat now more than ever before. As was explained in Chapter 1, democracy’s claim to be valuable does not rest on just one particular merit, and scholars tend to distinguish three different types of values (Sen 1999). This book focused on the instrumental value of democracy (and hence not on the intrinsic and constructive value), and investigated the value of democracy for peace (Chapters 3 and 4), control of corruption (Chapter 5) and economic development (Chapter 6). This study was based on a search of an enormous academic database for certain keywords,6 then pruned the thousands of articles down to a few hundred articles (see Appendix) which statistically analysed the connection between the democracy and the four expected outcomes.

The first finding is that a reverse wave away from democracy has not happened (see Chapter 2). Not yet, at least. Democracy is not doing worse than before, at least not in comparative perspective. While it is true that there is a dramatic decline in democracy in some countries,7 a general trend downwards cannot yet be detected. It would be better to talk about ‘stagnation’, as not many dictatorships have democratized recently, while democracies have not yet collapsed.

Another finding is that the instrumental value of democracy is very questionable. The field has been deeply polarized between researchers who endorse a link between democracy and positive outcomes, and those who reject this optimistic idea and instead emphasize the negative effects of democracy. There has been ‘no consensus’ in the quantitative literature on whether democracy has instrumental value which leads some beneficial general outcomes. Some scholars claim there is a consensus, but they only do so by ignoring a huge amount of literature which rejects their own point of view. After undertaking a large-scale analysis of carefully selected articles published on the topic (see Appendix), this book can conclude that the connections between democracy and expected benefts are not as strong as they seem. Hence, we should not overstate the links between the phenomena.

The overall evidence is weak. Take the expected impact of democracy on peace for example. As Chapter 3 showed, the study of democracy and interstate war has been a flourishing theme in political science, particularly since the 1970s. However, there are four reasons why democracy does not cause peace between countries, and why the empirical support for the popular idea of democratic peace is quite weak. Most statistical studies have not found a strong correlation between democracy and interstate war at the dyadic level. They show that there are other—more powerful—explanations for war and peace, and even that the impact of democracy is a spurious one (caveat 1). Moreover, the theoretical foundation of the democratic peace hypothesis is weak, and the causal mechanisms are unclear (caveat 2). In addition, democracies are not necessarily more peaceful in general, and the evidence for the democratic peace hypothesis at the monadic level is inconclusive (caveat 3). Finally, the process of democratization is dangerous. Living in a democratizing country means living in a less peaceful country (caveat 4). With regard to peace between countries, we cannot defend the idea that democracy has instrumental value.

Can the (instrumental) value of democracy be found in the prevention of civil war? Or is the evidence for the opposite idea more convincing, and does democracy have a ‘dark side’ which makes civil war more likely? The findings are confusing, which is exacerbated by the fact that different aspects of civil war (prevalence, onset, duration and severity) are mixed up in some civil war studies. Moreover, defining civil war is a delicate, politically sensitive issue. Determining whether there is a civil war in a particular country is incredibly difficult, while measurements suffer from many weaknesses (caveat 1). Moreover, there is no linear link: civil wars are just as unlikely in democracies as in dictatorships (caveat 2). Civil war is most likely in times of political change. Democratization is a very unpredictable, dangerous process, increasing the chance of civil war significantly. Hybrid systems are at risk as well: the chance of civil war is much higher compared to other political systems (caveat 3). More specifically, both the strength and type of political institutions matter when explaining civil war. However, the type of political system (e.g. democracy or dictatorship) is not the decisive factor at all (caveat 4). Finally, democracy has only limited explanatory power (caveat 5). Economic factors are far more significant than political factors (such as having a democratic system) when explaining the onset, duration and severity of civil war. To prevent civil war, it would make more sense to make poorer countries richer, instead of promoting democracy. Helping countries to democratize would even be a very dangerous idea, as countries with changing levels of democracy are most vulnerable, making civil wars most likely. It is true that there is evidence that the chance of civil war decreases when the extent of democracy increases considerably. The problem however is that most countries do not go through big political changes but through small changes instead; those small steps—away or towards more democracy—are dangerous. Not only is the onset of civil war likely under such circumstances, but civil wars also tend to be longer, and the conflict is more cruel leading to more victims, destruction and killings (see Chapter 4).

A more encouraging story can be told around the value for democracy to control corruption in a country (see Chapter 5). Fighting corruption has been high on the agenda of international organizations such as the World Bank and the IMF. Moreover, the theme of corruption has been studied thoroughly in many different academic disciplines—mainly in economics, but also in sociology, political science and law. Democracy has often been suggested as one of the remedies when fghting against high levels of continuous corruption. So far, the statistical evidence has strongly supported this idea. As Chapter 5 showed, dozens of studies with broad quantitative, cross-national and comparative research have found statistically signifcant associations between (less) democracy and (more) corruption. However, there are vast problems around conceptualization (caveat 1) and measurement (caveat 2) of ‘corruption’. Another caveat is that democratizing countries are the poorest performers with regard to controlling corruption (caveat 3). Moreover, it is not democracy in general, but particular political institutions which have an impact on the control of corruption; and a free press also helps a lot in order to limit corruptive practices in a country (caveat 4). In addition, democracies seem to be less affected by corruption than dictatorships, but at the same time, there is clear evidence that economic factors have more explanatory power (caveat 5). In conclusion, more democracy means less corruption, but we need to be modest (as other factors matter more) and cautious (as there are many caveats).

The perceived impact of democracy on development has been highly contested as well (see Chapter 6). Some scholars argue that democratic systems have a positive impact, while others argue that high levels of democracy actually reduce the levels of economic growth and development. Particularly since the 1990s, statistical studies have focused on this debate, and the empirical evidence is clear: there is no direct impact of democracy on development. Hence, both approaches cannot be supported (see caveat 1). The indirect impact via other factors is also questionable (caveat 2). Moreover, there is too much variation in levels of economic growth and development among the dictatorial systems, and there are huge regional differences (caveat 3). Adopting a one-size-ftsall approach would not be wise at all. In addition, in order to increase development, it would be better to focus on alternative factors such as improving institutional quality and good governance (caveat 4). There is not sufficient evidence to state that democracy has instrumental value, at least not with regard to economic growth. However, future research needs to include broader concepts and measurements of development in their models, as so far studies have mainly focused on explaining cross-national differences in growth of GDP (caveat 5).

Overall, the instrumental value of democracy is—at best—tentative, or—if being less mild—simply non-existent. Democracy is not necessarily better than any alternative form of government. With regard to many of the expected benefits—such as less war, less corruption and more economic development—democracy does deliver, but so do nondemocratic systems. High or low levels of democracy do not make a distinctive difference. Mid-range democracy levels do matter though. Hybrid systems can be associated with many negative outcomes, while this is also the case for democratizing countries. Moreover, other explanations—typically certain favourable economic factors in a country—are much more powerful to explain the expected benefits, at least compared to the single fact that a country is a democracy or not. The impact of democracy fades away in the powerful shadows of the economic factors.8

### Impact---AT: Climate Change---1NC

Emissions from India, China, and Africa thump.

#### No impact.

Kerr et al. ’19 [Amber, Daniel Swain, Andrew King, Peter Kalmus, Richard Betts, and William Huiskamp; June 4; Energy and Resources PhD at the University of California-Berkeley, known agroecologist, former coordinator of the USDA California Climate Hub; Climate Science PhD at UCLA, climate scientist, a research fellow at the National Center for Atmospheric Research; Earth Sciences PhD, Climate Extremes Research Fellow at the University of Melbourne; Physics PhD at the University of Colombia, climate scientist at NASA’s Jet Propulsion Lab; Professor and Chair in Climate Impacts at the University of Exeter, a lead author on the Fourth Assessment Report of the Intergovernmental Panel on Climate Change in Working Group 1; Paleoclimatology PhD at the Climate Change Research Center, climate scientist at the Potsdam Institute for Climate Impact Research; Climate Feedback, “Claim that human civilization could end in 30 years is speculative, not supported with evidence,” <https://climatefeedback.org/evaluation/iflscience-story-on-speculative-report-provides-little-scientific-context-james-felton/>]

There is no scientific basis to suggest that climate breakdown will “annihilate intelligent life” (by which I assume the report authors mean human extinction) by 2050.

However, climate breakdown does pose a grave threat to civilization as we know it, and the potential for mass suffering on a scale perhaps never before encountered by humankind. This should be enough reason for action without any need for exaggeration or misrepresentation!

A “Hothouse Earth” scenario plays out that sees Earth’s temperatures doomed to rise by a further 1°C (1.8°F) even if we stopped emissions immediately.

Peter Kalmus, Data Scientist, Jet Propulsion Laboratory:

This word choice perhaps reveals a bias on the part of the author of the article. A temperature can’t be doomed. And while I certainly do not encourage false optimism, assuming that humanity is doomed is lazy and counterproductive.

Fifty-five percent of the global population are subject to more than 20 days a year of lethal heat conditions beyond that which humans can survive

Richard Betts, Professor, Met Office Hadley Centre & University of Exeter:

This is clearly from Mora et al (2017) although the report does not include a citation of the paper as the source of that statement. The way it is written here (and in the report) is misleading because it gives the impression that everyone dies in those conditions. That is not actually how Mora et al define “deadly heat” – they merely looked for heatwaves when somebody died (not everybody) and then used that as the definition of a “deadly” heatwave.

North America suffers extreme weather events including wildfires, drought, and heatwaves. Monsoons in China fail, the great rivers of Asia virtually dry up, and rainfall in central America falls by half.

Andrew King, Research fellow, University of Melbourne:

Projections of extreme events such as these are very difficult to make and vary greatly between different climate models.

Deadly heat conditions across West Africa persist for over 100 days a year

Peter Kalmus, Data Scientist, Jet Propulsion Laboratory:

The deadly heat projections (this, and the one from the previous paragraph) come from Mora et al (2017)1.

It should be clarified that “deadly heat” here means heat and humidity beyond a two-dimension threshold where at least one person in the region subject to that heat and humidity dies (i.e., not everyone instantly dies). That said, in my opinion, the projections in Mora et al are conservative and the methods of Mora et al are sound. I did not check the claims in this report against Mora et al but I have no reason to think they are in error.

1- Mora et al (2017) Global risk of deadly heat, Nature Climate Change

The knock-on consequences affect national security, as the scale of the challenges involved, such as pandemic disease outbreaks, are overwhelming. Armed conflicts over resources may become a reality, and have the potential to escalate into nuclear war. In the worst case scenario, a scale of destruction the authors say is beyond their capacity to model, there is a ‘high likelihood of human civilization coming to an end’.

Willem Huiskamp, Postdoctoral research fellow, Potsdam Institute for Climate Impact Research:

This is a highly questionable conclusion. The reference provided in the report is for the “Global Catastrophic Risks 2018” report from the “Global Challenges Foundation” and not peer-reviewed literature. (It is worth noting that this latter report also provides no peer-reviewed evidence to support this claim).

Furthermore, if it is apparently beyond our capability to model these impacts, how can they assign a ‘high likelihood’ to this outcome?

While it is true that warming of this magnitude would be catastrophic, making claims such as this without evidence serves only to undermine the trust the public will have in the science.

Daniel Swain, Researcher, UCLA, and Research Fellow, National Center for Atmospheric Research:

It seems that the eye-catching headline-level claims in the report stem almost entirely from these knock-on effects, which the authors themselves admit are “beyond their capacity to model.” Thus, from a scientific perspective, the purported “high likelihood of civilization coming to an end by 2050” is essentially personal speculation on the part of the report’s authors, rather than a clear conclusion drawn from rigorous assessment of the available evidence.

## Adv---Cyber

### Patents---1NC

#### ‘Patent holdups’ are a lie. Antitrust policies are a greater threat.

Barnett ’18 [Jonathan, Ronald A. Cass, Richard A. Epstein, Douglas H. Ginsburg, Gus Hurwitz, David J. Kappos, Paul Michel, Adam Mossoff, Kristen Osenga, David J. Teece, and Joshua D. Wright; February 22; Professor at the USC Gould School of Law; Dean Emeritus of the Boston University School of Law; Law Professor at New York University; Senior Circuit Judge, United States Court of Appeals for the District of Columbia Circuit, Law Professor at George Mason University; Law Professor at the University of Nebraska; Former Under Secretary of Commerce and Director of the United States Patent & Trademark Office; Retired Chief Judge of the United States Court of Appeals for the Federal Circuit; Law Professor at George Mason University; Professor at the University of Richmond School of Law; Thomas W. Tusher Professor in Global Business at the University of California at Berkeley; Former Commissioner of the Federal Trade Commissioner, Law Professor at George Mason University; IP Watchdog, “Apply Evidence-based Approach to Antitrust Law Equally to Innovators and Implementers,” https://www.ipwatchdog.com/2018/02/22/evidence-based-application-antitrust-law/id=93755/]

As judges, former judges and government officials, legal academics and economists who are experts in antitrust and intellectual property law, we write to express our support for your recent announcement that the Antitrust Division of the Department of Justice will adopt an evidence-based approach in applying antitrust law equally to both innovators who develop and implementers who use technological standards in the innovation industries.

We disagree with the letter recently submitted to you on January 24, 2018 by other parties who expressed their misgivings with your announcement of your plan to return to this sound antitrust policy. Unfortunately, their January 24 letter perpetuates the long-standing misunderstanding held by some academics, policy activists, and companies, who baldly assert that one-sided “patent holdup” is a real-world problem in the high-tech industries. This claim rests entirely on questionable models that predict that opportunistic behavior in patent licensing transactions will result in higher consumer prices. These predictions are inconsistent with actual market data in any high-tech industry.

It bears emphasizing that no empirical study has demonstrated that a patent-owner’s request for injunctive relief after a finding of a defendant’s infringement of its property rights has ever resulted either in consumer harm or in slowing down the pace of technological innovation. Given the well understood role that innovation plays in facilitating economic growth and wellbeing, a heavy burden of proof rests on those who insist on the centrality of “patent holdup” to offer some tangible support for that view, which they have ultimately failed to supply in the decade or more since that theory was first propounded. Given the contrary conclusions in economic studies of the past decade, there is no sound empirical basis for claims of a systematic problem of opportunistic “patent holdup” by owners of patents on technological standards.

Several empirical studies demonstrate that the observed pattern in high-tech industries, especially in the smartphone industry, is one of constant lower quality-adjusted prices, increased entry and competition, and higher performance standards. These robust findings all contradict the testable implications of “patent holdup” theory. The best explanation for this disconnect between the flawed “patent holdup” theory and overwhelming weight of the evidence lies in the institutional features that surround industry licensing practices. These practices include bilateral licensing negotiations, and the reputation effects in long-term standards activities. Both support a feed-back mechanism that creates a system of natural checks and balances in the setting of royalty rates. The simplistic models of “patent holdup” ignore all these moderating effects.

Of even greater concern are the likely negative social welfare consequences of prior antitrust policies implemented based upon nothing more than the purely theoretical concern about opportunistic “patent holdup” behavior by owners of patented innovations incorporated 2 into technological standards. For example, those policies have resulted in demands to set royalty rates for technologies incorporated into standards in the smartphone industry according to particular components in a smartphone. This was a change to the longstanding industry practice of licensing at the end-user device level, which recognized that fundamental technologies incorporated into the cellular standards like 2G, 3G, etc., optimize the entire wireless system and network, and not just the specific chip or component of a chip inside a device.

#### Contracts are efficient now. Antitrust action is unnecessary.

Wright ’13 [Joshua; September 12; Commissioner of the Federal Trade Commissioner; Center for the Protection of Intellectual Property Inaugural Academic Conference: The Commercial Function of Patents in Today’s Innovation Economy, “SSOs, FRAND, and Antitrust: Lessons from the Economics of Incomplete Contracts,” https://www.ftc.gov/sites/default/files/documents/public\_statements/ssos-frand-and-antitrust-lessons-economics-incomplete-contracts/130912cpip.pdf]

Today I would like to share some thoughts with you regarding standard setting organizations (“SSOs”), their contracting practices, and the appropriate role of antitrust in regulating SSO contracts. In particular, I am going to focus upon licensing issues involving Standard Essential Patents (“SEPs”) that arise from SSO Intellectual Property Right (“IPR”) policies. Terms of art from the economics of contracting, such as “holdup,” “reverse hold-up” and “ex post opportunism,” are commonly invoked around current debates concerning SEP licensing. Indeed, some of these terms appear to have taken on a life of their own when applied to SSO contracting and IPRs. While I also approach patent licensing in general, and SSO contracting specifically, from an economic perspective, I am concerned that some important economic insights have been misunderstood, misapplied, or ignored altogether.

Economists have long recognized that the very literature upon which the current patent hold-up agenda is based teaches that private ordering and contracting play an important role in governing ex post opportunism. Indeed, the economics of hold-up began not as an effort to explain contract failure, but as an effort to explain real world contract terms, performance, and enforcement decisions starting with the fundamental premise that contracts are necessarily incomplete. The incompleteness of contracts did not signal inefficiency; rather, incomplete contracts were a predictable and efficient result given the costs associated with identifying all contingencies that might arise during the life of the contractual relationship.

Understanding the contracting process, and the role of incompleteness and ambiguity in SSO contracts, is a necessary first step toward understanding what incentives different legal and regulatory regimes will have upon that process. It is impossible, and likely counter-productive, to talk about the relative efficiency of one set of rules or another without first understanding the underlying contracting process. Only with that understanding in hand can one begin to analyze the desirability of different legal frameworks to govern ex post opportunism with respect to SEPs in the SSO setting. Much of the current policy debate surrounding SSO contracts involving SEPs is based upon precisely these sorts of questions. For example, is the availability of injunctive relief as opposed to monetary damages for infringement of an SEP desirable in the shadow of a fair or reasonable and non-discriminatory (“F/RAND”) commitment? Or, what will be the effect of imposing antitrust remedies for what amounts to the breach of a F/RAND commitment found in an SSO contract? Many policymakers and academics have developed strong priors that SSO contracts are inherently inefficient due to their incompleteness, and in particular, the ambiguity of the F/RAND commitment and lack of precision concerning when injunctive relief is permitted. Based upon those priors, certain policymakers and academics often argue that the SSO contracting process is broken and requires additional legal machinery to afford potential licensees and consumers greater protection. I do not believe that conclusion – or many of the policy measures suggested or already adopted – follows from the relevant economic principles or, where economic theory offers conflicting predictions, the available empirical evidence.

#### No externalities for SSOs. Parties have opposing incentives, which drives royalty rates down.

Wright ’13 [Joshua; September 12; Commissioner of the Federal Trade Commissioner; Center for the Protection of Intellectual Property Inaugural Academic Conference: The Commercial Function of Patents in Today’s Innovation Economy, “SSOs, FRAND, and Antitrust: Lessons from the Economics of Incomplete Contracts,” https://www.ftc.gov/sites/default/files/documents/public\_statements/ssos-frand-and-antitrust-lessons-economics-incomplete-contracts/130912cpip.pdf]

Economic theory tells us that one possible reason for market failure is the existence of externalities. In markets where externalities are present, economic agents do not sufficiently internalize the costs that their actions or particular rules that they impose onto others. Does the SSO contracting process result in such externalities? It appears unlikely, as most if not all SSOs include both contributing and adopter members (licensees), and as I mentioned earlier, SSOs have incentives to strike a balance between the interests of both member groups in order to attract both groups and increase the value of the organization as a platform.

Some have suggested that licensees do not necessarily care about increased royalty rates, for example, because the increased rates are simply passed on to end-user customers.37 This is not likely to be the case. Bargaining over royalty rates and litigation involving licensee claims against SSOs to enforce contract terms suggest licensees do care. Further, licensees are not likely to pass on the full increased cost of a royalty rate increase. This makes complete economic sense. Very few end-use products, and in particular those that incorporate standardized technology, face a completely inelastic demand curve where manufacturers are able to completely pass on higher royalty rates to consumers. Additionally, I am not aware of any reliable evidence that indicates royalty rates and final end-use prices are higher for standardized technologies.

Others have argued that SSOs are best conceived of as collaboration among competitors who have entered into a de facto quid pro quo with antitrust authorities by which the authorities allow collusive interaction in the form of standardization in exchange for tougher antitrust scrutiny. 38 This argument strikes me as a rhetorical device that does not shed much light on the relevant economics of SSOs and their role in the modern economy. It is neither a serious claim that such a quid pro quo actually exists, nor is it an attempt to accurately describe the economic function of SSOs. And how could it be? There is no empirical evidence that supports the proposition that breach of an SSO contract – even one resulting in higher royalty rates – is somehow analogous to the collusive interaction between rivals conventionally condemned by the antitrust laws or generates similar economic effects. Further, courts have uniformly rejected this view when interpreting and applying the Sherman Act. In particular, to date there does not appear to be a single case that finds breach of an SSO agreement without proof that deception resulted in acquisition of market power a violation of the Sherman Act.39

### Impact---AT: Cyber---1NC

#### No cyber impact – attribution, restraint, and capabilities.

Lewis ’20 [James Andrew; 8/17/20; senior vice president and director of the Strategic Technologies Program at the Center for Strategic and International Studies; "Dismissing Cyber Catastrophe," https://www.csis.org/analysis/dismissing-cyber-catastrophe]

More importantly, there are powerful strategic constraints on those who have the ability to launch catastrophe attacks. We have more than two decades of experience with the use of cyber techniques and operations for coercive and criminal purposes and have a clear understanding of motives, capabilities, and intentions. We can be guided by the methods of the Strategic Bombing Survey, which used interviews and observation (rather than hypotheses) to determine effect. These methods apply equally to cyberattacks. The conclusions we can draw from this are:

Nonstate actors and most states lack the capability to launch attacks that cause physical damage at any level, much less a catastrophe. There have been regular predictions every year for over a decade that nonstate actors will acquire these high-end cyber capabilities in two or three years in what has become a cycle of repetition. The monetary return is negligible, which dissuades the skilled cybercriminals (mostly Russian speaking) who might have the necessary skills. One mystery is why these groups have not been used as mercenaries, and this may reflect either a degree of control by the Russian state (if it has forbidden mercenary acts) or a degree of caution by criminals.

There is enough uncertainty among potential attackers about the United States’ ability to attribute that they are unwilling to risk massive retaliation in response to a catastrophic attack. (They are perfectly willing to take the risk of attribution for espionage and coercive cyber actions.)

No one has ever died from a cyberattack, and only a handful of these attacks have produced physical damage. A cyberattack is not a nuclear weapon, and it is intellectually lazy to equate them to nuclear weapons. Using a tactical nuclear weapon against an urban center would produce several hundred thousand casualties, while a strategic nuclear exchange would cause tens of millions of casualties and immense physical destruction. These are catastrophes that some hack cannot duplicate. The shadow of nuclear war distorts discussion of cyber warfare.

State use of cyber operations is consistent with their broad national strategies and interests. Their primary emphasis is on espionage and political coercion. The United States has opponents and is in conflict with them, but they have no interest in launching a catastrophic cyberattack since it would certainly produce an equally catastrophic retaliation. Their goal is to stay below the “use-of-force” threshold and undertake damaging cyber actions against the United States, not start a war.

This has implications for the discussion of inadvertent escalation, something that has also never occurred. The concern over escalation deserves a longer discussion, as there are both technological and strategic constraints that shape and limit risk in cyber operations, and the absence of inadvertent escalation suggests a high degree of control for cyber capabilities by advanced states. Attackers, particularly among the United States’ major opponents for whom cyber is just one of the tools for confrontation, seek to avoid actions that could trigger escalation.

The United States has two opponents (China and Russia) who are capable of damaging cyberattacks. Russia has demonstrated its attack skills on the Ukrainian power grid, but neither Russia nor China would be well served by a similar attack on the United States. Iran is improving and may reach the point where it could use cyberattacks to cause major damage, but it would only do so when it has decided to engage in a major armed conflict with the United States. Iran might attack targets outside the United States and its allies with less risk and continues to experiment with cyberattacks against Israeli critical infrastructure. North Korea has not yet developed this kind of capability.

#### Resilience solves.

Lewis ’20 [James Andrew; 8/17/20; senior vice president and director of the Strategic Technologies Program at the Center for Strategic and International Studies; "Dismissing Cyber Catastrophe," https://www.csis.org/analysis/dismissing-cyber-catastrophe]

One major failing of catastrophe scenarios is that they discount the robustness and resilience of modern economies. These economies present multiple targets and configurations; they are harder to damage through cyberattack than they look, given the growing (albeit incomplete) attention to cybersecurity; and experience shows that people compensate for damage and quickly repair or rebuild. This was one of the counterintuitive lessons of the Strategic Bombing Survey. Pre-war planning assumed that civilian morale and production would crumple under aerial bombardment. In fact, the opposite occurred. Resistance hardened and production was restored.1

## Adv---Solvency

### Solvency---AT: Courts---1NC

#### Courts fail.

Leary ‘8 [Thomas; Summer 2008; Hogan & Hartson Law Firm, Former Commissioner at the Federal Trade Commission; Antitrust, “Perspectives on the Future Direction of Antitrust,” vol. 22]

About thirty years ago, antitrust jurisprudence began to focus on economics rather than populist slogans. After some initial resistance, this new approach gained wide acceptance. Unfortunately, some courts have not recognized that economics is still an evolving discipline, and have failed to apply William Baxter’s admonition that a “sensible antitrust policy” should be “based on whatever it is we know at any particular moment about the economics of industrial organization.”

This failure is illustrated by three recent FTC defeats in the federal courts. Each case had special factual issues, but a common thread was the inability of the courts to absorb unfamiliar economic ideas.

The Eleventh Circuit’s 2005 Schering opinion on litigation settlements between pioneer and generic drug manufacturers was dead wrong on the burden of proof when infringement is disputed and in its application of the substantial evidence standard. But the court also was unable to appreciate the unusual economics of the industry, which enabled generics to profit more from litigation settlement than from outright victory. The usual judicial preference for settlements will simply eviscerate the Hatch-Waxman Act, designed to encourage litigation to judgment in this particular area.

The D.C. District Court in Whole Foods (2007) focused on price effects, usually a traditional and sound approach. But price was not the only significant dimension of competition between the merging grocery chains. They were the two largest providers of an innovative and differentiated shopping experience for consumers of premium “organic” foods. Whole Foods was not interested in the Wild Oats stores or its cash flow; it wanted to eliminate a chain that presented a unique competitive threat. We know that because the CEO said so, in unusually candid statements that the court simply ignored.

The D.C. Circuit Court in Rambus (2008) ignored factual findings, applied a questionable evidentiary standard, and wrongfully concluded that Rambus might have merely exploited an existing monopoly. It also failed to fully appreciate that demand side distortions (in the “market” for competing technologies) are just as economically harmful as the supply side distortions with which antitrust is usually concerned, and that proof of deception can depend on the reasonable subjective expectations of an audience.

These decisions also indicate that many courts no longer recognize the FTC’s special mission to provide purely prospective antitrust guidance. An extensive body of judicial precedent may have undercut the importance of this mission, and private litigation realities diminish prospects for purely prospective guidance. Out of frustration, the FTC may begin to rely more on its Section 5 unfairness authority. This could lessen the risk of retroactive consequences in private litigation but could also awaken concerns about revival of less disciplined agency discretion. More aggressive deployment of Section 5 would not necessarily be a retrograde step, however, so long as the agency remembers that freedom to enter uncharted territory beyond precedent is not the same as freedom to ignore evolving economic principles.

# 2NC

## CP---States

## CP---Patent Law

## DA---FTC

## DA---Biz Con

### Impact---2NC

#### The link alone turns case---alternative frameworks are unenforceable and vague, but breadth produces false positives that distort marketplace effects.

Newman ’19 [John; 2019; Assistant Professor at the University of Memphis Cecil C. Humphreys School of Law; Indiana Law Journal, “Procompetitive Justifications in Antitrust Law,” vol. 94]

B. Competitive Process

The competitive-process approach purports to distinguish between pro-and anticompetitive restraints via their effects not on welfare or efficiency, but on "competition itself' or on the "competitive process." In other words, if a challenged restraint somehow benefits the competitive process, the defendant may avoid antitrust liability. Multiple antitrust scholars argue that "competitive process" is the prevailing and appropriate approach. 97 Others, while conceding that it has fallen out of favor, nonetheless call for its resurrection. 98

Footnote 97:

97. E.g., Werden, supra note 9; see also Barak Orbach, How Antitrust Lost Its Goal, 81 FORDHAM L. REv. 2253, 2256 (2013). Here and elsewhere, Orbach offers a convincing argument to the effect that the "consumer welfare" standard does not offer as much clarity as its proponents generally assume. While that may be so, it does not follow that the "competitive process" (or "competition") standard fares any better. In fact, the latter standard appears to offer even less clarity—unless it means simply that defendants always lose, in which case it offers a great deal of clarity but also (likely) an overly high likelihood of false positives. Orbach's historical account concludes that "competition" was the sole standard for the roughly seven decades between the passage of the Sherman Act and the release of Bork's The Antitrust Paradox. Orbach, supra, at 2277. This account does not, however, discuss Chicago Board of Trade.

End of Footnote 97.

But the actual content of the competitive-process approach remains mercurial, a cipher. The scholarly arguments in favor of it never seem to identify what, exactly, constitutes the "competitive process." More than a half-century has passed since the Court first clearly invoked the competitive process approach to condemn a restraint of trade, yet terms like "competition" and "competitive process" are still "wonderfully ill-defined." 99

Whatever the competitive process may be, it apparently can be harmed. A plaintiff carries its initial burden by showing such harm.100 If (or, perhaps more accurately, when) the plaintiff succeeds, the burden then shifts to the defendant to demonstrate some offsetting benefit.1 " 101 If it is unclear what constitutes harm to the competitive process, it is even less clear what might qualify as a benefit. But, at least in theory, a defendant who succeeds in proving such a benefit may escape liability. 102

A permissible reading of the relevant precedent suggests that the overriding concern does not lie with marketplace effects, placing this approach at loggerheads with the rest of modem antitrust law. 103 Instead, the competitive-process approach derives from a group of rather vaguely defined rights. These include, but are not limited to, the right of a "single merchant" to compel a "group of powerful businessmen" to supply him with "the goods he needs to compete effectively," 10 4 the "right" of traders to be "free" from various nonstandard contractual provisions,105 and a more general right of "freedom of action."106

Given the lack of clarity in the area, one is left free (or, less charitably, forced) to speculate as to the source and content of these rights. Perhaps they derive from Lochnerian freedom of contract. Certain early U.S. Supreme Court antitrust decisions-which happen to lie squarely in the heart of the Lochner Era-do speak of antitrust-related "rights." Thus, for example, the Court in 1914 identified a single retailer's "unquestioned right to stop dealing with a wholesaler for reasons sufficient to himself."10 But by 1945, after the end of the Lochner Era,10 8 the Court was retreating from that hardline stance, referring to it as "true" only "in a very general sense." 109

### Uniqueness---2NC

#### Business confidence is strong, driving economic recovery.

Halloran ’9-14 [Michael; 2021; M.B.A. from Carnegie Mellon University, former aerospace research engineer, Equity Strategist; Janney, “Despite Potential Headwinds, Key Labor Market Indicators Bode Well for the Economy,” https://www.janney.com/latest-articles-commentary/all-insights/insights/2021/09/14/despite-potential-headwinds-key-labor-market-indicators-bode-well-for-the-economy]

However, we remain encouraged by the recovery that has been unfolding since the economy began reopening. We continue to see improvement in important cyclical sectors of the economy while consumers are historically healthy and still have pent-up demand. Business confidence has rebounded with strong corporate profits that should support further capital spending and hiring (there are now more job openings than there are unemployed people by a record amount).

We expect to see further improvement in the international backdrop, supported by unprecedented fiscal and monetary stimulus and accelerating rates of vaccination. Although the impact of the Delta wave is still being felt, recent evidence confirms the effectiveness of vaccines in limiting deaths and hospitalizations. With the pace of vaccination now picking up in the areas most impacted by this wave—Asia and Australia—the case for fading headwinds leading to improving economic growth later this year remains positive.

The signals from financial markets themselves remain positive. Despite consolidating last week, stocks remain near record highs while the 10-year Treasury remains well above the lows of earlier this summer when concerns about Delta first emerged.

These factors support our view of a durable economic recovery from the pandemic that should continue supporting stock prices. A healthy labor market is a critical element for a sustainable recovery that supports profit growth and last week’s news from the labor market remains encouraging.

#### Overwhelming data proves---confidence is steady AND the bedrock of recovery.

Gordish ’9-2 [Stefanie; 2021; citing Jeff Collins, chief economist at Coupa and comprehensive data; Coupa, “Businesses Surge Ahead Despite Rising Delta Variant Concerns, According to Coupa Business Spend Index,” https://investors.coupa.com/news-releases/news-release-details/businesses-surge-ahead-despite-rising-delta-variant-concerns]

SAN MATEO, Calif., Sept. 2, 2021 /PRNewswire/ -- Business spend data showed continued improvement in Q3 2021, increasing nearly 3 percent from last quarter, representing continued confidence in the economic outlook according to data gleaned from the Coupa platform which is used by more than 2,000 companies.

The insights published today by Coupa Software (NASDAQ: COUP) in its quarterly Business Spend Index (BSI), Q3 2021 Outlook, leverage billions of dollars of aggregated and anonymized data on search, order, and pay activities to provide a predictive measure of confidence in future economic opportunity as defined by the willingness of businesses to commit to spend.

The entire Coupa BSI Q3 2021 Outlook can be accessed here.

BSI Q3 2021 Insights in Key Industries:

* Manufacturing: Increased for the first time in three quarters, though this may put additional pressure on stressed supply chains as well as prices.
* Retail: Increased strongly, indicating business confidence in the sector is rebounding. Recent evidence suggests consumers are returning to brick-and-mortar locations.
* Health and Life Sciences: Increased, modestly, and will likely perform near trend for the next one to two quarters though COVID variants could challenge the sector's growth.
* Business Services: Declined after three consecutive quarters of growth. We expect sector performance to continue to decelerate based on overall deceleration in the BSI.
* Financial Services: Unchanged, the sector has remained stable throughout the pandemic. Income support will likely continue to prop up consumer demand in the near term.
* High Tech: Unchanged, however global chip shortages could disrupt activity in the sector and reduce growth into 2023.

"Despite persistent supply chain disruptions, spiking COVID cases, and delayed return to work plans, spend per customer is up 20 percent year-over-year indicating business confidence is returning to pre-pandemic levels," said Jeff Collins, chief economist at Coupa. "The increases within Manufacturing and Retail are indicative of continued upward demand from consumers and businesses as the economy returns to normal."

#### High business confidence is driving the fastest growth in decades.

Mutikani ’21 [Lucia; July 27; reporter at Reuters, citing Priscilla Thiagamoorthy, an economist at BMO Capital Markets in Toronto, Pooja Sriram, an economist at Barclays in New York, and Will Compernolle, senior economist at FHN Financial in New York; Reuters, “U.S. consumer confidence at 17-month high; business spending on equipment strong,” https://www.reuters.com/world/us/us-core-capital-goods-orders-rise-solidly-june-2021-07-27/]

U.S. consumer confidence inched up to a 17-month high in July, with households' spending plans rising even as concerns about higher inflation lingered, suggesting the economy maintained its strong growth clip early in the third quarter.

The economy's prospects were further brightened by other data on Tuesday showing a solid increase in new orders for manufactured capital goods in June despite supply constraints hampering production at some factories, indicating that business spending on equipment could remain strong for a while.

The reports could ease worries about a sharp slowdown in growth in the second half of the year as the boost from massive fiscal stimulus fades. The economy is believed to have notched its second-fastest growth pace since 1983 in the second quarter.

"Higher confidence suggests that consumer spending should support robust growth in the second half of this year," said Priscilla Thiagamoorthy, an economist at BMO Capital Markets in Toronto.

The Conference Board said its consumer confidence index ticked up to a reading of 129.1 this month, the highest level since February 2020, from 128.9 in June. Economists polled by Reuters had forecast the index would fall to 123.9.

Consumers' inflation expectations over the next 12 months dipped to 6.6% from 6.7% last month. The Conference Board survey places more emphasis on the labor market. The University of Michigan's survey of consumers showed sentiment falling in early July because of inflation concerns.

Consumer confidence held up despite the Delta variant of the coronavirus driving a surge in new infections mostly among the unvaccinated. Confidence fell in the West South Central and West North Central states, as well as the Mountain region, which have low vaccination rates and are experiencing a surge in infections.

"The Delta variant does pose some downside risk, although we do not expect it to derail confidence entirely, given that its spread is uneven and largely concentrated in areas with low vaccination rates," said Pooja Sriram, an economist at Barclays in New York.

The survey's so-called labor market differential, derived from data on respondents' views on whether jobs are plentiful or hard to get, nudged up to 44.4 in July. That was the highest level since 2000 and up from 44.2 in June. This measure closely correlates to the unemployment rate in the Labor Department's closely watched employment report.

More households intended to buy long-lasting manufactured goods such as motor vehicles and household appliances such as refrigerators and television sets, which should help to underpin consumer spending and manufacturing, the survey showed. Consumers were also keen to purchase homes.

Households are sitting on at least $2.5 trillion in excess savings accumulated during the pandemic.

Stocks on Wall Street were trading lower ahead of earnings reports from major companies and as the Federal Reserve held a two-day policy meeting. The dollar (.DXY) slipped against a basket of currencies. U.S. Treasury prices were higher.

Surging House Prices

In a separate report on Tuesday, the Commerce Department said orders for non-defense capital goods excluding aircraft, a closely watched proxy for business spending plans, rose 0.5% last month. These so-called core capital goods orders gained 0.5% in May. Shipments of core capital goods increased 0.6% after accelerating 0.9% in May.

Core capital goods shipments are used to calculate equipment spending in the government's gross domestic product measurement.

"Supply chain issues are holding back faster capacity adjustment, but business investment is showing no signs of slowing down or a lack of confidence in continuing strength in consumer demand," said Will Compernolle, senior economist at FHN Financial in New York.

Business investment on equipment has boomed during the pandemic, underpinning manufacturing, which accounts for 11.9% of the U.S. economy. Consumer spending shifted to goods from services, with millions of Americans cooped up at home. Record low interest rates and massive fiscal stimulus measures offered a further boost, causing supply constraints.

Though demand is reverting to services, with just under half of the population fully vaccinated against the coronavirus, spending on goods is likely to remain strong.

Business spending on equipment has recorded three straight quarters of double-digit growth. Another solid quarter of growth is expected when the government publishes its advance estimate of GDP growth for the second quarter on Thursday.

According to a Reuters survey, GDP growth likely increased at an 8.5% annualized rate last quarter, an acceleration from the first quarter's 6.4% pace. The anticipated growth in the second quarter would be the fastest since 1983 and could mark a peak in the current cycle.

### Link---2NC

#### Err neg---regulators have inherently limited knowledge, but markets are self-correcting and naturally resolve imbalances over time---antitrust snowballs to end competitive sectors.

Jamison ’21 [Mark; June 25; Nonresident Senior Fellow at the American Enterprise Institute, Professor of the Public Utility Research Center at the University of Florida’s Warrington College of Business, former member of the FCC transition team, Ph.D. in Economics from the University of Florida; American Enterprise Institute, “SCOTUS affirms the importance of regulatory humility,” <https://www.aei.org/technology-and-innovation/scotus-affirms-the-importance-of-regulatory-humility/>]

In making its decision, the Court provided words of wisdom for judges that might be tempted to assume godlike knowledge of the workings of businesses, consumers, and markets:

Antitrust courts must give wide berth to business judgments before finding liability. . . . Similar considerations apply when it comes to the remedy. Judges must be sensitive to the possibility that the “continuing supervision of a highly detailed decree” could wind up impairing rather than enhancing competition. . . . Costs associated with ensuring compliance with judicial decrees may exceed efficiencies gained; the decrees themselves may unintentionally suppress procompetitive innovation and even facilitate collusion. . . . Judges must be wary, too, of the temptation to specify “the proper price, quantity, and other terms of dealing” — cognizant that they are neither economic nor industry experts. . . . In short, judges make for poor “central planners” and should never aspire to the role.

Judges would do well to take this call for humility to heart. They are experts in law, not in business and economics. But even business and economic experts cannot know enough to determine proper prices, products, business organization, and the like. That’s one of the reasons that we have markets.

Antitrust regulators [should](https://www.aei.org/technology-and-innovation/importance-regulatory-humility/) also heed the Court’s wisdom. As former Federal Trade Commission (FTC) Chair Maureen Ohlhausen [points](https://scholarship.law.edu/cgi/viewcontent.cgi?referer=&httpsredir=1&article=1548&context=commlaw) out, government officials “should resist the urge to simplify, make every effort to tolerate complexity, and develop institutions that are robust in the face of complex and rapidly changing phenomena. Unfortunately, regulation too often is a procrustean bed for the regulated industry, due to the limits of regulators’ knowledge and foresight.”

Finally, professors, legislators and their staffs, and others who drive for greater antitrust control of business should also note the Court’s warning. The what-you-see-is-all-there-is cognitive [bias](https://en.wikipedia.org/wiki/Thinking,_Fast_and_Slow) is strong among them, as evidenced by state legislatures seeking to set terms and prices for Amazon, the House Judiciary Committee majority staff concluding that Big Tech needs government control [without studying](https://www.aei.org/technology-and-innovation/on-big-tech-antitrust-and-the-house-judiciary-committee-majority-staffs-recommendations/) any of the directly relevant 250 empirical scholarly papers published in top business journals, and numerous law journal articles and books arguing for aggressive antitrust action while getting the [underlying](http://bciptf.org/2020/04/applying-antitrust-in-digital-markets) [economics](http://cablj.org/wp-content/uploads/2020/06/Ready-Jamison.pdf) wrong.

And as my AEI colleague Daniel Lyons recently [explained](https://www.aei.org/technology-and-innovation/house-antitrust-bill-embraces-unjustified-presumption-against-vertical-integration/), the antitrust bills before the House Judiciary Committee are “long on rhetoric and short on evidence.” Zeroing in on the bills’ prohibitions on so-called self-preferencing (i.e., when a platform such as Google might list its own services before listing those of its rivals), Lyons points out that the draft bills follow the House Judiciary Committee majority staff report’s lead and ignore a substantial body of economic research that shows such self-preferencing generally benefits consumers.

Regulatory hubris is a dangerous thing. It is based on [false](https://www.aei.org/technology-and-innovation/some-faulty-premises-of-neutrality-movement-part-i/) [premises](https://www.aei.org/technology-and-innovation/some-faulty-premises-of-neutrality-movement-part-ii/) [that](https://www.aei.org/technology-and-innovation/the-dangers-and-false-beliefs-of-designer-antitrust/) smart bureaucrats and researchers know more about consumer value and more about business economics than do consumers and businesses. It also follows the faulty logic that innovation is a simple process that governments can design, and that simple rules of thumb such as “big is bad” are more valuable than are careful analyses and letting market interactions work out the knowledge that consumers, businesses, and investors hold. Carried to its logical conclusion, regulatory hubris here would foster the [Europeanization](https://www.aei.org/economics/taking-another-look-at-europes-terrible-record-of-generating-successful-tech-firms/) of US tech companies. As my AEI colleague James Pethokoukis [observes](https://www.aei.org/economics/a-quick-look-at-europes-tech-giants-challenging-americas-mega-platform-companies/), if you look for Europe’s tech giants, you won’t find any. If the US follows Europe’s lead, there won’t be tech giants from the US either.

Rather than press ahead with hubris, government officials should take a page out of the FTC’s playbook. Rather than assuming it knew the future of digital advertising and using its heavy hand to control Google during the Barack Obama administration, the agency [stepped back](https://www.aei.org/technology-and-innovation/what-the-leaked-ftc-memos-on-google-really-teach-us/) and let markets resolve the uncertainty. Today’s consumers are better off because of this act of humility — and would benefit from similar decisions in the future.

#### It sets precedent, spilling over to unrelated sectors and preemptively chilling innovation.

Crews ’19 [Clyde and Ryan; April 16; Vice President for Policy and Senior Fellow at the Competitive Enterprise Institute; Senior Fellow at the Competitive Enterprise Institute, M.A. in Economics from George Mason University; CEI, “The Case against Antitrust Law,” <https://cei.org/studies/the-case-against-antitrust-law/>]

Uncertainty. Antitrust regulation creates an enormous amount of economic uncertainty. Nobody knows how it will be used at a given time. If antitrust statutes are interpreted literally, potentially any firm, no matter how small, can be charged with an antitrust violation—or for dominating its relevant market, however defined. If a business sells goods at a lower price than its competitors, it can be charged with predatory pricing. If it sells goods at the same price as its competitors, it can be charged with collusion. And if it sells goods at a higher price than its competitors, it can be charged with abusing market power.

A century of case law has evolved some guidelines, but judicial precedents can be overturned any time a new case is brought. There are few bright-line legislative or judicial standards for antitrust enforcement. It is mostly guided by a mix of inconsistently enforced judicial precedents, regulators’ personal discretion, and political factors unrelated to market competition. Even the mere threat of antitrust enforcement can have a preemptive chilling effect on innovation, business strategies, and potential efficiency-enhancing arrangements.

Rent-seeking. Neo-Brandeisians rightly want to reduce rent-seeking, but they routinely propose policies that will backfire because of a common misunderstanding of how governments work in practice. Government employees do not operate with only the public interest in mind. They are human beings, with the same incentives and flaws as other human beings. They want to increase their budgets and power and enjoy the publicity that accompanies big cases. It also makes regulators especially vulnerable to what is known as a Baptist-and-boot-legger dynamic. In Clemson University economist Bruce Yandle’s classic example, a moralizing Baptist and a profit-seeking bootlegger will both favor a law requiring liquor stores to close on Sundays, though for different reasons. A true-believing “Baptist” in Congress or at the Justice Department or the FTC would be inclined to listen seriously to the entreaties of corporate “bootleggers” who can come up with virtuous-sounding reasons for why regulators should give their businesses special favorable treatment.36

Oracle, one of Microsoft’s rivals, ran its own independent Microsoft investigation during that company’s antitrust case, for what it alleged were Baptist-style reasons. “All we did is try to take information that was hidden and bring it to light,” said Oracle CEO Larry Ellison. “I don’t think that was arrogance. I think it was a public service.”37 Former Sen. Orrin Hatch (R-UT), who counted Oracle among his constituents, was one of the loudest anti-Microsoft voices in Congress. Around that time, he also received $17,500 donations from executives at Netscape, AOL, and Sun Microsystems. Perhaps heeding Hatch’s admonition that, “If you want to get involved in business, you should get involved in politics,” Microsoft expanded its presence in Washington from a small outpost at a Bethesda, Maryland, sales office to a large downtown Washington office with a full-time staff plus multiple outside lobbyists.38 Microsoft quickly went from a virtual non-entity in Washington to the 10th-largest corporate soft money campaign donor by the 1997-1998 election cycle. Sen. Hatch’s campaign was among the beneficiaries.39

The lines between Baptist and boot- legger can be blurry, and some actors play both parts. But such ethical dynamics are an integral part of antitrust regulation in practice.

Government usually stifles competition. If antitrust regulation is to be retained, it should not be a first-resort policy. If a company has an overwhelming competitive advantage, it is important to first ask what is causing it. If the advantage is due to superior performance, then consumers are not being harmed.

In most cases, dominance does not last long, as evidenced by how quickly any list of America’s largest companies changes from year to year. If a company does remain dominant for a long period of time, one of two possibilities must be true. The first option is that it continues to be consumers’ preferred option. The second is that it is engaging in rent-seeking behavior. In the first case, there is no need for an antitrust intervention. In the second case, the solution is not antitrust regulation, but to take away the government’s power to tilt the scales in rent-seekers’ favor.

Think long term. Robert Bork, though famous for his antitrust skepticism, still favors some antitrust regulation. He merely favors a more restrained usage than the Brandeis school. As he writes in The Antitrust Paradox, “Antitrust is valuable because in some cases it can achieve results more rapidly than can market forces. We need not suffer losses while waiting for the market to erode cartels and monopolistic mergers.”40

Bork’s statement is problematic for several reasons. How do regulators and judges know which cases are causing consumer harm and which are not? How do they decide which cases to pursue? Cases also often take years to resolve. Assuming regulators identify a valid case, how would they, and the judges who hear the case, know if market activity could address the problem by the time the case is decided? Do the benefits of regulatory action exceed the court and enforcement costs? Are the affected companies in a position to capture the regulators?

More to the point, does the short-term benefit come at a greater long-term cost? An enforcement action now could have a deterrent effect on future mergers, contracts, and innovations, including in unrelated industries. The consumer harm from these could well exceed the short-term benefits of a short-term improvement on market outcomes—assuming that regulators are consistently capable of such a feat.

### Link---FRAND---2NC

#### Government standard setting unravels confidence and innovation.

Barnett ’19 [Jonathan; Spring; Law Professor at the University of Southern California; Michigan Technology Law Review, “Article: Antitrust Overreach: Undoing Cooperative Standardization In The Digital Economy,” Vol. 25]

In this Article, I show that this argument has things exactly backward: patents and patent licenses support the standardization mechanisms that have driven the exceptional success of the smartphone markets. It is regulators' top-down interventions, rather than the bottom-up network of voluntarily negotiated licensing agreements, that threaten to unravel this remarkable market-driven mechanism for incentivizing innovation, standardization, and dissemination of new technologies across a wide array of products and services for end-users.

The regulatory and academic near-consensus 10 relies on a false factual premise that leads to misguided policy. The factual premise is mistaken because there is simply no compelling empirical evidence to support regulators' claims that even the largest patent owners widely engage in "patent holdup" or "royalty stacking," or even have rational incentives to do so. 11Consistent with the exceptional growth of the smartphone industry, all empirical studies have reached relatively modest estimates of the total royalty burden typically borne by device manufacturers. 12The policy conclusion is mistaken because it ignores the basic fact that a secure legal foundation of property rights and contract is a necessary predicate to induce innovators to undertake high-cost, high-risk R&D and then disclose the results in a standard-setting process over which no individual firm exerts unilateral control. If that legal predicate is no longer satisfied, firms that currently specialize in innovation are likely to reduce R&D activities, withdraw from standard-setting activities, or construct closed innovation environments in which firms monetize R&D through proprietary hardware and software products. All those outcomes are almost certainly inferior relative to the status quo.

### Uniqueness---Thumpers---2NC

#### Thumpers supercharge the link---the aff is the ‘millionth pebble,’ blocking water altogether.

Broughel ’17 [James; May 10; Economics PhD from George Mason University, adjunct professor of law at the Antonin Scalia Law School; Regulation and Economic Growth, “How Regulations Enter the Economic System,” Ch. 4, p. 51-52]

One reason the cumulative effect of all regulations together may have the most consequences with respect to growth rates is that new regulations interact with existing ones, resulting in effects larger than the new regulations would create on their own. Consider the simple case where there are only two rules on the books—one old and one new. Both regulations might have an effect on production when acting in isolation, but there is also the potential for an interaction effect between the two regulations once both are in place at the same time.

Interaction effects among regulations have been compared to dropping pebbles in a stream (Mandel and Carew 2013). The first pebble may not slow the flow of water in a noticeable way, but the thousandth pebble might, and the millionth pebble might stop the flow altogether. This example is true despite the fact that the millionth pebble might be of little consequence if it were the first pebble dropped in the water. When hundreds of thousands of requirements are on the books, adding a single new one can produce much larger effects than one would expect from looking at that regulation in isolation.

## Adv---FRAND

### Uniqueness---5G---2NC

#### America wins the 5G race now. China gooses the stats.

Brake ’20 [Doug and Alexa Bruer; November 30; J.D. from the University of Colorado, a recognized broadband policy expert, Hatfield Scholar at the FCC; Policy Analyst at the Information Technology and Innovation Foundation, Public Policy Master’s from Harvard; Information Technology and Innovation Foundation, “The Great 5G Race: Is China Really Beating the United States?” https://itif.org/publications/2020/11/30/great-5g-race-china-really-beating-united-states]

5G USERS VERSUS SUBSCRIBERS

Many reports likely overstate the extent of Chinese 5G deployment for several reasons. Part of this is likely due to intentional inflation of statistics reported by operators under pressure from Chinese authorities. This is a long-standing practice in China, going back at least as far as Mao and agricultural communes reporting fake crop yields so as not to displease leadership.4 And today they are not unique to the telecom sector, as organizations of all kinds inflate numbers in order to meet Beijing’s expectations. The Ministry of Industry and Information Technology (MIIT) put out a statement encouraging telecommunications providers to “accelerate user migration to 5G through measures such as package upgrade offer, and credit purchases, etc.”5 Providers then started encouraging or even forcing customers to upgrade to 5G subscriptions regardless of their actual need, use, or device.6 Some companies reduced 5G subscription prices so much they are even cheaper than staying on a 4G plan.7 As one reporter put it, “[W]ith all of China’s big telcos slashing 5G package prices in the past few months, it could well be that customers are being drawn in more by attractive tariffs than by a desire to get their hands on the latest hardware and its related capabilities.”8 The push for 5G subscribers was evident before 5G was even activated: Although 5G service was not turned on in China until November of 2019, Chinese telecom providers listed 9 million 5G users in October 2019, a month prior to its actual activation.9

By counting anyone on a 5G plan—even if they only have a 4G device connecting to 4G infrastructure—as a 5G subscriber, and measuring individual base stations instead of cell sites, China’s 5G stats paint a misleading picture.

Apparently, the numbers game went too far, as the MIIT later called upon providers to “clean up” reporting and end aggressive sales practices after news of subscriber inflation spread.10 But current numbers are still plagued with confusion. Consider that China Telecom and China Mobile (the two largest operators in China) reported 150 million “5G package customers” as of September 2020. But according to China’s Academy for Information and Communications Technology, only 94 million 5G devices had been shipped for all of China during the same time frame, indicating a sizable gap between the number of “subscribers” and actual 5G users.11

The discrepancy may be due largely to terminology: “5G package customers” is a blanket term often used by Chinese carriers to refer to anyone on a 5G subscription, regardless of whether they actually have a 5G device or access to a 5G network.12 China Mobile acknowledges that they count anyone “who has subscribed to 5G tariff plans” as a 5G customer.13 The number of 5G-capable devices alone is impressive, and the competitive threat from China justifies a thoughtful policy response, but no one should be worked into a panic by goosed stats.

NETWORK DEPLOYMENT: BASE STATIONS VERSUS CELL SITES

Subscriptions are not the only potentially misunderstood stat. Chinese operators tend to count mobile infrastructure differently from how Western operators generally do. The key difference is between cell sites (how U.S. telecommunications operators typically measure deployment) and base stations (how Chinese telecommunications operators typically measure deployment). A cell site usually refers to the entire area of a given tower, which includes potentially multiple base stations and antennas using different spectrum. The term “base station” generally refers to the equipment each carrier uses to send signals over multiple antennas at the cell site. Often one cell site will have multiple base stations, sometimes it will host only one. But generally, it is not a one-to-one conversion between base stations and cell sites or towers; It is important that these numbers are not conflated to mean the same thing.

Deployment figures are often further mischaracterized because of the way Chinese operators sometimes count each spectrum band as a separate “logical” base station instead of actual pieces of equipment.14 Just like how a Wi-Fi router can work on different spectrum (generally 2.4 GHz and 5 GHz), a mobile base station can operate on multiple spectrum bands. American carriers would generally count a multi-spectrum base station as at most one piece of equipment. But some Chinese reporting apparently treats each individual spectrum band a base station supports as a different “logical site.”15 A representative from Huawei explained that “a China Unicom base station supports GSM 900, GSM 1800, WCDMA 2100 and LTE. Most of the equipment is deployed in the same room at one physical site, but there are four bands, so there are four logical sites.”16

As a result, Chinese numbers could easily be misrepresented as three to four times higher compared with how Western operators tend to count equipment.17 Policymakers and the media should take care not to conflate estimates of base stations for logical sites with actual, physical cell sites—these are two totally different measurements. For a rough comparison, it seems fair to assume two or three base stations per cell site, but the number of logical sites—meaning each spectrum band used—could be many more.

ACTUAL PERFORMANCESS

The raw number of base stations is not always a good measure of a network’s performance. What we really care about is a network’s performance for the population it covers. Measuring performance becomes increasingly complicated with 5G’s diverse spectrum assets, some of which do not use the traditional cellular architecture.

The utilization of different spectrum resources or amounts of bandwidth results in varying levels of performance even with equal levels of infrastructure. This is relevant when comparing China, which so far uses exclusively mid-band spectrum for 5G, with the United States, which has made a large push to focus on high-band coverage. High-band 5G offers the highest performance leap over existing networks, at least where it is available.

But that being said, let’s try a rough comparison, assuming the similar spectrum assets and using China’s announcement that it anticipates 600,000 5G base stations by the end of 2020.18 Assume three base stations per Chinese cell site—one for each of the major operators—and we get about 200,000 sites. This could be several times lower if we’re talking logical sites, but it is hard to say—let’s keep the estimate conservative and set that issue aside.

The population served also plays a big role in the performance of a given network. China’s population is about 1.39 billion. This is about 4.5 times larger than that of the United States, indicating Chinese operators will need roughly 4.5 times as many base stations as their U.S. counterparts to get a similar level of performance for each user (all else being equal). So, those 200,000 sites work out to about 1 site per 7,000 people. In 2019 alone, U.S. operators invested in 5G-ready cell sites and added 46,000 new cell sites—roughly 1 site per 7,134 people.19 To the uninformed, 600,000 base stations might sound alarming, but understanding what those numbers mean, we’re about neck-and-neck. If we assume that the Chinese sites include logical sites, and the spectral efficiency of their base stations is less, then it appears the United States is clearly in the lead.

Slow and steady may win the race. Whereas the United States is pursuing a gradual, economical deployment of 5G, the problems with China’s rushed 5G deployments are already starting to show. One of Huawei’s own executives went so far as to call China’s 5G “fake, dumb and poor,” mostly due to poor integration with the 4G network.21 Another former official warned in a recent speech that China’s 5G push could become a failed investment.22 While China is no doubt investing substantially in the expansion of its 5G network, including by pressuring its state-owned carriers to invest faster than the market demands, Chinese figures must be properly scrutinized when using them to make U.S. policy decisions.

### Link---5G---2NC

#### Antitrust murders 5G AND open innovation.

Gupta ’19 [Kirti; September 23; Economics PhD from the University of California, San Diego; Antitrust Chronicle, “5G and Anticipated Intellectual Property and Antitrust Policy Issues,” Vol. 3, No. 2]

For antitrust economists, the courts, and policy makers to comprehend the full impact of their myopic theories, perhaps it is necessary to map out what might happen if rewards for investing in 5G mobile wireless technology are in fact set too low. The likely consequence is that: (1) R&D on mobile wireless is reduced and invention that relies on the licensing model slows. 5G updates occur less frequently, if at all. (2) Device makers and application developers suffer slowing, even declining, sales. There is little reason to buy new phones and other devices if the new ones don’t do much more than the old ones as technology obsolescence is what causes most customers to upgrade their devices. (3) To combat declining upstream innovation, device makers like Apple facing eroded sales may for the first time start to contemplate subsidizing upstream R&D. But this will be difficult because, in the shadow of FTC v. Qualcomm, the upstream wireless technology developers must provide FRAND licenses to all, subsidizer and free rider alike, at “nondiscriminatory” rates.15 Device makers subsidizing upstream technology developers is a strategy likely to fail, as individual device makers that consider subsidizing upstream R&D will have to compete with other free riding device makers. (4) Because such efforts to patch up open innovation are likely to fail, the large players (e.g. Apple, Google, Samsung, Huawei) are likely to begin to build their own proprietary technology stacks, causing the ETSI/3GPP open innovation model to collapse further. The integrated players will no longer wish to tender their technology to ETSI and be exposed to the FRAND commitment. The open innovation FRAND model will then no longer support sufficient technological development. This might not in the end trouble the big players like Samsung, Apple, and Huawei who can bring the technology in-house and not license it to the other usually smaller players. However, innovation will slow, and concentration in the downstream device markets would likely increase dramatically.

The irony would be that the same antitrust policy makers that might take pride from the breakup of the vertically integrated Bell System (“AT&T”), would have in fact stimulated the emergence of a vertically integrated model in mobile wireless, one that would likely suffocate a good deal of follow-on innovation and squeeze out downstream players. New entry into the device market would be much, much harder. The highly competitive model we have now, with scores if not hundreds of players, would collapse to a few players with proprietary software stacks. Perhaps these stacks would cooperate to achieve some amount of compatibility. Oligopoly would replace the vigorous competition we see today. Lower innovation is a likely corollary

There is not much in this scenario that is appealing from a competition policy perspective. Should this scenario play out, antitrust zealots in the US and the EU should then have on their tombstone the inscription that they “helped destroy the greatest model of technological cooperation and innovation in the history of human civilization” – all because they used too narrow an analytical lens. The poorest members of global society, who have benefited enormously from mobile technology, are likely to suffer disproportionately.

#### The plan causes duplicative and counterproductive in-house innovation.

Barnett ’20 [Jonathan; December 21; Law Professor at the University of Southern California; Antitrust Chronicle, “How and Why Almost Every Competition Regulator Was Wrong About Standard-Essential Patents,” Vol. 3, No. 2]

Consider the counterproductive consequence of this hypothetical antitrust intervention.

Under the market structure that existed prior to intervention, the absence of any significant antitrust constraints on patent licensing enables an industry-level division of labor in which certain firms specialize in innovating chip designs and then monetize that investment through licensing relationships with a broad population of device makers and other intermediate users. (This roughly describes the organizational structure of the wireless communications market today during the 2G through 4G/LTE technology generations.) Following antitrust intervention, the licensing “tax” has been eliminated but, precisely as a result, the market is largely reduced to a handful of firms that can sustain the exceptional costs required to maintain end-to-end production and distribution infrastructures. In a legal environment in which patent licensing operates under the ongoing threat of antitrust scrutiny, informational assets cannot be transacted with sufficient security on the open market and firms must bring innovation and commercialization functions in-house. In turn, this means that entry may effectively be limited to the largest firms that can meet the high capital and technological requirements that are necessary to construct and maintain largely self-contained innovation and commercialization pipelines. Even if total industry R&D investment holds constant, the resulting market structure represents a step backwards from a competition policy perspective.

This possibility is not merely theoretical.

As I show in a forthcoming book22, the industrial organization of U.S. technology markets since the late 19th century through the present has, with some regularity, responded in precisely this manner to significant reductions in the force of patent protections, whether implemented directly through patent or indirectly through antitrust law (usually a combination of the two). In environments in which patent protection is weak and antitrust-based licensing constraints are strict, R&D investment may remain robust but firms tend to monetize those investments through internal capital and information markets. By contrast, in environments in which patent protection is robust and antitrust-based licensing constraints are relaxed, the feasible range of business models expands to include vertically disintegrated structures in which innovation is monetized externally through licensing-based relationships with specialized third parties. This outcome has attractive effects from a competition policy perspective since IP licensors generally license to all interested users and, as historical and contemporary evidence from a variety of markets suggests, tend to do so at relatively modest rates in order to seed adoption, maintain usage, and, as a result, cultivate a large and stable user base from which to extract royalties over time.23

### Impact---AT: Democracy---2NC

#### All other countries thump.

Diamond ’20 [Larry; September 15; Professor of Political Science and Sociology at Stanford University, Senior Fellow at the Hoover Institution; Democratization, “Democratic regression in comparative perspective: scope, methods, and causes,” p. 1-21]

The global democratic recession

For the past nearly decade and a half, the world has been in the grip of a democratic recession. 7 Until recently, this has been a mild and even ambiguous phenomenon, so much so that distinguished scholars challenged the notion that it was happening at all. 8 The main indicators of the downturn were three.

First, democracy simply stopped expanding. In fact, 2006 was the high water mark for democracy in the world, with the percentage of democracies peaking that year at 57% among states over one million population (Figure 1), and 61% of all states. 9 Since then the proportion of democracies in the world has gradually declined, to 55% of all states and 48% of states above one million population. And the percentage of people living in democracies has declined from 55% to 47%. The year 2019 marked the first time since the end of the Cold War that the majority of states over one million population was not democratic, and also the first time that a majority of the world’s people did not live in a democracy.

Second, beginning in 2006, freedom started to recede in the world. The ratio of countries gaining in freedom to the number declining in freedom (according to Freedom House) fell to about parity in 2006, but has been only about 50%–70% every year since 10 – exactly reversing the pattern for the fifteen years (1991–2005) following the demise of the Soviet Union (Figure 2).

To be sure, the impact on aggregate freedom scores in the world has still been modest. Averaging all countries of the world, the Freedom House 100-point scale of political rights and civil liberties has declined from a score of 62.4 in 2006 to 58.7 in 2019 (or, by 5.9%). The decline in the global average score on the Economist magazine’s Democracy Index in this period has been even more modest (1.5%). But this masks some more striking trends on the Freedom House scale. The average freedom scores for Africa, the Middle East and Latin American declined substantially between 2006 and 2019. Every other region showed at least a modest downward trend, except for East and Southeast Asian countries (over one million population), where the dramatic gains in Burma and the modest gains in Japan, Taiwan, Malaysia and East Timor slightly outweighed the deterioration in the Philippines, China, and (more modestly) South Korea, Indonesia, Thailand, and Cambodia. Despite relatively high global correlations, four different scales of democracy – Freedom House, the Economist Intelligence Unit, and V-Dem’s Liberal and Electoral Democracy indices – show sharply divergent trends for some regions (Table 1). The four scales agree that there has been a modest negative trend for the advanced Anglophone and West European democracies, a more substantial slide for countries in Latin America and the Caribbean above one million population, and erosion – but of widely varying extent – in Sub-Saharan Africa. But in sharp contrast to the other two scales, the V-Dem scales show substantial improvement in average scores for South Asia and the former Soviet Union during this period.

Third, the rate of democratic breakdown has been accelerating. If we divide the last 44 years of the third wave into four segments (“long decades”) of eleven years (1976–2019), we find that the rate of democratic breakdown went from 13.7% in the first long decade to just under 10.7% in each of the next two long decades, and then spiked up to 18.9% in the last eleven years. But this itself understates the intensity of the recent downturn. Figure 3 decomposes the third wave into nine five-year segments (1975–2019). The number of democratic breakdowns in the last five years (2015–2019) – 12 – (including by gradual and undeclared executive strangulation, for example, in the Philippines) was the highest of any five-year period since the start of the third wave, and the number of transitions to democracy – 7 – was the lowest. Hence the ratio of democratic transitions to breakdowns was by far the lowest of any five-year period in this nearly half century of political change. In fact, the ratio fell to below 1 (0.6) for the first time since the mid-1970s.

But numbers do not tell the whole story. Since the democratic recession began in 2006, democracy has been failing in a number of big and strategically significant states, such as Bangladesh, Thailand, Turkey, the Philippines, and for the first time in a member state of the EU – Hungary. 11 These instances followed the executive-led strangulation (in the early years of the new century) of an emerging democracy in Russia and of a longstanding but deeply troubled democracy in Venezuela. Other states, like Sri Lanka and Nepal, have moved back and forth or hovered on the precipice. And then are the states that remain democratic but have been deteriorating in quality, including the world’s four largest democracies – the United States, India, Indonesia, and Brazil – and the largest democracy in Central and Eastern Europe, Poland. 12 In 2019, India suffered one of the steepest declines on the 100-point Freedom House scale (4 points). Since 2012, India has declined by 5 points, Indonesia by 7, Brazil by 6, Poland 9, and the U.S. 7 points.

No impact to democratic failure---governments are resilient and disinclined to go to war for unrelated reasons like economics. Comprehensive students prove---that’s Doorenspleet.

### Impact---AT: Taiwan

#### No China-Taiwan war.

Sacks ’21 [David; February 18; Research fellow at the Council on Foreign Relations, where his work focuses on U.S.-China relations, U.S.-Taiwan relations, Chinese foreign policy, cross-Strait relations, and the political thought of Hans Morgenthau. He was previously the Special Assistant to the President for Research at the *Council on Foreign Relations*; *Council on Foreign Relations*, “Why a Cross-Strait Crisis Will Be Averted in 2021,” <https://www.cfr.org/blog/why-cross-strait-crisis-will-be-averted-2021>] KS

Many prominent analysts believe that a crisis over Taiwan is brewing and that the chances of a war between China and Taiwan, which has the potential to involve the United States, over the next year is not insignificant. The continued deterioration of cross-Strait relations is a critical factor leading analysts to make this conclusion. While the trajectory of cross-Strait relations is worrying, the coming year is unlikely to produce a crisis over Taiwan because China will remain preoccupied with more pressing challenges, Taiwan will continue to refrain from starting an escalatory dynamic, and the new administration in the United States will bolster stability in the Taiwan Strait.

Since Tsai Ing-wen’s inauguration as Taiwan’s president in 2016, cross-Strait relations have been at an impasse, marked by a lack of official exchanges, dialogue, and activity. Beijing blames Tsai, arguing her refusal to endorse the “92 consensus,” a one-China framework endorsed by her predecessor, precludes official dialogue. From China’s perspective, Tsai is salami slicing toward independence, and therefore it should not reward her by opening up communications. Chinese officials would point to Taiwan’s revision of textbooks that separate Taiwanese history from Chinese history, its introduction of a new passport that minimizes the “Republic of China” while emphasizing “Taiwan,” and the recent call to replace the island’s national symbol.

Tsai, however, would probably counter that she went far enough in her first inaugural address when she sought to reassure Beijing that cross-Strait relations would be conducted “in accordance with the Republic of China Constitution, the Act Governing Relations Between the People of Taiwan Area and the Mainland Area, and other relevant legislation.” This was a creative nod to “one-China” that she likely believed Beijing would accept, but instead she was told she had handed in an “incomplete test paper.”

Beijing’s actions, in particular its undermining of Hong Kong’s autonomy, have eroded support on Taiwan for closer cross-Strait ties. Xi Jinping still insists that Taiwan must unify with the mainland on the basis of “one country, two systems,” but Hong Kong’s fate reveals that formulation’s fatal flaws. As a result, Tsai felt bold enough to formally reject “one country, two systems,” and her reticence toward the mainland was rewarded with a landslide reelection victory. Taiwanese identity is now at an all-time high, fueled in large part by disaffection with China.

In sum, leaders in both Beijing and Taipei are not happy with one another, believe they are reacting to moves made by the other side, and are not inclined to make a conciliatory gesture to jumpstart cross-Strait dialogue. While some might conclude that cross-Strait relations will continue to deteriorate and could spark a crisis, instead this period of tension will persist without boiling over.

While China has escalated its coercion of Taiwan, primarily by increasing the frequency and scale of bomber flights over the median line and into Taiwan’s air defense identification zone, Taiwan has not responded in kind. Tsai has avoided creating an escalatory dynamic. She has also demonstrated an ability to improve Taiwan’s relationship with the United States while not pushing for changes that would provoke a harsh response from Beijing. Tsai is thus unlikely to trigger a crisis.

Although Beijing is displeased with Tsai and has increased its coercion of Taiwan, it is preoccupied with multiple challenges and does not want to add a crisis over Taiwan to its inbox. It is looking to reset relations with the United States (albeit on its own terms), bring its economy back to its pre-COVID level, and maintain a positive atmosphere throughout the year, which marks the 100th anniversary of the Chinese Communist Party’s founding. A confrontation over Taiwan would complicate China’s ability to accomplish these tasks.

The United States is the other principal actor, and while the Biden administration has indicated it will continue to strengthen U.S.-Taiwan relations, it will probably do so in a way that does not test Beijing’s red lines. The Trump administration, although it should be commended for bolstering U.S.-Taiwan relations, often prioritized symbolism over substance and unnecessarily publicized certain developments that in turn prompted a forceful Chinese response. The Biden administration can be expected to take a lower key approach that China will feel less compelled to publicly react to.

In addition, the Biden administration has sent useful signals that it would respond to further Chinese coercion against Taiwan. While President Trump allegedly likened Taiwan to the tip of a sharpie, and his desk to China, undermining deterrence by communicating that Taiwan was not defendable, senior Biden administration officials have stated that the United States should be “crystal clear” about its commitments to Taiwan.

### Impact---AT: Climate---2NC

#### It’s a tail-end scenario in the far future.

Kerr et al. ’19 [Amber, Daniel Swain, Andrew King, Peter Kalmus, Richard Betts, and William Huiskamp; June 4; Energy and Resources PhD at the University of California-Berkeley, known agroecologist, former coordinator of the USDA California Climate Hub; Climate Science PhD at UCLA, climate scientist, a research fellow at the National Center for Atmospheric Research; Earth Sciences PhD, Climate Extremes Research Fellow at the University of Melbourne; Physics PhD at the University of Colombia, climate scientist at NASA’s Jet Propulsion Lab; Professor and Chair in Climate Impacts at the University of Exeter, a lead author on the Fourth Assessment Report of the Intergovernmental Panel on Climate Change in Working Group 1; Paleoclimatology PhD at the Climate Change Research Center, climate scientist at the Potsdam Institute for Climate Impact Research; Climate Feedback, “Claim that human civilization could end in 30 years is speculative, not supported with evidence,” <https://climatefeedback.org/evaluation/iflscience-story-on-speculative-report-provides-little-scientific-context-james-felton/>]

Scientists who reviewed IFLScience’s story found that it failed to provide sufficient context for this report—differentiating, for example, between speculative claims and descriptions of peer-reviewed research. In particular, the story’s headline (“New Report Warns ‘High Likelihood Of Human Civilization Coming To An End’ Within 30 Years”) misrepresents the report as a likely projection rather than an exploration of an intrinsically unlikely worst case scenario.

See all the scientists’ annotations in context.

REVIEWERS’ OVERALL FEEDBACK

These comments are the overall assessment of scientists on the article, they are substantiated by their knowledge in the field and by the content of the analysis in the annotations on the article.

Amber Kerr, Researcher, Agricultural Sustainability Institute, University of California, Davis:

The content of the IFLScience article is mostly an accurate representation of the contents of the Breakthrough report, but the article tends to gloss over important caveats and probabilities that are given in the report. The least accurate part of the IFLScience article is the headline, which is an outright misrepresentation of the report. The article title states that there is, overall, a “high probability” of human civilization coming to an end in 30 years. This is extremely misleading. What the Breakthrough report actually says is that, in the most unlikely, “long-tail” biophysical scenario where climate feedbacks are much more severe than we expect, THEN there is a high likelihood of human civilization coming to an end. But the report authors explicitly state that this “high-end scenario” is beyond their capacity to model or to quantitatively estimate.

Daniel Swain, Researcher, UCLA, and Research Fellow, National Center for Atmospheric Research:

The article uncritically reproduces claims from a recent report released by an Australian thinktank regarding the purported “end of human civilization” due to climate change over the next 30 years. While there is plenty of scientific evidence that climate change will pose increasingly existential threats to the most vulnerable individuals in society and to key global ecosystems, even these dire outcomes aren’t equivalent to the “annihilation of intelligent life,” as is claimed in the report.

Andrew King, Research fellow, University of Melbourne:

The report this article is based on describes a scenario which is unlikely, but several aspects of what is included in the report are likely to worsen in coming decades, such as the occurrence of deadly heatwaves. The conclusion of a high likelihood that human civilisation will end is false, although there is a great deal of evidence that there will be many damaging consequences to continued global warming over the coming decades.

Peter Kalmus, Data Scientist, Jet Propulsion Laboratory:

I don’t think it’s so easy to discount the essential warning of this report. However, it would have been stronger if the authors were more careful not to mention the unsupported concept of near-term human extinction, and the unsupported probabilistic claim that there is a “high likelihood” of their 2050 scenario which includes the collapse of civilization. I do not understand why non-scientist writers (neither report author is a scientist) feel a need to exaggerate sound scientific findings, when those findings are already quite alarming enough. I feel that humanity should undertake urgent climate action just as the report authors do, but I feel that misrepresenting the science is unhelpful and unnecessary.

Richard Betts, Professor, Met Office Hadley Centre & University of Exeter:

This is a classic case of a media article over-stating the conclusions and significance of a non-peer reviewed report that itself had already overstated (and indeed misrepresented) peer-reviewed science – some of which was already somewhat controversial. It appears that there was not a thorough independent check of the credibility of the message.

Notes:

[1] See the rating guidelines used for article evaluations.

[2] Each evaluation is independent. Scientists’ comments are all published at the same time.

ANNOTATIONS

The statements quoted below are from the article; comments are from the reviewers (and are lightly edited for clarity).

New Report Warns “High Likelihood Of Human Civilization Coming To An End” Within 30 Years

Richard Betts, Professor, Met Office Hadley Centre & University of Exeter:

The headline overstates the conclusions of the report (which is already overdoing things). The reports says it presents a scenario, and under that scenario and all the assumptions within it, the report claims that there is a “high likelihood of human civilization coming to and end” – but even then, the report itself does not give the end of civilisation within 30 years. The process supposedly leading ultimately to collapse begins around 2050 but takes a long time to take effect. Also the processes themselves are not well-grounded in science, as they over-interpret published work.

## Adv---Cyber

### Patents---2NC

#### No patent holdup or royalty stacking.

Barnett ’20 [Jonathan; April; Law Professor at the University of Southern California; Center for the Protection of Intellectual Property, “Are There Really Patent Thickets?” https://cip2.gmu.edu/wp-content/uploads/sites/31/2020/04/Barnett-The-End-of-Patent-Groupthink.pdf]

A. Replacing Conjecture with Data

It is important to appreciate that the shift in SEP antitrust policy is firmly grounded in a recent but already well-developed body of empirical research. This point deserves some emphasis, because litigators, regulators, and, more surprisingly, scholarly commentators who continue to rely on patent holdup theories often do not seem to take this evidence into account. That research has done what academic, regulatory and industry proponents of patent holdup and royalty stacking theories have never done, namely, subject these theoretical assertions to empirical inquiry to verify that they provide an accurate picture of real-world innovation markets, rather than relying on stylized models in which a theory can never be more than “plausible” under “reasonable assumptions.”

In this case, it turns out that the old joke about the economist’s magical can opener is brutally true.11

Scholars who had advanced these theories had argued that profit-maximizing SEP owners would generate an aggregate royalty burden that would dramatically inflate device prices in the end-user market.12 In some cases, these arguments referred to anecdotal reports, or simply added up publicly announced royalty rates, that SEP owners were collectively charging smartphone producers aggregate royalty burdens representing double-digit percentages of the sales price.13 Empirical researchers that have made systematic efforts to collect and analyze royalty data have failed to find support for these claims. Using various methodologies, researchers have found that estimated total royalty burdens are in the single to mid-digits as a percentage of the device price.14 Additionally, researchers have found that the royalty-stacking hypothesis is incompatible with the performance of the 3G and 4G wireless markets over an almost two-decade period during which device sales grew dramatically while, adjusted for increased functionality, device prices fell.15 In light of this discrepancy between theories of market failure and evidence of market success, the U.S. taxpayer might reasonably ask why the antitrust agencies elected to dedicate scarce investigation and enforcement resources to a well-functioning market in the first place.

### Impact---AT: Cyber---2NC

#### Prefer statistics.

Valeriano & Maness 18 – Brandon Valeriano, PhD, Chair of Armed Politics at the Marine Corps University, Cyber Security Senior Fellow at the Atlantic Council. Ryan Maness, an American cybersecurity expert, Defense Analysis Professor at Naval Postgraduate School. [How We Stopped Worrying about Cyber Doom and Started Collecting Data, Politics and Governance, 6(2), Cogitatio Press]

6. Expanding Cyber Security Data Our team has been coding cyber incident data since 2010 and serves as a unique example of how the process of collecting cyber security data and evidence can be done. Our first peer reviewed published work appeared in 2014 in Journal of Peace Research (Valeriano & Maness, 2014). In this article we note that cyber conflict is much more restrained than generally understood by popular discourse. Threat inflation is ripe in cyber security, and the real use of cyber tools seems to be to enhance the power of strong states.

The data that Valeriano and Maness (2014, 2015) have built challenges the cyber revolution perspective and does so with the tools of social science, and is a necessary turn given the general tone of the debate. We first determine that a viable data collection method in light of limited resources was to focus on states that are committed interstate rivals (Diehl & Goertz, 2001). This allows us to focus on those actors with an intense history of recent hostilities that should be the most likely users of cyber technology on the battlefield (Maness & Valeriano, 2018).

In our research (Maness & Valeriano, 2016; Maness, Valeriano, & Jensen, 2017; Valeriano & Maness, 2014, 2015), we have been able to marshal a massive amount of evidence that is useful in dissecting the actual trends on the cyber battlefield in a geopolitical context. We demonstrate that while cyber-attacks are increasing in frequency, they are limited in severity, are directly connected to traditional territorial disagreements, and mostly take the shape of espionage and low-level disruptive campaigns rather than outright warfare.

Given this data-based perspective, we question the dynamics of the cyber security debate and offer a countering theory where states are restrained from using more malicious cyber actions due to the limited nature of the weapons, the possibly of blowback, the connection between the digital world and civilian infrastructure, and the reality that any cyber weapon launched can be replicated and used right back against the attacker. Given all of these perspectives gleamed from the data, we must moderate our views about the transformation that is offered by cyber strategists who stress a more revolutionist tone (Lango, 2016).

Social science clearly matters for contemporary technological policy debates. Absent rigorous methods, much of what is in the field is basically guesswork. Our work really owes an intellectual debt to J. David Singer, who started the effort to quantify war at the University of Michigan with the Correlates of War (COW) project (Small & Singer, 1982). Our project builds on this methodology and uses many of the same coding strategies. We recognize that data is a work in progress and seek to build more and more knowledge through subsequent updates. By gathering the full picture, we can gain the perspective that really matters in these emerging policy debates regarding the cyber battlefield.

#### Err against catastrophe.

Lewis ’20 [James Andrew; 8/17/20; senior vice president and director of the Strategic Technologies Program at the Center for Strategic and International Studies; "Dismissing Cyber Catastrophe," https://www.csis.org/analysis/dismissing-cyber-catastrophe]

This is a short overview of why catastrophe is unlikely. Several longer CSIS reports go into the reasons in some detail. Past performance may not necessarily predict the future, but after 25 years without a single catastrophic cyberattack, we should invoke the concept cautiously, if at all. Why then, it is raised so often?

Some of the explanation for the emphasis on cyber catastrophe is hortatory. When the author of one of the first reports (in the 1990s) to sound the alarm over cyber catastrophe was asked later why he had warned of a cyber Pearl Harbor when it was clear this was not going to happen, his reply was that he hoped to scare people into action. "Catastrophe is nigh; we must act" was possibly a reasonable strategy 22 years ago, but no longer.

The resilience of historical events to remain culturally significant must be taken into account for an objective assessment of cyber warfare, and this will require the United States to discard some hypothetical scenarios. The long experience of living under the shadow of nuclear annihilation still shapes American thinking and conditions the United States to expect extreme outcomes. American thinking is also shaped by the experience of 9/11, a wrenching attack that caught the United States by surprise. Fears of another 9/11 reinforce the memory of nuclear war in driving the catastrophe trope, but when applied to cyberattack, these scenarios do not track with operational requirements or the nature of opponent strategy and planning. The contours of cyber warfare are emerging, but they are not always what we discuss. Better policy will require greater objectivity.

## DA – Pharma

### 1NR – Overview

#### Innovation makes pharma sustainable.

Ikeda ’21 [Naomi; February 4; Manager of Innovation Incentives at Ayming; Pharma Times, “Pharma R&D: 2021 and beyond,” https://www.pharmatimes.com/web\_exclusives/Pharma\_R\_and\_D\_2021\_and\_beyond\_1362768]

The sector has come a long way in this regard, with companies doing a lot more in response to criticism that they’re not doing enough for the environment. The International Innovation Barometer (IIB) has shown that the pharma industry is investing significantly in sustainable innovation, with 18% of respondents dedicating 26-50% of their budget on sustainable innovation, which is compared to an average of 14% across all sectors.

Take GlaxoSmithKline for example. Since 2010 it has reduced its carbon emissions by 34%, water usage by 31% and the waste sent to landfill by 78%. This change has been driven by implementing new waste management systems for carbon neutrality and using more green chemistry, for example, the use of using greener solvent and emphasising catalysis and enzymatic chemistry. Significant strides have also been made when it comes to ethical practices, such as phasing out animal testing in non-medical settings, with higher standards of public and regulatory scrutiny.

#### Extinction.

Martinez and Cuautle **’21** [Nestor and Mariana; February 4; Universidad de Las Americas Puebla; Springer International, “Impact of Pharmaceutical Waste on Biodiversity,” https://www.researchgate.net/publication/322127132\_Impact\_of\_Pharmaceutical\_Waste\_on\_Biodiversity]

The increase in levels of pharmacological substances in the environment and their potential adverse effects on biological systems are a problem of global relevance that will pose greater challenges to countries with high rates of population growth. There is evidence that the incorporation of pharmacological substances into organisms and ecosystems puts genetic diversity, species diversity, and community diversity at risk.

There are several pathways through which waste pharmaceuticals can reach to organisms; the main one is through sewage discharge into aquatic ecosystems affecting organism such as microorganisms, fishes, and invertebrates, which can be consumed by higher trophic levels and cause trophic cascade effects. Also the use of treated wastewater for agricultural irrigation can affect the plants which are at the base of the trophic chain. Most of the studies about the effect of pharmaceutical on organisms have omitted to test nonlethal effects, such as change in behavior, reproduction, and stress and changes in community composition and structure. The few studies that have addressed these effects have showed that these changes can affect organisms’ survival or reproductive success, which are linked to their biological fitness, and can affect population and community dynamics and precede species extinctions.

#### Bioterror causes extinction.

Walsh ’20 [Bryan; 2020; Future Correspondent for Axios, Editor of the Science and Technology Publication OneZero, Former Senior and International Editor at Time Magazine, B.A. from Princeton University; End Times: A Brief Guide to the End of the World, p. 204-206]

I’ve lived through disease outbreaks, and in the previous chapter I showed just how unprepared we are to face a widespread pandemic of flu or another new pathogen like SARS. But a deliberate outbreak caused by an engineered pathogen would be far worse. We would face the same agonizing decisions that must be made during a natural pandemic: whether to ban travel from affected regions, how to keep overburdened hospitals working as the rolls of the sick grew, how to accelerate the development and distribution of vaccines and drugs. To that dire list add the terror that would spread once it became clear that the death and disease in our midst was not the random work of nature, but a deliberate act of malice. We’re scared of disease outbreaks and we’re scared of terrorism—put them together and you have a formula for chaos.

As deadly and as disruptive as a conventional bioterror incident would be, an attack that employed existing pathogens could only spread so far, limited by the same laws of evolution that circumscribe natural disease outbreaks. But a virus engineered in a lab to break those laws could spread faster and kill quicker than anything that would emerge out of nature. It can be designed to evade medical countermeasures, frustrating doctors’ attempts to diagnose cases and treat patients. If health officials manage to stamp out the outbreak, it could be reintroduced into the public again and again. It could, with the right mix of genetic traits, even wipe us off the planet, making engineered viruses a genuine existential threat.

And such an attack may not even be that difficult to carry out. Thanks to advances in biotechnology that have rapidly reduced the skill level and funding needed to perform gene editing and engineering, what might have once required the work of an army of virologists employed by a nation-state could soon be done by a handful of talented and trained individuals. Or maybe just one.

When Melinda Gates was asked at the South by Southwest conference in 2018 to identify what she saw as the biggest threat facing the world over the next decade, she didn’t hesitate: “A bioterrorism event. Definitely.”2

She’s far from alone. In 2016, President Obama’s director of national intelligence James Clapper identified CRISPR as a “weapon of mass destruction,” a category usually reserved for known nightmares like nuclear bombs and chemical weapons. A 2018 report from the National Academies of Sciences concluded that biotechnology had rewritten what was possible in creating new weapons, while also increasing the range of people capable of carrying out such attacks.3 That’s a fatal combination, one that plausibly threatens the future of humanity like nothing else.

“The existential threat that would be most available for someone, if they felt like doing something, would be a bioweapon,” said Eric Klien, founder of the Lifeboat Foundation, a nonprofit dedicated to helping humanity survive existential risks. “It would not be hard for a small group of people, maybe even just two or three people, to kill a hundred million people using a bioweapon. There are probably a million people currently on the planet who would have the technical knowledge to pull this off. It’s actually surprising that it hasn’t happened yet.”

### 1NR – AT: Thumper

#### 2 – They’re enforcing, not changing law---nothing will change without the Courts or Congress.

Gidley et al. ’21 [Mark, George Paul, Rebecca Farrington, Peter Carney, Kathryn Mims, Anna Kertesz, Daniel Rosenthal, and Ashley Stoner; May 10; Chair of the White & Case Global Antitrust and Competition Practice, award-winning lawyer and one of the most experienced lawyers for trying civil and criminal antitrust cases; White & Case, “US antitrust spotlight on the pharmaceutical industry,” <https://www.whitecase.com/publications/insight/us-antitrust-spotlight-pharmaceutical-industry>]

What’s changing?

The enumerated goals of the FTC’s working group tasked with analyzing the agency’s approach to pharmaceutical mergers signals an increased FTC focus on mergers that could impact several key areas: innovation, potential competition and potential collusion. Acting Chair Slaughter has emphasized concerns that the FTC’s lack of enforcement in the pharmaceutical sector over the past decades led to higher drug prices and diminished innovation, signaling an intent to change the agency’s approach.

What does it mean for you?

First, pharmaceutical companies seeking antitrust merger clearance from the FTC should now expect increased scrutiny. This means more frequent Second Requests (asking for additional documents and data about the companies' products, services and market conditions) and Second Requests that are even broader in scope. The FTC will be looking closely not only at where companies have overlapping competing products but also at potential impacts on innovation and areas of potential competition. In addition—and equally important for merging pharmaceutical companies—is what is not changing: the law that courts will apply in deciding whether to block a merger. No US court has ever blocked a merger on a “harm to innovation” theory alone, and the “harm to potential competition” theory is stale, since the US Supreme Court last addressed it more than 40 years ago. Until legislation changes or a new legal precedent is set, US courts are likely to continue evaluating mergers just as they have for years.  This means that pharmaceutical companies seeking to merge should make sure to take litigation into account both when setting deal timelines and when drafting key terms, such as what constitutes “reasonable best efforts.”

#### 4 – Attempts to target pharma will be blocked by the courts.

Weissman et al. ’21 [Stephen, Michael Perry, Kristen Limarzi, and Ali Nikpay; March 24; Leading antitrust practitioner, former Deputy Director for the Federal Trade Commission’s Bureau of Competition; Gibson Dunn, “Pharmaceutical Transactions in Spotlight as FTC Announces Multilateral Working Group to Develop Fresh Approaches to Merger Reviews,” <https://www.gibsondunn.com/pharmaceutical-transactions-in-spotlight-as-ftc-announces-multilateral-working-group-to-develop-fresh-approaches-to-merger-reviews/>]

While the Democratic majority at the FTC is likely to share an interest in reining in the number and size of pharmaceutical mergers, the likely results of such efforts to develop more aggressive theories to tackle pharma deals is less certain. Given the well-established framework adopted by U.S. courts and the agency’s own Merger Guidelines, new FTC leadership’s ambition to more aggressively challenge deals in the pharma sector faces important legal obstacles, at least in deals where merging parties have the commitment to take the FTC to court. Specifically, settled U.S. merger case law and the agency’s Merger Guidelines, which are viewed as instructive by courts, make it difficult for enforcers to block deals without demonstrating likely anticompetitive effects within well-defined relevant markets that, according to U.S. precedent, are almost always defined quite narrowly. Thus, a challenge to a pharmaceutical merger based principally on a theory that both companies have an important presence and strong incentives to innovate in a therapeutic area generally (such as in cardiology or neurology) is likely to be rejected by the U.S. courts as lacking the requisite proof of anticompetitive effects in a properly defined relevant market. So, too, is a merger challenge based on a concern that a merger without significant overlaps is likely to increase the merged entity’s ability to offer bundled pricing on complementary products to attain advantageous placement on healthcare provider or insurance companies’ formularies.

#### 6 – ‘Antitrust now’ is rhetoric. It’ll be light-touch and easily thwarted by litigation, unenforced due to regulatory capture and previous admins, AND foiled by partisanship.

Silverman ’21 [Jacob; July 9; Staff writer and Author; The New Republic, “Biden Wants to Tame Big Tech with a Thousand Paper Cuts,” <https://newrepublic.com/article/162940/biden-executive-order-big-tech-monopoly>]

On Friday, the White House [announced](https://www.whitehouse.gov/briefing-room/statements-releases/2021/07/09/fact-sheet-executive-order-on-promoting-competition-in-the-american-economy/) a potentially important, if modest, effort to further tamp down the power of the technology industry. This time the instrument is an executive order—the kind of wide-ranging declaration that often gets called “sweeping” or “major,” though its efficacy may take years to gauge—that covers everything from competition in the economy to drug prices to reforming a tech sector that is defined by a handful of seemingly unstoppable titans. Offering a mix of general recommendations, requests for action from other government agencies, and new administration policies, the Executive Order on Promoting Competition in the American Economy may be just what our overconsolidated economic system needs. But in tackling the power of a tech sector that has not only wrested control of the economy but remade it in its own data-hungry image, the Biden administration is still throwing pebbles at its enemy’s parapets. The tech industry has had 20 years to establish a stranglehold over our personal data, attention, and consumer choice. To tackle these problems, we need more, much more.

Despite promising to take on the power of Big Tech, President Joe Biden and his administration have so far taken a cautiously incrementalist approach. He’s [appointed tough industry critics](https://www.nytimes.com/2021/06/15/technology/lina-khan-ftc.html) like Lina Khan to be commissioner of the Federal Trade Commission, but he has yet to name a head of the Justice Department’s antitrust division, a key role for any future enforcement action. In Congress, Democrats have introduced six smallish antitrust bills, but their path out of the House is [murky](https://www.cnbc.com/2021/06/24/-big-tech-antitrust-debate-odd-alliances-form-and-party-fractures-show.html), as ongoing disputes between [Republicans](https://www.cnbc.com/2021/07/07/house-republicans-lay-out-tech-antitrust-agenda.html) and Democrats over how to fight this legislative battle mean that the final bills could look much different than they did in committee—if they make it to a floor vote at all. (It doesn’t help that some Silicon Valley–adjacent Democratic politicians, like Representative Ted Lieu and Representative Ro Khanna, have been less than supportive of the bills.)

As federal and congressional leadership lag, states have forged ahead, with dozens of attorneys general coming together in lawsuits like one, filed this week, accusing Google of [anti-competitive practices](https://www.vox.com/recode/2021/7/7/22567656/google-play-store-states-antitrust-suit-letitia-james-utah-new-york-north-carolina). Other ongoing antitrust suits include one [against Amazon](https://www.washingtonpost.com/technology/2021/05/25/dc-ag-antitrust/) over pricing issues; another lawsuit (this one with DOJ participation) [against Google](https://www.justice.gov/opa/pr/justice-department-sues-monopolist-google-violating-antitrust-laws); and two others against Facebook that a judge recently threw out. In this proliferating legal war against Big Tech—premised on a lack of competition and companies’ abusing their monopoly status—any of these cases could yield billion-dollar fines for one of the tech giants. But fines are easily paid. Whether these suits can lead to meaningful reform, to breaking up companies and redirecting business practices away from the current dominant model of user surveillance and bulk data collection—that is far less clear. As with proposed legislation in the House, bipartisan legal efforts may be sundered on the altar of competing partisan priorities, with Republicans focusing on [alleged censorship](https://newrepublic.com/article/162299/josh-hawley-gops-fake-war-big-tech) and Democrats more focused on [economic competition and user rights](https://newrepublic.com/article/160646/biden-antitrust-blueprint-monopoly-busting).

With the stage set for legislative gridlock, drawn-out lawsuits, and [bickering](https://www.politico.com/news/2021/07/06/ftc-staffers-public-appearances-498386) over the FTC’s legitimacy, a small opening has emerged for the Biden administration to take meaningful action on its own. And there are some measures in the executive order worth celebrating. One section aims to improve internet service by eliminating early termination fees and providing transparent pricing to help drive competition. Another proviso calls for gadget users—from farmers working on tractors to people tinkering with their own cell phones—to have what’s often [referred to](https://www.theverge.com/2021/7/9/22569869/biden-executive-order-right-to-repair-isps-net-neutrality) as “the right to repair,” a right that tech companies have suppressed by discouraging DIY or third-party work on broken items. (Forcing customers to take their doddering laptop to Apple’s Genius Bar helps the company maintain control over its products and ensures that repairs, and the money they generate, stay in-house.) Other relevant orders call for the restoration of net neutrality and applying more scrutiny to corporate mergers, which may prevent a tech giant from swallowing up the next WhatsApp or Slack, formerly insurgent chat/social media platforms that were absorbed by Facebook and Salesforce.

In the last year, tech companies have shifted their rhetoric, [claiming](https://newrepublic.com/article/162509/facebook-big-tech-nick-clegg-regulation-policy) that they are in favor of regulation—just on their terms. To that end, they’ve deployed armies of lobbyists to woo elected officials, making companies like Google and Facebook some of the most profligate spenders on K Street. With the potential for major legislative action still up in the air—a divided Senate doesn’t augur well, unless tech-critical Republicans like Senator Josh Hawley line up behind the Democratic legislative agenda, which seems unlikely—executive action may be the most promising way forward. Call it death by a thousand regulations. It’s also—as the executive order’s many prompts for action by the Federal Communications Commission, the FTC, and DOJ show—a plea for the government to do its damn job.

Even sympathetic observers may survey this latest initiative with some well-earned cynicism. [Regulatory capture](https://newrepublic.com/article/149438/big-pharma-captured-one-percent), in which regulatory agencies become beholden to the companies and industries they oversee, is a well-known feature of the land, and the families of leading politicians like Representative Nancy Pelosi periodically trade stocks based on what appears to be insider information. And as demonstrated by the measure to treat all internet traffic equally by restoring net neutrality (something that the Trump administration [did away with](https://newrepublic.com/article/146305/loses-war-net-neutrality)), the Biden administration is still playing catchup, fighting many of yesterday’s battles. For instance, the order “calls on the leading antitrust agencies, [the DOJ and FTC], to enforce the antitrust laws vigorously and recognizes that the law allows them to challenge prior bad mergers that past Administrations did not previously challenge.”

While divesting WhatsApp and Instagram from Facebook are worthwhile efforts, there’s also a sense that would-be tech reformers are struggling to deal with the mistakes and oversights of a previous generation of politicians (i.e., pushing for the enforcement of existing laws is yet another call for the government to do its job). Even the order’s directive that the FTC “establish rules on surveillance and the accumulation of data” seems incredibly belated. We are 20-odd years into a surveillance economy, in which consumers have become the main source to be mined for value. The resulting inequities are vast, as the tech giants have had decades to strengthen their positions. It will take far more than an executive order to undo all this, much less to ensure a more equitable future. The question is: Does the Biden administration understand this grim state of play, or is this the best we’re going to get?

### 1NR – AT: Innovation Strong

#### 3 – Brink is now---companies are currently undergoing assessment by the FTC but holding firm---new antitrust upends the industry.

Gardner ’21 [Jonathan; June 10; Senior Reporter, citing pharmaceutical insiders; Biopharma Dive, “’The lights are no longer green’: Antitrust regulators reassess pharma deals,” <https://www.biopharmadive.com/news/ftc-pharma-biotech-deal-scrutiny-slaughter/601577/>]

Biotech and pharmaceutical executives often describe dealmaking as the industry's lifeblood, arguing that acquisitions build pipelines, drive competition and give investors a reason to fund innovative startups. Drug company opponents dispute those points and their arguments may now have gained powerful allies in global antitrust regulators.

In March, the Federal Trade Commission and its counterparts in Europe, the U.K. and Canada [announced](https://www.biopharmadive.com/news/ftc-pharma-drug-acqusition-review/596808/) they will reassess how they review drugmaker deals, pointing in particular to two recent multi-billion dollar buyouts, Bristol Myers Squibb's [takeover of Celgene](https://www.biopharmadive.com/news/bristol-myers-buy-celgene-74-billion-pharma-deal/545184/) and AbbVie's [purchase of Allergan](https://www.biopharmadive.com/news/abbvie-buy-allergan-deal-63-billion/557554/).

Rebecca Kelly Slaughter, the FTC's acting chair, didn't detail how regulators' views might change. However, antitrust experts expect the agencies will scrutinize whether larger companies use their wider portfolio of drugs to force insurers to accept higher prices, as well as how acquisitions may discourage innovation by thwarting competition.

"This is a pretty clear signal that the lights are no longer green," said antitrust attorney David Balto, who represented unions and consumer groups in objecting to the Allergan deal. "They're now yellow or red, and companies need to be much more cautious about the deals they consider."

Illumina, the dominant provider of DNA sequencing in the U.S., has learned that first hand, as the FTC and the European Commission recently challenged its proposed acquisition of Grail, an up-and-coming rival.

The biotech and pharma sectors have taken notice, although there hasn't yet been a noticeable impact on investment or dealmaking activity. In April, for example, U.S. regulators cleared AstraZeneca's $39 billion buyout of rare disease drugmaker Alexion.

"We have to treat it as a credible threat," said Bruce Booth, partner in the venture capital firm Atlas Ventures. "[But] as a negative risk, it has yet to be priced into the financing world."

#### 4 – It’s rebounding due to public confidence and funding---BUT limited regulatory pressure is key.

Ikeda ’21 [Naomi; February 4; Manager of Innovation Incentives at Ayming; Pharma Times, “Pharma R&D: 2021 and beyond,” https://www.pharmatimes.com/web\_exclusives/Pharma\_R\_and\_D\_2021\_and\_beyond\_1362768]

2020 was an even bigger year than expected with the pharma sector thrown into the limelight as a potential saviour to the pandemic. Funding was channelled into pharma in record amounts, supercharging R&D activity. Public confidence is high in the industry; our recent research report based on a survey of businesses across the globe, the International Innovation Barometer (IIB), has shown that those within the pharma sector remain positive about their ability to drive forward R&D spend. In this research, conducted in May last year, 59% of respondents in the pharma sector expected their R&D budgets to either somewhat or significantly increase over the next three years.

One thing is certain; pharma has entered into 2021 with a greater presence and with more funding than before. For a long time, the sector has struggled with its image; some seeing it as a giant industry that puts profits before people. The success of COVID-19 treatments is changing this narrative and provides the pharmaceutical sector with wider investor interest and public support to use as a foundation for greater innovation for the future.

The cutting edge of pharma knows no bounds, but there are several key trends likely to define the sector in the near future.

Collaboration will be even more important

The last five years have seen increasing demands for firms to pool resources. To improve or develop products in the modern world is increasingly technical and demanding, leading to more complex developmental activities as well. At the same time, economic and regulatory pressures are squeezing margins. Developing a new drug or treatment from scratch has historically been an incredibly expensive and long process, often taking years – if not decades – before a company sees the fruits of its labour. Collaboration not only allows the burden of costs to be spread across multiple companies, but the pooling of expertise and knowledge leading to faster breakthroughs.

### 1NR – AT: No Link

#### 1 – Predictability---innovators are risk-averse---antitrust law triggers paranoia, hemming R&D.

Shepherd ’20 [Joanna; December 20; Professor of Law at Emory; CPIP, “The Legal and Industry Framework of Pharmaceutical Product Hopping and Considerations for Future Legislation,” <https://cip2.gmu.edu/wp-content/uploads/sites/31/2020/12/Shepherd-Product-Hopping.pdf>]

V. Consequences of Overly Broad or Vague Legislation

Legislation defining anticompetitive product hopping should aim to facilitate generic entry and lower drug prices. However, if the enacted legislation is too broad or overly vague, it could instead harm consumers by reducing innovation and increasing health care spending.

First, overly broad legislation would deter important future innovations. Most innovation in the pharmaceutical industry involves development of next-generation improvements, such as creating new products that expand therapeutic classes, increase available dosing options, remedy physiological interactions of known medicines, or improve other properties of existing medicines.35 According to FDA data, two-thirds of new drug approvals are for these incremental innovations.36 The World Health Organization has found that over 60 percent of the drugs needed to combat prevalent diseases have resulted from incremental innovation.37 Overly broad legislation would deter these important incremental innovations that are critical to improving health outcomes.

Second, legislation that fails to provide clear guidance will create uncertainty for brand innovators. This uncertainty can deter innovation in the pharmaceutical industry. Brand drug companies are the ones largely responsible for pharmaceutical innovations; in the last decade, they have spent over half a trillion dollars on R&D, and they currently account for over 90 percent of the spending on the clinical trials relied on by brands and generics alike.38 But if brand companies cannot reliably predict when their conduct will be considered anticompetitive, they will have less incentive to engage in costly R&D in the first place. The companies will not spend the billions of dollars it typically costs to bring a new drug to market when they cannot be certain that, years down the road, introducing that new drug will not expose them to damaging litigation, market-stopping injunctions, or penalties. If product hopping legislation increases the uncertainty around the introduction of new products, innovation will suffer.

#### 2 – Picking winners---FTC intervention displaces patent rights---businesses will believe that outcomes are predetermined and attempting innovation is pointless.

Mosoff et al. ’19 [Adam, Kristen Osenga, Randall Rader, Mark Schultz, and Saurabh Vishnubhakat; January 28; Professor of Law at George Mason University; Regulatory Transparency Project, “How Antitrust Overreach is Threatening Healthcare Innovation,” <https://regproject.org/paper/how-antitrust-overreach-is-threatening-healthcare-innovation/>]

Introduction

Imagine passing a rigorous test with flying colors, only to be told that you need to start over because you were not wearing the right clothing or you wrote your answers in the wrong color. Does that sound silly? Unfair? That is the scenario in which the American pharmaceutical industry finds itself thanks to overzealous regulators at the Federal Trade Commission who aren’t content to let the Food & Drug Administration (the experts in pharmaceutical safety and regulation) and federal courts (which referee disputes between branded and generic drug companies) decide when new drugs are ready to come to market. The consequences of such actions impact people’s lives.

The development and widespread availability of safe and effective pharmaceutical products has helped people live longer and better lives. The pharmaceutical industry invests billions each year in research and infrastructure and employs millions of Americans. The industry is closely regulated by many agencies, most notably the FDA, which requires extensive testing for safety and effectiveness before new drugs enter the market. Many thoughtful proposals have been advanced to improve and modernize the FDA’s review and approval of new drugs, but there is broad agreement that the FDA’s basic role in drug approval serves valid ends.

In recent years, however, other government agencies have played an increasingly intrusive role in deciding whether and when new drugs can enter the market. One such agency is the Federal Trade Commission, which has recently taken steps to block branded drug companies from settling patent litigation with generic drug makers. The FTC substitutes its own judgment for the business judgment of sophisticated parties, simultaneously weakening the patent rights of branded drug companies that spend billions in drug discovery and development and delaying generic drug companies from bringing consumers low cost alternatives to branded drugs. This example of government agencies picking winners and losers—indeed, deciding there should be no winners and losers—harms consumers in the short run by slowing access to drugs and in the long run by weakening innovation.

This paper describes the role of patents in protecting drugs as well as the special patent litigation regime Congress enacted in the 1980s to carefully balance the needs of branded drug companies, generic competitors, and consumers. Although these systems are not perfect, the FTC’s overuse of its regulatory powers results in a net loss for American consumers, as described below.

I. The Vital Role of Patents (and Patent Litigation) in Protecting Pharmaceutical Innovation While Ensuring Access to Generic Drugs

A drug faces a long and uncertain road to market. Scientists often begin by screening hundreds of compounds to discover or identify compounds that show possible potency for continued research and development efforts. The few compounds that advance beyond laboratory and animal testing then face years of trials in humans. Even then, FDA approval is not guaranteed. A drug that shows promise in the laboratory and effectively treats animals may not work in people. A drug may have serious side effects in humans that outweigh any benefits the drug offers. The timeline from drug discovery to approval averages more than a decade. For every five thousand drugs that start the process in the laboratory, the FDA approves only one. Drug development is a lengthy, risky, and expensive process.

Patents play a key role in allowing drug companies to make massive investments against these long odds. A patent grants a drug company a period of exclusivity for twenty years: from the time the patent is filed until the day it expires. This allows the drug developer to charge a premium price for its newly discovered drug for a limited time. Without robust patent protections, branded pharmaceutical companies would have no way to recoup their R&D investments and no incentive to find new drugs. Once a drug has been discovered, developed, and tested, there are relatively few technological and economic barriers to competitors making copies of that drug.

#### 3 – Injunctions---when Courts decide a practice is “more restrictive of competition than reasonably necessary,” antitrust laws defeat injunctions and spark reverse-holdups---ends the bargaining table.

Wright ’13 [Joshua; September 12; Commissioner of the Federal Trade Commissioner; Center for the Protection of Intellectual Property Inaugural Academic Conference: The Commercial Function of Patents in Today’s Innovation Economy, “SSOs, FRAND, and Antitrust: Lessons from the Economics of Incomplete Contracts,” https://www.ftc.gov/sites/default/files/documents/public\_statements/ssos-frand-and-antitrust-lessons-economics-incomplete-contracts/130912cpip.pdf]

Some commentators and some courts reason that – as a matter of contract – the F/RAND commitment is an agreement that damages are adequate compensation for infringement and therefore an injunction should not be granted under the Supreme Court’s standard in eBay Inc. et al. v. MercExchange, L.L.C.47 No maxim of contract interpretation requires this result. Indeed, it is difficult to imagine why such an interpretation would hold in general in light of the fact that no SSO appears to uniformly disallow injunctions. To the contrary, some appear to expressly consider and reject such rules.48 Ex post interpretation of F/RAND commitments to preclude injunctive relief can deprive the parties the benefit of their bargain, undercompensate patent holders relative to ex ante expectations, and reduce incentives to innovate and the commercialization of innovation. 49

Further, it is well understood that weakening the availability of injunctive relief for infringement – including infringement of F/RAND encumbered SEPs – may increase the probability of “reverse hold-up” and weaken any incentives implementers have to engage in good faith negotiations with the patent holder.50 Some argue the primary purpose of injunctive relief is to allow patent holders to threaten to exclude a product from the market, and thus enable extraction of royalties above the F/RAND rate and other significant licensing conditions from willing licensees.51 Such reasoning assumes the rate negotiated with the threat of an injunction has to be above the F/RAND rate. But that assumption is dubious. Although the rate negotiated with the injunction threat is likely greater than the rate negotiated without the threat of injunction, it does not follow that the former is above F/RAND. Moreover, a key role of property rights is to allow the property owner to exclude, which enables clear assignment of property rights and facilitates economic exchange. 52

Thus, it is quite possible the reforms’ net effect is to exacerbate the possibility of reverse hold-up. That is, by stripping the SEP holder’s right to injunctive relief, a potential licensee can delay good faith negotiation of a F/RAND license and the patent holder can be forced to accept less than fair market value for the use of the patent.53 The threat of injunction can be a very important part of the bargaining process and is likely part of the benefit of the bargain conceived of by a contributing member of the SSO at the time it decided to participate in the standard. The existence of the threat does not necessarily lead to hold-up, as some feared, but rather can encourage an infringing implementer to come to the negotiation table.54 Reforms that suggest undermining this bargaining outcome or antitrust rules that would do so as a matter of law create a significant risk of doing more harm than good.

#### Antitrust action would upset the carefully balanced IP ecosystem.

Ginsburg ’15 [Douglas H. Ginsburg, Koren W. Wong-Ervin, & Joshua D. Wright; October; Retired Chief Judge of the DC Court of Appeals, Law Professor at George Mason University; former Counsel for Intellectual Property and International Antitrust at the U.S. Federal Trade Commission; Former Commissioner of the Federal Trade Commissioner, Law Professor at George Mason University; CPI Antitrust Chronicle, “The Troubling Use of Antitrust to Regulate FRAND Licensing,” ssrn.com/abstract=2674759]

Moreover, an antitrust sanction is not only unnecessary to protect consumer welfare given that the law of contracts is sufficient to provide optimal deterrence, 18 but is likely to be harmful.19 First, significant monetary sanctions are likely to over-deter procompetitive participation in SSOs; FRAND-encumbered SEP holders need the credible threat of an injunction if they are to recoup the value added by their patents and have no other adequate remedy against an infringing user. Indeed, excessive deterrence is particularly likely because, with liability turning upon whether the infringing user was truly a “willing licensee”20—a factual determination that may be far from clear in many cases—the outcome of an antitrust case will necessarily be uncertain. The prospect of penalizing a FRAND-encumbered SEP holder for seeking injunctive relief diminishes the value of its patents and hence reduces its incentive to innovate.

Second, the prospect of antitrust liability for a patentee seeking injunctive relief would enable an infringing user to negotiate in bad faith, knowing its exposure is capped at the FRAND royalty rate; in this way, an unscrupulous or a judgment-proof infringing user can force the SEP holder to take a below-FRAND rate. Indeed, when the worst penalty an SEP infringer faces is not an injunction but merely paying, after a neutral adjudication, the FRAND royalty that it should have agreed to pay when first asked, then reverse holdup and holdout give implementers a profitable way to defer payment—or if they are judgment proof, to avoid payment altogether— and puts SEP holders at a disadvantage that reduces the rewards from, and can only discourage innovation and participation in, standard setting.21

Third, antitrust liability is likely to deter patent holders from contributing their technology to an SSO under FRAND terms if doing so will require them to forfeit their right to protect their intellectual property by seeking an injunction against infringing users. These possibilities, far from protecting the public interest in competition and innovation, actually threaten to reduce the gains from innovation and standardization. V. CONCLUSION

The new antitrust rules are troubling not only because they are wholly unsupported by empirical evidence, but also because they threaten to deter participation in standard setting and reduce the incentive to innovate. Antitrust enforcers around the globe should be wary of upsetting the carefully balanced FRAND-ecosystem, and should consider the unintended consequences of their proposed solution to the largely theoretical problem of patent holdup.

### 1NR – AT: High Prices

#### 2 – High pricing good.

Grabowski and Manning ’17 [Richard and Henry; June 2; Partner in the Life Sciences practice at Bates White; Professor specializing in investigation of economics in the pharmaceutical industry, government regulation of business, and the economics of innovation; Health Affairs, “Drug Prices And Medical Innovation: A Response To Yu, Helms, and Bach,” <https://www.healthaffairs.org/do/10.1377/hblog20170602.060369/full/>]

Essentially, the authors imply that the US price premium could be significantly reduced without affecting research and development investments or having other adverse effects. This is a strikingly bold and unfounded conclusion. There is no sound economic rationale to suggest that price ratios across countries or revenue premiums in the United States should match current research and development spending. Hence, the fact that price differences and research and development spending levels fail this arbitrary test does not offer a basis for sound policy making.

The issue of drug prices is always controversial, but in today’s politically charged environment, it seems particularly important to carefully evaluate this post’s methods and conclusions—and to do so through the lens of the economic principles that drive companies to search for new medicines and set prices for them. Thought leaders and policy makers would be well advised to approach this issue with a clear-eyed view of facts and underlying principles that govern economic behavior.

The Authors Have A Fundamental Misunderstanding Of The Research And Development Investment Process

The research and development investment process in pharmaceuticals is[long, costly, and risky.](http://www.oxfordhandbooks.com/view/10.1093/oxfordhb/9780199742998.001.0001/oxfordhb-9780199742998-e-2) Only a small proportion of new drug candidates that enter clinical trials (around 10 percent) become new drug introductions. It generally takes more than a decade for the maker of a new drug to perform the costly trials and gain Food and Drug Administration approval, and there is uncertainty concerning a drug’s efficacy and safety at every stage of the process.

Economic models of investment behavior under uncertainty indicate that spending will be driven by the expected future gains from these investments. If US policy makers were to enact regulations that drive prices down significantly, as Yu and her colleagues suggest, many projects that now have positive expected returns would no longer be profitable. Current prices would be lower but so would the expected level of future innovation.