## 1

#### CP Text: The United States Federal Government should prohibit pharmaceutical patents. Patent law can solve without antitrust.

Sipe ’17 [Matthew; December of 2016, published in the 2017 edition; J.D. at Yale Law School; American University Law Review, “Patents v. Antitrust: Preempting Conflict,” Vol. 66]

Regulatory authority within the patent world stems primarily from three remarkably different sources: (1) the Patent and Trademark Office (PTO), (2) the International Trade Commission (ITC), and (3) the U.S. Court of Appeals for the Federal Circuit. The PTO is an agency only recently coming into its full strength, thanks to a legislative overhaul. The ITC is an agency with considerable longstanding authority but more limited policy levers. And the Federal Circuit, using its unique position within the Article III judiciary to act as a de facto agency, has filled much of the unoccupied regulatory space between the two. 52

A. The Patent and Trademark Office: An Agency on the Rise

Historically, the PTO has suffered from a surprising dearth of administrative authority. Upon its creation, the Patent Office was afforded seemingly broad powers:

[T]here shall be established . . . an office to be denominated the Patent Office . . . whose duty it shall be . . . to superintend, execute, and perform, all such acts and things touching and respecting the granting and issuing of patents for new and useful discoveries, inventions, and improvements, as are herein provided for, or shall hereafter be, by law, directed to be done and performed . . . . 53

This authority was expanded in the Patent Act of 1952, which granted the PTO the power to "prescribe regulations governing the recognition and conduct of . . . parties before the Patent Office." 54 Nevertheless, the Federal [\*426] Circuit interpreted these grants narrowly, rejecting the proposition that the PTO had the authority to receive Chevron deference for any substantive, rather than merely procedural, rules. 55 This lack of deference led to the perception of the PTO as a relatively "weak agency." 56

However, developments within the past five years have opened the door to a much more robust and broad regulatory role for the PTO, which the PTO has already begun to embrace. First and foremost, the 2011 passage of the Leahy-Smith America Invents Act (AIA) 57 has, in the eyes of then-Director of the PTO, David Kappos, provided "the most significant overhaul to our patent system[] since the founding fathers." 58 This overhaul includes new adjudicative, standard-setting, and policymaking powers for the PTO. 59 Next, even outside of the AIA context, courts have begun to increasingly recognize that the PTO is entitled to deference on substantive matters. These shifts signal a significant increase in regulatory power for the PTO moving forward, and they implicate Credit Suisse's antitrust preemption analysis.

Turning first to the AIA, by granting the PTO increased control through new adjudicative proceedings and a broadly-defined prioritization power, the AIA "appears to vest the [PTO] with substantive rulemaking authority." 60 In [\*427] terms of new proceedings, the AIA has created post-grant review 61 and inter partes review, 62 wherein third parties may challenge the validity of a recently issued patent; derivation proceedings, wherein multiple parties contest ownership of a single invention; 63 and supplemental examinations, wherein a patent owner may seek to correct errors made during prosecution. 64 These adjudicative proceedings are formal and "trial-like" 65--including pretrial discovery, witness testimony with cross-examination, rules of evidence, and oral arguments 66--which weighs considerably in favor of granting the PTO Chevron deference for regulations or rulings resulting from these proceedings. 67 Moreover, the AIA explicitly grants the PTO rulemaking powers over these new procedures--rulemaking that encompasses not only "procedures" but also clearly substantive "standards." 68 By setting the standard [\*428] for what constitutes "derivation," for example, the PTO can control "whether some inventions are patentable" at all. 69

On top of all of this, the AIA has created a new prioritization power, granting the PTO the ability to fast-track inventions based solely on policy considerations. 70 By enabling the PTO to "set standards that affect core patent rights" and rank the relative importance of patent applications for policy reasons, the AIA has defined the PTO's role in shaping patent law and enhanced its role beyond mere patent application review. 71

Turning next to the courts, case law has begun to bolster the general level of deference afforded to the PTO for interpretations of patent laws. While the PTO still lacks Chevron deference for its interpretations of the Patent Act, 72 its entitlement to the lesser Skidmore deference 73 has become increasingly accepted. 74 The difference between the two may be more academic than practical; a comprehensive empirical study by Professors [\*429] Kristin Hickman and Matthew Kreuger found that federal courts of appeals applying Skidmore are "highly deferential," with outcomes "weighted heavily in favor of government agencies." 75 Even where courts have not explicitly invoked a standard of deference, core PTO interpretations have been gaining traction, causing "substantial legal effect" and, in some cases, being adopted wholesale. 76

In short, the AIA expanded the PTO's substantive rulemaking power considerably, and--even where it failed to do so--the PTO has already "demonstrated an ability to use rulemaking" to "steer substantive patent law's development in important ways." 77 Combined, these increases in authorized and utilized regulatory control support a narrowing role for antitrust law in the patent world under the preemption analysis of Credit Suisse.

B. The International Trade Commission: Longstanding Regulatory Authority

In comparison to the relatively weak historical power of the PTO, the ITC has long wielded considerable administrative power. Under section 337 of the Tariff Act, 78 the ITC has the authority to investigate and rule on "[u]nfair methods of competition," including "[t]he importation into the United States . . . of articles that . . . infringe a valid and enforceable United States patent." 79 In terms of remedies, the ITC has a relatively unique form of [\*430] injunctive relief at its disposal: the exclusion order. 80 These orders block importation of the infringing product, including downstream-implementing products. 81 Along similar lines, the ITC may issue cease and desist orders to direct a company within the United States to "cease its unfair acts, including selling infringing imported articles out of U.S. inventory." 82

The courts have already determined that the ITC receives Chevron deference in interpreting section 337. 83 This allows the ITC considerable power over not only its own internal procedures but also in setting standards for what constitutes, for example, "[u]nfair methods of competition . . . in the importation of articles." 84 Such an interpretation might reasonably include certain patent activity short of or distinct from infringement that nevertheless implicates competitive equilibria.

While the overwhelming majority of section 337 actions require adjudicating claims of patent infringement--and, therefore, defenses to infringement 85--the ITC does not currently receive Chevron deference for its interpretations of the Patent Act itself. 86 Moving forward, however, that [\*431] deference may emerge indirectly. The language "valid and enforceable United States patent" is used in section 337, but neither "valid" nor "enforceable" is defined elsewhere in the statute. 87 "Valid" is used in varying contexts throughout the Tariff Act, 88 and "enforceable" has "no common definition" in patent law. 89 Unlike the sections of the Tariff Act governing copyright and trademark issues--which directly reference both the Copyright and Trademark Acts 90--the Tariff Act does not directly reference the Patent Act. This ambiguity in the text--and lack of tethering to the Patent Act, which the ITC does not administer 91--opens the door for Chevron deference to the ITC's determinations of what constitutes patent validity and enforceability in its formal section 337 adjudications. 92

The longstanding administrative authority and deference afforded to the ITC, in addition to its potential for deference on matters of patent validity and enforceability, suggests minimizing the role for antitrust law where patents are involved under the Credit Suisse framework. This is bolstered further by the PTO's more direct administrative role over the Patent Act, including its recently enhanced regulatory powers and authority. 93 A third key player in the patent realm, the Federal Circuit, makes the need for outside interference of antitrust law even more suspect.

C. The Court of Appeals for the Federal Circuit: Court as Agency

The Federal Circuit is the odd duck of Article III courts. It is the only federal court of appeals with jurisdiction solely defined by subject matter rather than geography. 94 Moreover, it is unique in that it exercises near-exclusive [\*432] dominion over its subject matter; most cases that end up before the Federal Circuit could not have properly ended up before any other intermediate court of appeals. 95 Similarly, it is the only federal court of appeals other than the Supreme Court with national jurisdiction, taking appeals from all ninety-four federal district courts. 96 This idiosyncratic position that the Federal Circuit occupies--national and exclusive control of, among other things, patent appeals--has enabled it to perform a likewise idiosyncratic role: court as agency. By engaging in quasi-agency functions, the Federal Circuit further contributes to the preemption of antitrust law under the analysis of Credit Suisse.

These quirks of the Federal Circuit are a feature, not a bug; unlike the regional circuits, the Federal Circuit was the product of specific, articulated policy goals. In the late 1970s, a presidential policy review concluded that "disuniform patent law" had become an "impediment to continued American dominance of the technology industry." 97 That disuniformity spurred "widespread" patent forum shopping as litigants vied to have their cases heard in circuits considered significantly more or less friendly to patent rights. 98 Meanwhile, the federal courts of appeals were faced with "exploding caseloads," 99 a burden that nearly quadrupled from 1960 to 1973. 100 Professor Daniel Meador envisioned a singular solution to these twin problems: the creation of a national patent appeals court. 101 His vision and efforts as head of [\*433] the Office for Improvements in the Administration of Justice 102 would eventually lead to the Federal Courts Improvement Act of 1982 ("FCIA"), 103 creating the Federal Circuit:

Directing patent appeals to the new court will have the beneficial effect of removing these unusually complex, technically difficult, and time-consuming cases from the dockets of the regional courts of appeals. . . . [T]he central purpose is to reduce the widespread lack of uniformity and uncertainty of legal doctrine that exist in the administration of patent law. 104

In practice, the Federal Circuit has taken the intention of its creation--uniformity and expertise in patent law--as well as its unique position in the judiciary, and translated it into two key practices that resemble those of an agency: rulemaking and non-deferential review. First, in terms of rulemaking, the Federal Circuit has behaved similar to an agency by issuing mandatory, bright-line rules via case law. The early history of the Federal Circuit in particular is replete with examples of such bright-line rules. The presumption of entitlement to injunctive relief for infringement 105 and the mandatory "teaching, suggestion, or motivation" test for obviousness 106 offer two familiar examples. While the Supreme Court strongly encouraged this quasi-agency rulemaking role early on, 107 that trend has changed in recent years. 108 Despite [\*434] this pushback, the Federal Circuit retains considerable rulemaking potential, 109 whether through "process-based formalism" 110 or the mechanism of en banc review:

The number and breadth of questions the Federal Circuit agrees to hear en banc and the means by which it hears them go beyond the limited role of a court--to decide the case before it. Instead of exercising restraint and addressing only what it must, the Federal Circuit raises wide-ranging questions and makes broad pronouncements of law that set or change patent policy.

. . . Despite being an appellate court not subject to the notice and comment requirements [of administrative agencies], the Federal Circuit appears to comply with these requirements when it orders cases to be heard en banc. 111

Second, the Federal Circuit has engaged in non-deferential, agency-like review of PTO and ITC cases. The low standards of review afforded the PTO and ITC closely resemble "the non-deferential approach taken by the top level of an agency reviewing an administrative law judge more than a federal court reviewing an executive branch agency." 112 This stands in stark contrast to the Federal Circuit's treatment of non-patent agencies, which typically receive considerable deference. 113 By offering very limited deference to the patent agencies below, the Federal Circuit has thus entered a policymaking space, effectively treating the PTO and ITC as the court's alter ego.

[\*435] Much like the Federal Circuit's practice of creating bright-line rules, its lack of deference to the PTO and ITC has received some pushback, as noted in Sections II.A and II.B. But even if these critiques of the Federal Circuit as a quasi-agency win out, with an aggressive tamping down on rulemaking or non-deferential review, the PTO and ITC's regulatory authority would almost certainly grow to fill the void. 114

In other words, future changes to the patent regulatory apparatus are likely to be hydraulic shifts in authority between the PTO, ITC, and Federal Circuit, if not outright expansions. And the aggregate amount of regulatory authority afforded these three entities is already quite significant in scope and scale. Taken together, the authority ought to be enough to implicate Credit Suisse's preemption test in at least some types of cases. 115 The following Part takes up the task of determining precisely which types.

## 2

#### The fifty states and relevant subnational entities should mandate data portability and interoperability for social media platforms.

#### State coordination solves---multistate litigation and enforcement bureaus overcome deficits.

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, authorised 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 organisations 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)

## 3

#### Restricting reverse-payments upends pharmaceutical innovation AND unsettles the foundation of intellectual property law.

Steinniger ’14 [Judge; May 1; J.D. Candidate at Villanova University, B.S. in Economics from Pennsylvania State University; Villanova Law Review, “Shortsighted Response to Reverse Payments: How the Third Circuit May Cause Consumers to ‘Pay for the Delay’ of New Drug Development,” vol. 58]

V. Third Circuit’s “Per Se” Approach is a “Per Se” Concern to the Future of New Drug Innovation

To have a comprehensive evaluation of reverse payment settlements, there must be a detailed examination of both policy incentives and the resulting economic effects.119 Circuit court precedent has pitted patent exclusion against protecting consumer costs.120 The fallout from each side of the disagreement carries with it extensive consequences for consumers in the pharmaceutical industry.121

Footnote 119:

119. See Backus, supra note 29, at 380 (discussing policy objectives that must be balanced through Hatch-Waxman resolution). The Act and its results need to weigh the delicate balance between continuing to encourage innovation, while still bringing cheaper alternatives into the market. See id. (asserting need to maintain balance and consider both policy objectives); see also Hanks et al., supra note 10, at 1 (explaining financial impact of resolution of reverse payment issues). The resolution of the question regarding reverse payment settlements involves billions of dollars. See id. (showing economic impact of resolution regarding issue of reverse payment settlements).

End of Footnote 119.

A. Misguided Policy Objectives Overshadow More Important Innovative Consequences

The Third Circuit has reignited arguments that do not address the entirety of the reverse payment settlement issue.122 While the court concentrated on the immediate concerns of high consumer costs and weak patents, it failed to sufficiently examine the more prominent long-term effects on pharmaceutical innovation and consumer needs.123 By applying this approach to reverse payment settlements, courts risk endangering the entire pharmaceutical industry and creating uncertainty in patent protection.124

Footnote 124:

124. See Reverse-Payments Ban Dropped, supra note 5 (insisting that ban on reverse payment settlements would lead to detrimental effects in entire pharmaceutical industry).

End of Footnote 124.

1. The Per Se Attempt to Eliminate Reverse Payment Settlements

The Third Circuit has rekindled the per se approach, declaring reverse payments to be prima facie evidence of illegality.125 The court highlighted concerns including the high rate of success for generic manufacturers in Hatch-Waxman litigation, a patent holder’s ability to utilize high profit margins to forcefully maintain market control, and a divergence from enforcing the very purposes of the Hatch-Waxman Act.126 The court asserted the belief that reverse payment settlements would hamper generic entry and consequently, consumer costs would continue to increase.127

According to oppositions of the scope of the patent test, this examination fails to address the issue of weak or invalid patents because it coincides with a presumption of patent validity.128 A Federal Trade Commission (FTC) study asserted that seventy-three percent of paragraph IV challenges pushed to litigation are successful; therefore, some courts have highlighted a need for judicial resolve they felt was necessary to clear the weak patents.129 Ultimately, courts have taken clear anti-settlement stances at times.130

2. A Sufficient Conflict Insufficiently Addressed

While several circuits have encouraged judicial activism in clearing the patent landscape, those courts have overlooked some important considerations when applying this per se rule.131 First, although weak patents may exist, the regulatory patent process helps to promote innovation and development.132 The Patent and Trademark Office (PTO) issues patents to parties that have invested in new inventions, whether in the pharmaceutical industry or any other.133 If there is a need for system maintenance, the legislature could take action to improve the PTO’s effectiveness.134

Footnotes 131 and 132:

131. See Reverse-Payments Ban Dropped, supra note 5 (raising concern about possible bans on reverse payment settlements). Arguing that future drug innovation from branded pharmaceutical companies would be endangered and generic companies would be dissuaded from challenging patents without the option to settle claims prior to expensive litigation. See id. (expressing concern for branded pharmaceutical companies and generic manufacturers if reverse payment settlements were banned).

132. See ORG. FOR ECON. CO-OPERATION & DEV., PATENTS AND INNOVATION: TRENDS AND POLICY CHALLENGES 9 (2004), available at http://www.oecd.org/science/scienceandtechnologypolicy/24508541.pdf (discussing patent system’s ability to foster innovation). “Viewed from the angle of innovation policy, patents aim to foster innovation in the private sector by allowing inventors to profit from their inventions.” Id.

End of Footnotes 131 and 132.

When reviewing reverse payments, courts should consider the anticompetitive effects of the reverse payment, not the strength of the patent.135 Through judicial activism, the courts will intervene in the patent process and risk interfering with the agency duties of the PTO.136 Further, courts are muddying the analysis of reverse payment settlements by considering patent strength or weakness.137 The court’s departure from a presumption of patent validity further complicates the issue and likely will cause undesirable results.138 An independent examination of the restraint of trade should determine the validity of reverse payments.139

Second, the Third Circuit called attention to the high profit margins that allow patent holders to pay off generic challengers.140 This may be a plausible assertion, but the court failed to contemplate the importance of maintaining these profit margins to ensure future development.141 Pharmaceutical companies continue to strive for more innovation because they have the financial security of patent law.142 Judicial interpretation of patent strength in these cases will apply a level of scrutiny that will bring uncertainty to the future of intellectual property rights.143 Courts must consider the consequences of this increased scrutiny.144

Footnotes 141, 142, and 144:

141. See Hemphill, supra note 9, at 1574–75 (discussing considerations of competition and innovation). “The innovator’s argument is that a lenient policy toward settlement increases patentee profits, which preserves and improves the incentive to innovate.” Id. at 1575. This strong preference for promoting innovation should be followed by antitrust law through allowing a lenient approach to analyzing reverse payment settlements. See id. (promoting antitrust law’s merging towards favoring settlement).

142. See Holman, supra note 11, at 503–04 (discussing high profitability of branded drugs). When patent protections cease, profit margins and market share are quickly eroded by generic entry. See id. at 503 (explaining sharp decrease in value when patent expires). “The high profitability of branded drugs motivates drug patent owners to take extreme measures to maintain and enforce their patent rights.” Id. at 503–04.

144. See Butler & Jarosch, supra note 6, at 90 (discussing how reverse payment settlements allow innovator to increase patent value). “Because reverse-payment settlements increase the value of the underlying patent to the patent holder, they also increase the brand-name company’s incentive to innovate . . . .” Id.; see also Carrier, supra note 49, at 62 (discussing how restricting settlements can lead to more uncertainty for patent holders). Denying reverse payment settlements will increase uncertainty and delay innovation. See id. (asserting policy concern).

End of Footnotes 141, 142, and 144:

Finally, the Third Circuit stressed that reverse payment settlements conflict with the purposes of the Hatch-Waxman Act.145 Reverse payment settlements have developed as the most effective solution to Hatch-Waxman disputes because they benefit both parties involved.146 These settlements are a consequence of faulty mechanics and should not be eliminated through judicial intervention.147 The effects of the Hatch-Waxman legislation may not have been as intended but amending the procedure should be left to the legislature.148

#### 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.

## 4

#### 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.

## 5

#### The aff makes capitalism look nicer while giving its unsustainable activities a free pass—the impact is extinction and a new wave of colonial violence. Vote neg for People’s Tech for People’s Power—it’s mutually exclusive.

Kwet, 21—Visiting Fellow, Information Society Project, Yale Law School (Michael, “A Digital Tech Deal: Digital Socialism, Decolonization, and Reparations for a Sustainable Global Economy,” <https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3670986>, dml)

As political economist Sean Starrs has demonstrated, despite gains made by China – largely on the backs of exploited labour – the United States remains at the pinnacle of global wealth and power. In the post-World War II period, US power globalised; its transnational corporations dominate nearly every sector of the world economy.4

The global inequality created by capitalism threatens the environment. Its insatiable appetite for profit and growth – a structural imperative – is environmentally unsustainable, not only because it will likely overheat the planet, but also because it is overconsuming material resources from the Earth. For decades, advocates of capitalism have argued that unequal growth is acceptable so long as the poor make marginal gains. Yet projections show that on the current capitalist growth model – about 2-3% annually – to achieve the extent of growth needed to eradicate global poverty, measured at a mere USD 5 per day, the global GDP would have to increase to 175 times its present size.5

The problem with capitalism, degrowth advocates observe, is that we can no longer fatten the pockets of those who are wealthy on the global scale, from the middle classes on up. Rather, we need to rapidly grow the livelihoods of the poor, redistribute and reduce the consumption of the well-off, and set the global economy into a balanced equilibrium.6 This is a monumental task, as the rich and powerful – led by the US power elite – are marching ahead towards profit and growth, dragging the rest of life on Earth with them towards imminent destruction.

How digital colonialism threatens the environment

Within this cauldron of affairs, we now have Big Tech. In the US, the top five tech transnationals, GAFAM (Google/Alphabet, Apple, Facebook, Amazon and Microsoft), are collectively worth over USD 5 trillion. The Big Tech behemoths have concentrated wealth on the basis of owning the digital ecosystem – software, hardware, and network connection – the core infrastructure of the digital world.

As with the prior era of capitalist expansion, a new wave of corporations – mostly US transnationals – are colonising the global economy through the process of digital colonialism. At root, digital colonialism is about the ownership and control of the digital ecosystem for political, economic and social domination of a foreign territory.7

Under classic colonialism, Europeans seized and settled foreign land; installed infrastructure like railroads and sea ports; constructed heavy machinery and exploited labour used to extract raw materials; erected panoptic structures to police workers; marshalled the engineers needed for advanced economic exploitation; shipped the raw materials back to the mother country for the production of manufactured goods; undermined global South markets with cheap manufactured goods; perpetuated dependency of global South peoples in an unequal global division of labour; and expanded market, diplomatic and military domination for profit and plunder.

Today, the “open veins” of the global South are the “digital veins” crossing the oceans, wiring up a tech ecosystem owned and controlled by a handful of mostly US-based corporations. The transoceanic cables are often fitted with strands of fibre owned by the likes of Google and Facebook, for the purpose of data extraction and monopolisation. The cloud centres are the heavy machinery dominated by Amazon and Microsoft, proliferating like military bases for US empire, with Google, IBM and Alibaba following behind. The engineers are the corporate armies of elite programmers numbering in the hundreds of thousands, with generous salaries of USD 250,000 or more as compensation.

The exploited labourers are the people of colour producing the minerals in the Congo and Latin America, the armies of cheap labour annotating artificial intelligence data in China and Africa, the East Asian workers enduring post-traumatic stress disorder (PTSD) to cleanse Big Social Media of graphic content, and the vast majority of people asked to specialise in non-digital goods and services in a worldwide division of labour. The centralised intermediaries and spy centres are the panopticons, and data is the raw material processed for artificial intelligence services.

The US is at the helm of advanced economic production, which it dominates through the ownership of intellectual property and core infrastructure, backed by imperial trade policies at the World Trade Organization. The missionaries are the World Economic Forum elites, the CEOs of Big Tech corporations, and the mainstream “critics” in the US who dominate the “resistance” narrative, many of whom work for or take money from corporations like Microsoft and Google, and integrate with a network of US-Eurocentric intellectuals drawn from elite Western universities. Added to this, state-corporate elites, entrepreneurs, and educational institutions in the global South are replicating the Silicon Valley model of digital capitalism.

This problem intersects with the environment, compounding challenges to developing a sustainable economy, for a number of reasons. First, digital capitalism concentrates wealth. We have already seen the technology industry create new monopolies, ultra-wealthy oligarchs, exploit and threaten to undermine labour through gig labour, and gentrify cities like San Francisco.8 In most parts of the world, US-based transnational corporations dominate the broad range of products and services in the digital ecosystem.9

As digital technology spreads, if wealth further accrues to the Silicon Valley colonial metropole and elites within global South countries, then wealth inequality will further obstruct a just and sustainable resolution to the environmental crisis.

Second, the Silicon Valley model of digital society includes the use of powerful new technologies to police communities. At this moment in history, we need radical transformation of the status quo, which requires a radical redistribution of wealth and power. Yet throughout history, we have seen those with power use technology as tools to suppress social justice movements. Big Tech corporations like Microsoft, Amazon and Google are partnering with a shadow industry of corporations to provide law enforcement agencies and the US military to service police and US empire, including in countries like South Africa, Brazil and India.10

Third, the Silicon Valley business model is broken. There are two primary ways Big Tech makes money. The first is to charge users for using their technology. This requires them to offer a product you either purchase by the unit (such as proprietary software you install on your computer) or subscribe to (such as software owned and controlled by corporations running in their cloud). The second is to force-feed users ads and/or monetise surveillance.

This capitalist model poses numerous problems. If people have to pay out-of-pocket for tech services, then the world’s poor majority will be excluded, because they have very little or no disposable income. Moreover, in order to compel payments or force-feed ads, the technology has to be owned and controlled by the product or service provider, giving them the power to exercise control over the users, who would otherwise resist the ads.11 This problem also inheres with the enforcement of copyright, which requires draconian control over the means of computation to prevent people from copying and sharing published works without paying on the market.12

Fourth, the constant stream of advertisements pushed at users provokes consumerism at a time when we have to shift from a consumerist lifestyle to a societal orientation which values free time, leisure, creativity and spiritual fulfilment.

Fifth, an enormous amount of waste goes into efforts to manipulate people with corporate consumerist propaganda, including labour time to run, execute and develop AdTech and useless big data technologies, as well as the computer storage capacity and computer processing in the cloud dedicated to wasteful products and services. With the internet of things (IoT), we will allegedly build internet-connected technology into all of our “things”, from baby diapers to toothbrushes and toasters. IoT providers see a new market to continuously replace and “upgrade” our everyday items, instead of building them to last.

People’s Tech: Digital socialism and a Digital Tech Deal

To fix these problems, we need to build a socialist tech ecosystem that produces for need instead of exchange value, equality instead of profit and power, and sustainability instead of endless growth. In other words, we need to develop digital socialism.13

Any tech solution we introduce must be green and within the parameters of sustainable material throughput. The following solutions, therefore, must be developed within the context of green energy and material limitations – a production challenge in immediate need of study and attention.

Drawing from the free/libre and open source software (FLOSS) philosophy and movement, I have suggested that we develop and expand “People’s Tech for People’s Power” – a digital ecosystem based on a free software and internet decentralisation, supported by socialist legal solutions, critical education, grassroots movements, and bottom-up democracy.14

On a “People’s Tech” model, a set of interlocking solutions would transform the digital ecosystem. Software would be free and open sourced under strong copyleft licences, which require the disclosure of modified source code downstream as software develops. Copyleft ensures that the software commons is not enclosed by private owners and remains available for anyone to use, study, modify and distribute, for free. Wherever possible, cloud-based services like social media networks and platforms would be decentralised, interoperable and open sourced, so that there is no centralised intermediary in control. Legal solutions, including new laws and regulatory bodies, would support this arrangement, to ensure that the people directly own and control the networks as a democratic commons. Knowledge would be freely accessible to everyone on equal terms.

Strong privacy rights would ban surveillance imposed on workers, students, teachers and members of the public, including by law enforcement agencies and city authorities for “safe” and “smart” cities. Technology systems would be developed not to collect data by their very design, or keep it to a minimum where it is absolutely necessary (i.e. privacy by design). The right to repair and product design for longevity would help reduce e-waste and ensure compatibility with degrowth objectives.

Resources for infrastructure and development would be extended to people in the global South as reparations for colonialism and slavery, including recent revenue extraction through digital colonialism. Big Tech corporations – and corporations in general – would be phased out of existence. Their property, both intellectual and physical, would be socialised for democratic self-management and collective ownership.15 Production and consumption of goods and services would be coordinated locally, regionally and globally for wealth and income redistribution. Advertising and consumerism would be abolished, as would wasteful production geared towards overconsumption and behavioural manipulation.

To set this agenda in motion, it will take a committed grassroots movement that intersects with other social justice movements. There are three ideological forces standing in the way.

First, ruling class elites, especially in the US, will do everything in their power to prevent it from happening.

Second, other elites, including those at the World Economic Forum pushing the Fourth Industrial Revolution, will continue to pressure their own societies to adopt digital capitalism, for the gain of local elites, often in collaboration with US and other powerful actors.

And third, this will require challenging the US “soft left”, where the dominant “resistance” narrative has been formulated by a liberal imperialist “techlash” that claims it is critical of Big Tech, but focuses on a narrow set of problems, such as algorithmic bias, facial recognition, unionising US tech workers (without challenging private property or digital colonialism), weak “privacy” laws (like the EU’s General Data Protection Regulation and the US’s California Consumer Privacy Act), content moderation, and US-based antitrust for “competitive” markets. In this worldview, problems revolve around making Big Tech nicer – much like the Sullivan Principles during apartheid16 – instead of eradicating Big Tech, corporations and capitalism, including in its digital form. This “tech ethics” circuit is dominated by US-Eurocentric researchers working for or taking money from corporations like Microsoft and Google, academics at elite Western universities, prominent NGOs, wealthy foundations, and big corporate media outlets, who together form a connected network and shared ideology.17

Conclusion

The prospect of backlash from resistance to the US tech empire is enormous, and activists and scholars must build solidarity across the world. Pressure must be centred on the US to change its behaviour. Activists and intellectuals must develop a different, more principled path on the digital society if they are to avert ecological breakdown and global catastrophe. They cannot take their cues from the US soft left. Sustainable development requires the rapid breakdown of capitalism. This includes its dominant, authoritarian institution, the corporation; intellectual property; and the private ownership of infrastructure like software, cloud server farms, minerals and networking hardware.

Allies will emerge – including some in the West – if a clear and principled message of resistance is articulated by a grassroots movement working from below. Policies and activism cannot be developed in isolation – intellectuals, activists, unions and policy makers in government must come to the table and form eco-socialist legal solutions in tandem with others across the world.

People on the ground have nothing to lose but their chains. Google, Apple, Facebook, Amazon and Microsoft, as well as the other Big Tech corporations – including Chinese giants like Huawei and Alibaba – are colonising the digital landscape. Global South corporations and entrepreneurs are following suit. The challenges are difficult, but must be overcome. There is a rich history of resistance to digital colonialism for activists to draw upon. During South African apartheid, the world’s people called for boycotts, divestment and sanctions (BDS) against corporations like IBM and Hewlett Packard, which aided and abetted the apartheid government and businesses. US corporations, in response, pushed a reformist agenda called the Sullivan Principles said to improve worker conditions. Anti-apartheid activists rejected the Sullivan Principles as corporate propaganda designed to manufacture consent while US corporations continued to profit from apartheid misery.

The movement against digital colonialism needs to be resurrected to meet the current environment. This time, the US fully occupies the centre, through its endless pursuit of racialised economic and political domination, which is driving the environment to the brink of

#### The capitalist system is terminally unsustainable, it’s the root cause of every impact, and attempting to save it only results in extinction and scapegoating violence.

Robinson ’16 (William; 2016; professor of sociology, global studies and Latin American studies at the University of California at Santa Barbara; Truthout; “Sadistic Capitalism: Six Urgent Matters for Humanity in Global Crisis”; <http://www.truth-out.org/opinion/item/35596-sadistic-capitalism-six-urgent-matters-for-humanity-in-global-crisis>)

In these mean streets of globalized capitalism in crisis, it has become profitable to turn poverty and inequality into a tourist attraction. The South African Emoya Luxury Hotel and Spa company has made a glamorized spectacle of it. The resort recently advertised an opportunity for tourists to stay "in our unique Shanty Town ... and experience traditional township living within a safe private game reserve environment." A cluster of simulated shanties outside of Bloemfontein that the company has constructed "is ideal for team building, braais, bachelors [parties], theme parties and an experience of a lifetime," read the ad. The luxury accommodations, made to appear from the outside as shacks, featured paraffin lamps, candles, a battery-operated radio, an outside toilet, a drum and fireplace for cooking, as well as under-floor heating, air conditioning and wireless internet access. A well-dressed, young white couple is pictured embracing in a field with the corrugated tin shanties in the background. The only thing missing in this fantasy world of sanitized space and glamorized poverty was the people themselves living in poverty. Escalating inequalities fuel capitalism's chronic problem of over-accumulation. The "luxury shanty town" in South Africa is a fitting metaphor for global capitalism as a whole. Faced with a stagnant global economy, elites have managed to turn war, structural violence and inequality into opportunities for capital, pleasure and entertainment. It is hard not to conclude that unchecked capitalism has become what I term "sadistic capitalism," in which the suffering and deprivation generated by capitalism become a source of aesthetic pleasure, leisure and entertainment for others. I recently had the opportunity to travel through several countries in Latin America, the Middle East, North Africa, East Asia and throughout North America. I was on sabbatical to research what the global crisis looks like on the ground around the world. Everywhere I went, social polarization and political tensions have reached explosive dimensions. Where is the crisis headed, what are the possible outcomes and what does it tell us about global capitalism and resistance? This crisis is not like earlier structural crises of world capitalism, such as in the 1930s or 1970s. This one is fast becoming systemic. The crisis of humanity shares aspects of earlier structural crises of world capitalism, but there are six novel, interrelated dimensions to the current moment that I highlight here, in broad strokes, as the "big picture" context in which countries and peoples around the world are experiencing a descent into chaos and uncertainty. 1) The level of global social polarization and inequality is unprecedented in the face of out-of-control, over-accumulated capital. In January 2016, the development agency Oxfam published a follow-up to its report on global inequality that had been released the previous year. According to the new report, now just 62 billionaires -- down from 80 identified by the agency in its January 2015 report -- control as much wealth as one half of the world's population, and the top 1% owns more wealth than the other 99% combined. Beyond the transnational capitalist class and the upper echelons of the global power bloc, the richest 20 percent of humanity owns some 95 percent of the world's wealth, while the bottom 80 percent has to make do with just 5 percent. This 20-80 divide of global society into haves and the have-nots is the new global social apartheid. It is evident not just between rich and poor countries, but within each country, North and South, with the rise of new affluent high-consumption sectors alongside the downward mobility, "precariatization," destabilization and expulsion of majorities. Escalating inequalities fuel capitalism's chronic problem of over-accumulation: The transnational capitalist class cannot find productive outlets to unload the enormous amounts of surplus it has accumulated, leading to stagnation in the world economy. The signs of an impending depression are everywhere. The front page of the February 20 issue of The Economist read, "The World Economy: Out of Ammo?" Extreme levels of social polarization present a challenge to dominant groups. They strive to purchase the loyalty of that 20 percent, while at the same time dividing the 80 percent, co-opting some into a hegemonic bloc and repressing the rest. Alongside the spread of frightening new systems of social control and repression is heightened dissemination through the culture industries and corporate marketing strategies that depoliticize through consumerist fantasies and the manipulation of desire. As "Trumpism" in the United States so well illustrates, another strategy of co-optation is the manipulation of fear and insecurity among the downwardly mobile so that social anxiety is channeled toward scapegoated communities. This psychosocial mechanism of displacing mass anxieties is not new, but it appears to be increasing around the world in the face of the structural destabilization of capitalist globalization. Scapegoated communities are under siege, such as the Rohingya in Myanmar, the Muslim minority in India, the Kurds in Turkey, southern African immigrants in South Africa, and Syrian and Iraqi refugees and other immigrants in Europe. As with its 20th century predecessor, 21st century fascism hinges on such manipulation of social anxiety at a time of acute capitalist crisis. Extreme inequality requires extreme violence and repression that lend to projects of 21st century fascism. 2) The system is fast reaching the ecological limits to its reproduction. We have reached several tipping points in what environmental scientists refer to as nine crucial "planetary boundaries." We have already exceeded these boundaries in three areas -- climate change, the nitrogen cycle and diversity loss. There have been five previous mass extinctions in earth's history. While all these were due to natural causes, for the first time ever, human conduct is intersecting with and fundamentally altering the earth system. We have entered what Paul Crutzen, the Dutch environmental scientist and Nobel Prize winner, termed the Anthropocene -- a new age in which humans have transformed up to half of the world's surface. We are altering the composition of the atmosphere and acidifying the oceans at a rate that undermines the conditions for life. The ecological dimensions of global crisis cannot be understated. "We are deciding, without quite meaning to, which evolutionary pathways will remain open and which will forever be closed," observes Elizabeth Kolbert in her best seller, The Sixth Extinction. "No other creature has ever managed this ... The Sixth Extinction will continue to determine the course of life long after everything people have written and painted and built has been ground into dust." Capitalism cannot be held solely responsible. The human-nature contradiction has deep roots in civilization itself. The ancient Sumerian empires, for example, collapsed after the population over-salinated their crop soil. The Mayan city-state network collapsed about AD 900 due to deforestation. And the former Soviet Union wrecked havoc on the environment. However, given capital's implacable impulse to accumulate profit and its accelerated commodification of nature, it is difficult to imagine that the environmental catastrophe can be resolved within the capitalist system. "Green capitalism

" appears as an oxymoron, as sadistic capitalism's attempt to turn the ecological crisis into a profit-making opportunity, along with the conversion of poverty into a tourist attraction. 3) The sheer magnitude of the means of violence is unprecedented, as is the concentrated control over the means of global communications and the production and circulation of knowledge, symbols and images. We have seen the spread of frightening new systems of social control and repression that have brought us into the panoptical surveillance society and the age of thought control. This real-life Orwellian world is in a sense more perturbing than that described by George Orwell in his iconic novel 1984. In that fictional world, people were compelled to give their obedience to the state ("Big Brother") in exchange for a quiet existence with guarantees of employment, housing and other social necessities. Now, however, the corporate and political powers that be force obedience even as the means of survival are denied to the vast majority. Global apartheid involves the creation of "green zones" that are cordoned off in each locale around the world where elites are insulated through new systems of spatial reorganization, social control and policing. "Green zone" refers to the nearly impenetrable area in central Baghdad that US occupation forces established in the wake of the 2003 invasion of Iraq. The command center of the occupation and select Iraqi elite inside that green zone were protected from the violence and chaos that engulfed the country. Urban areas around the world are now green zoned through gentrification, gated communities, surveillance systems, and state and private violence. Inside the world's green zones, privileged strata avail themselves of privatized social services, consumption and entertainment. They can work and communicate through internet and satellite sealed off under the protection of armies of soldiers, police and private security forces. Green zoning takes on distinct forms in each locality. In Palestine, I witnessed such zoning in the form of Israeli military checkpoints, Jewish settler-only roads and the apartheid wall. In Mexico City, the most exclusive residential areas in the upscale Santa Fe District are accessible only by helicopter and private gated roads. In Johannesburg, a surreal drive through the exclusive Sandton City area reveals rows of mansions that appear as military compounds, with private armed towers and electrical and barbed-wire fences. In Cairo, I toured satellite cities ringing the impoverished center and inner suburbs where the country's elite could live out their aspirations and fantasies. They sport gated residential complexes with spotless green lawns, private leisure and shopping centers and English-language international schools under the protection of military checkpoints and private security police. In other cities, green zoning is subtler but no less effective. In Los Angeles, where I live, the freeway system now has an express lane reserved for those that can pay an exorbitant toll. On this lane, the privileged speed by, while the rest remain one lane over, stuck in the city's notorious bumper-to-bumper traffic -- or even worse, in notoriously underfunded and underdeveloped public transportation, where it may take half a day to get to and from work. There is no barrier separating this express lane from the others. However, a near-invisible closed surveillance system monitors every movement. If a vehicle without authorization shifts into the exclusive lane, it is instantly recorded by this surveillance system and a heavy fine is imposed on the driver, under threat of impoundment, while freeway police patrols are ubiquitous. Outside of the global green zones, warfare and police containment have become normalized and sanitized for those not directly at the receiving end of armed aggression. "Militainment" -- portraying and even **glamorizing war and violence** as entertaining spectacles through Hollywood films and television police shows, computer games and corporate "news" channels -- may be the epitome of sadistic capitalism. It desensitizes, bringing about complacency and indifference. In between the green zones and outright warfare are **prison industrial complexes**, **immigrant** and refugee **repression** and control systems, the criminalization of outcast communities and **capitalist schooling**. The omnipresent media and cultural apparatuses of the corporate economy, in particular, aim to **colonize the mind** -- to undermine the ability to think critically and outside the dominant worldview. A neofascist culture emerges through **militarism**, extreme **masculinization**, racism and **racist mobilizations** against scapegoats. 4) We are reaching limits to the extensive expansion of capitalism. Capitalism is like riding a bicycle: When you stop pedaling the bicycle, you fall over. If the capitalist system stops expanding outward, it enters crisis and **faces collapse**. In each earlier structural crisis, the system went through a new round of extensive expansion -- from waves of colonial conquest in earlier centuries, to the integration in the late 20th and early 21st centuries of the former socialist countries, China, India and other areas that had been marginally outside the system. There are **no longer** any **new territories** to integrate into world capitalism. Meanwhile, the privatization of education, health care, utilities, basic services and public land are turning those spaces in global society that were outside of capital's control into "spaces of capital." Even poverty has been turned into a commodity. **What is there left to commodify?** Where can the system now expand? With the limits to expansion comes a **turn toward militarized accumulation** -- **making wars** of endless destruction and reconstruction and expanding the militarization of social and political institutions so as to continue to **generate new opportunities** for accumulation in the face of stagnation. 5) There is the rise of a vast surplus population inhabiting a "**planet of slums**," alienated from the productive economy, thrown into the margins and subject to these sophisticated systems of social control and destruction. Global capitalism has **no** direct **use for surplus humanity**. But indirectly, it holds wages down everywhere and makes new systems of **21st century slavery** possible. These systems include prison labor, the forced recruitment of miners at gunpoint by warlords contracted by global corporations to dig up valuable minerals in the Congo, sweatshops and exploited immigrant communities (including the rising tide of immigrant female caregivers for affluent populations). Furthermore, the global working class is experiencing accelerated "**precariatization**." The "new precariat" refers to the proletariat that faces capital under today's unstable and precarious labor relations -- informalization, casualization, part-time, temp, immigrant and contract labor. As communities are uprooted everywhere, there is a **rising** reserve **army of immigrant labor**. The global working class is becoming divided into citizen and immigrant workers. The latter are particularly attractive to transnational capital, as the lack of citizenship rights makes them particularly vulnerable, and therefore, exploitable. The challenge for dominant groups is **how to** **contain the real** and potential **rebellion** of surplus humanity, the immigrant workforce and the precariat. How can they contain the explosive contradictions of this system? The 21st century megacities become the **battlegrounds between mass resistance** movements **and** the new systems of **mass repression**. Some populations in these cities (and also in abandoned countryside) are at risk of **genocide**, such as those in Gaza, zones in Somalia and Congo, and swaths of Iraq and Syria. 6) There is a disjuncture between a globalizing economy and a nation-state-based system of political authority. Transnational state apparatuses are incipient and do **not wield enough power** and authority **to** organize and **stabilize the system**, much less to impose regulations on runaway transnational capital. In the wake of the 2008 financial collapse, for instance, the governments of the G-8 and G-20 were **unable to impose transnational regulation** on the global financial system, despite a series of emergency summits to discuss such regulation. Elites historically have attempted to resolve the problems of over-accumulation by state policies that can regulate the anarchy of the market. However, in recent decades, transnational capital has **broken free from** the **constraints** imposed by the nation-state. The more "enlightened" elite representatives of the transnational capitalist class are now clamoring for transnational mechanisms of regulation that would allow the global ruling class to reign in the **anarchy of the system** in the interests of saving global capitalism from itself and from **radical challenges from below**. At the same time, the division of the world into some 200 competing nation-states is not the most propitious of circumstances for the global working class. Victories in popular struggles from below in any one country or region can (and often do) become diverted and even undone by the structural power of transnational capital and the direct political and military domination that this structural power affords the dominant groups. In Greece, for instance, the leftist Syriza party came to power in 2015 on the heels of militant worker struggles and a mass uprising. But the party abandoned its radical program as a result of the enormous pressure exerted on it from the European Central Bank and private international creditors. The Systemic Critique of Global Capitalism A growing number of transnational elites themselves now recognize that any resolution to the global crisis must involve redistribution downward of income. However, in the viewpoint of those from below, a neo-Keynesian redistribution within the prevailing corporate power structure is **not enough**. What is required is a redistribution of power downward and **transformation toward a system** in which social need trumps private profit. A **global rebellion** against the transnational capitalist class has spread since the financial collapse of 2008. Wherever one looks, there is **popular**, **grassroots** and leftist **struggle**, and the rise of **new cultures of resistance**: the Arab Spring; the resurgence of leftist politics in Greece, Spain and elsewhere in Europe; the tenacious resistance of Mexican social movements following the Ayotzinapa massacre of 2014; the favela uprising in Brazil against the government's World Cup and Olympic expulsion policies; the student strikes in Chile; the remarkable surge in the Chinese workers' movement; the shack dwellers and other poor people's campaigns in South Africa; Occupy Wall Street, the immigrant rights movement, Black Lives Matter, fast food workers' struggle and the mobilization around the Bernie Sanders presidential campaign in the United States. This global revolt is spread unevenly and faces many challenges. A number of these struggles, moreover, have suffered setbacks, such as the Greek working-class movement and, tragically, the Arab Spring. What type of a transformation is viable, and how do we achieve it? How we interpret the global crisis is itself a matter of vital importance as politics polarize worldwide between a neofascist and a popular response. The systemic critique of global capitalism must **strive to influence**, from this vantage point, **the discourse and practice of movements** for a more just distribution of wealth and power. **Our survival** may depend on it.

#### Neoliberal ideology necessitates extinction from the finance valuation of the ecosphere, particularly in capital flow from governments to industry, like national insurance. Our alternative is endorsing destiuent power which includes refusing to ciruculate neoliberal ideology and we negate an inevitably violent hierarchal their constituted politics use. This is the only method to produce egalitarian and ecologically sustainable societies.

Skye Bougsty-Marshall 31 May 2016 Flooding Wall Street: Echoes from the Future of Resistance around Climate Change; Capitalism Nature Socialism Volume 27, 2016 - Issue 3

The astonishing level of scientific consensus surrounding the severity and urgency of the threat of climate change, in conjunction with the almost daily barrage of further documentation of the extent of intersecting ecological crises, cannot assail or forestall the economic logic of capitalism. The penetration of neoliberal political rationality into every corner of the global social space and its generalized application to an expanding domain of social life correspond with and extend the reductionist logic of capital incessantly striving to transmogrify the dense universe of non-fungible human and ecological values into the smooth, monolithic texture of economic value. The relative imperviousness of the continuing flows of financing from Wall Street, the embodiment of global financial capital, and from governments to extractive industries, even as these businesses’ activities are manifestly and directly causing the climate catastrophe, evinces this singular rapaciousness. For instance, fossil fuel corporations continued to benefit from subsidies of $5.3 trillion in 2015 (Coady et al. 2015 Coady, David, Ian Parry, Louis Sears, and Baoping Shang. 2015. IMF Working Paper: How Large are Global Energy Subsidies? International Monetary Fund, May. http://www.imf.org.proxy.library.umkc.edu/external/pubs/ft/wp/2015/wp15105.pdf. ). This is more than all governments combined spend on health care and amounts to an astounding $10 million every minute (Carrington 2015 Carrington, Damian. 2015. “Fossil Fuels Subsidised by $10 m a Minute, Says IMF.” The Guardian, May 18. http://www.theguardian.com/environment/2015/may/18/fossil-fuel-companies-getting-10m-a-minute-in-subsidies-says-imf. ). Through its univocal conception of value, capital serves to shape our actions and how we imagine our relationships with one another and the ecosystems that support us, as well as mediates how we cooperate together to reproduce our world (Haiven 2012 Haiven, Max. 2012. “The Financial Crisis as a Crisis of Imagination.” Cultural Logic, January. http://clogic.eserver.org/2010/Haiven.pdf. , 7). This reconfiguration of personal and social life in strictly economic terms obliterates a whole ecosystem of values which are foundational to the continued maintenance of life on this planet. This inherent drive of capitalism to commodify ecological values, when multiplied and extended globally by its structural imperative for endless expansion, leads to the despoliation of the natural world we are ever more acutely experiencing. In its injunction to “Stop Capitalism! End the Climate Crisis!,” Flood Wall Street diagnosed a critical node in the network of power relationships suffusing global society that must be resisted and dismantled in order to avert planetary disaster. As an initial wave of disobedience, with several thousand people shutting down a large swathe of streets in and around the epicenter of global financial capital for a day, Flood Wall Street constituted an important intervention. It worked as a complement and radical counterpoint to the 400,000 people who marched loudly and politely against climate change through the streets of New York the day before. Although Flood Wall Street was not expected to precipitate a contagion of insurrectionary energy, in fostering new relationships among participants, planting inchoate seeds of new subjectivities, and sending off new radical shoots, it can be situated as one additional step in the ceaseless project of sowing a network of destituent power and disobedience that is necessary to end the countless depredations attendant with our prevailing social formations. The simple conception of Flood Wall Street – people wearing blue flooding financial centers across the world to disrupt capital flows and reject capitalism’s role in driving climate chaos – was intentionally designed to enable this tactic to multiply, spread widely, and be adapted to local circumstances with no one exercising control or ownership over any specific implementation. This inherent potential for virality through iterating the creation of relays among resistances constitutes a crucial and increasingly prevalent feature of recent movement tactics (Day 2005 Day, Richard J. F. 2005. Gramsci is Dead: Anarchist Currents in the Newest Social Movements. London: Pluto Press. , 19). The energy released from the Flood Wall Street produced numerous offshoots, extending from the local with the formation of a New York City branch in the creative direct action network Rising Tide, to the global with #FloodtheSystem. The latter spawned actions in 2015 ranging from Flood Wall Street West in San Francisco’s financial district to the coal ports of Australia, to the fight against fossil fuel infrastructure across North America. The emerging network fostered by Flood Wall Street also served as a medium for collectives to coalesce in Paris to take direct action during COP21, enabling the continued proliferation of connections, relationships, and practices. In this way it is incipiently displaying qualities associated with the concept of a rhizome (discussed further below), as an evolving network of nonhierarchical, heterogeneous connections in which any point can form a link with any other, which offers a fertile conceptual frame in which to think this global resistance. To actually begin to meaningfully respond to the gravity of the crisis facing us we must transversally connect hundreds of thousands of global relay points rhizomatically in sustained and escalating assaults against capitalism and the state through inhibiting their functioning, while subtracting our energies and reconfiguring our social relationships that act to perpetuate this parasitic system. There are limitations, however, without politicizing and bringing radical struggle to our collective social reproduction in daily life. Absent this careful and constant politicization of the way we reproduce ourselves each day, actions like Flood Wall Street will happen and then dissipate as everyone returns home while the juggernaut of capital continues churning. These actions are stifled not through affirmative suppression, but through recuperation into the social milieu “by being rendered yet another spectacle in the parade of culture,” where their meaning can be solicitously modulated and constructed (May 1995 May, Todd. 1995. The Political Philosophy of Poststructuralist Anarchism. University Park, TX: Penn State University Press. , 25). As Horkheimer and Adorno (1972 Horkheimer, Max, and Theodor Adorno. 1972. Dialectic of Enlightenment. New York: Seabury Press. , 144) observed, the objective of the cultural industry – comprised significantly by the six companies that own 90% of the media consumed in the United States (Stewart 2014 Stewart, James B. 2014. “When Media Mergers Limit More than Competition.” New York Times, July 25. http://www.nytimes.com/2014/07/26/business/a-21st-century-fox-time-warner-merger-would-narrow-already-dwindling-competition.html?\_r=0. ) – is to furnish pleasure and amusement that is a flight; and not a flight from the misery of daily reality, as is the dominant assumption, but instead from any thoughts of resistance. In turn, John Holloway highlights how in most places, and especially in developed states, we are not prepared to jettison capitalism and the state insofar as we have not yet developed alternative ways of living sufficient to provide for our material needs to live with dignity without depending on wage labor, on capitalism (Fernández-Savater 2014 Fernández-Savater, Amador. 2014. “John Holloway: Cracking Capitalism vs. the State Option.” ROAR Magazine, September 29. http://roarmag.org/2014/09/john-holloway-cracking-capitalism-vs-the-state-option/. ). Thus, lacking fecund ground for ongoing and sustained nurturing of the radical imagination through alternative spaces and practices on a daily basis, it will remain exceedingly challenging to multiply and connect axes of resistance and experimental political practices in a manner necessary to withdraw sufficient energy from the capitalist order to render it redundant and superfluous. As was noted, after the punctual flood many returned to their obedient everyday lives that enable this political order to persist, despite the immiseration, deracination, and chaos it engenders and on which it feeds, because of the productive nature of power and the occlusion of power’s operations that ensure we largely misapprehend its elaboration and workings. As Foucault (1978 Foucault, Michel. 1978. The History of Sexuality, Vol. 1: An Introduction. Translated by Robert Hurley. New York: Random House. , 86) suggested, power is successful to the extent that it is able to mask its operations. Power functions to produce us as subjects who then act as accomplices in our self-enslavement through obedience to this system and the deformed set of values it fosters. We are accustomed to the view of power as that force which is external to the actor and impinges on, constrains, or represses her actions. However, following Foucault, power crucially is productive and creative, that which also forms and formulates the subject, providing coordinates for the social positioning that she, in turn, vivifies and lives through, thereby rendering her position coextensive with her social identity and orienting the vectors of her desires (Butler 1997 Butler, Judith. 1997. The Psychic Life of Power. Stanford: Stanford University Press. , 2). In this way a normative discourse, concerning, for instance, gender or heteronormativity – always and everywhere already invested with power relations – only persists as a norm to the extent that it is (re)produced through its instantiations in subjects acting out this idealization in social practice. This is how subjects are both effects and vehicles of power. The norm is reproduced through the acts of subjects that seek to approximate it, through the normalizing idealizations concretized in and through these acts (Butler 2004 Butler, Judith. 2004. Undoing Gender. New York: Routledge. , 48). Discursive regimes and normative constraints are not external to individuals, but are guaranteed by individuals subscribing to them and reproduced through being subjected by them. The operation of power through subjectification and subjects in turn self-activating these mechanisms of power effaces power relations and dominance and renders them difficult to perceive because we, in apparent freedom, participate in their (re)production in the ways we relate to and govern ourselves and each other (Lorey 2006 Lorey, Isabell. 2006. “Governmentality and Self-Precarization: On the Normalization of Cultural Producers.” Transversal, January. http://eipcp.net/transversal/1106/lorey/en. ). Power can infuse and achieve effective control “over the entire life of the population only when it becomes an integral, vital function that every individual embraces and reactivates of his or her own accord” (Hardt and Negri 2001 Hardt, Michael, and Antonio Negri. 2001. Empire. Cambridge: Harvard University Press. , 24). In this society of control, power mechanisms become immanent to the social field, enacted and reinscribed constantly through their diffusion throughout the consciousnesses and bodies of the population across the whole of social relations (24). Thus, we can view power as not merely repressive, operating on its objects (“from above”), but also as productive and creative, operating within and through them (“from below”), as not in a position of exteriority to other relationships but interior to and traversing them. In addition to bringing about that which must be resisted, power also perniciously gives rise to the forms which resistance assumes (May 1995 May, Todd. 1995. The Political Philosophy of Poststructuralist Anarchism. University Park, TX: Penn State University Press. , 73). Because power shapes and configures its own resistance, it is crucial to engage in analysis of local, specific power mechanisms

to properly understand the operation of power so as to apprehend modes of resistance that do not inadvertently reinscribe and reinforce those very power relationships. Destituent Power and the Unweaving of the Relationships of Capital and the State It is within this context that we must evaluate and situate the mode of political struggle Flood Wall Street betokens. The modern conception of political conflict has been predominantly understood in terms of “constituent power,” which is the creative energy or violence that, ex nihilo, is capable of creating a (new) institutional order – a new constitution and new juridical norms – whereby social relations are organized (into “constituted power”) (Laudani 2012 Laudani, Raffaele. 2012. “The Time of Disobedience: Elements for a Political Theory of Destituent Power.” Presented at Duke University, October 30. Translated by Jason Francis McGimsey. http://www.academia.edu/7603383/The\_Time\_of\_Disobedience. ). The peculiar and aporetic character of constituent power is revealed when considering that if constituent power succeeds in creating a new legal order, constituent power will, in following its essence, instantly threaten the same constituted power it has just created. Thus, if constituent power with this excess is not to undo the new legal order it has just constituted, “constituent power must then, at some indeterminate but decisive threshold, begin to be neutralized and contained” (Laudani 2013 Laudani, Raffaele. 2013. Disobedience in Western Political Thought. Translated by Jason Francis McGimsey. New York: Cambridge. [CrossRef] , xiii). It is in this dynamic that Benjamin (1978 Benjamin, Walter. 1978. “Critique of Violence.” In Reflections, edited by Peter Demetz and translated by Edmund Jephcott, 277–300. New York: Harcourt Brace Jovanovich. , 284), in his essay “On the Critique of Violence,” identified and located the dialectic between constituent power – as lawmaking violence – and constituted power – as law-preserving violence. The mutually constituting and reinforcing nature of security and resistance reflects this underlying dialectic between constituent power and constituted power. The concept of destituent power (poder destituyente), on the other hand, originates from the Colectivo Situaciones’ (2011 Colectivo Situaciones. 2011. 19&20 Notes for a New Social Protagonism. Translated by Nate Holdren and Sebastián Touza. New York: Minor Compositions. http://www.minorcompositions.info/wp-content/uploads/2011/12/1920-web.pdf. ) analysis of the uprisings in Argentina on 19 and 20 December 2001. Destituent power exhibits potency similar to constituent power, but operates as a continual process of open-ended withdrawal from, or refusal of, the juridical, institutional order (Laudani 2013 Laudani, Raffaele. 2013. Disobedience in Western Political Thought. Translated by Jason Francis McGimsey. New York: Cambridge. [CrossRef] , 4). It functions completely outside the law – extrainstitutionally – seeking to dismantle sovereign, constituted power altogether rather than to reform it or overthrow it and then re-institute it in a different form. Destituent power undermines and erodes the obedience that is fundamental to and presupposed by the constituted order for its continued existence. However, destituent power is not a purely reactive or nihilistic force, but instead is creative – not in the sense of producing new institutions to replace the old, but through its deactivation of the legal order. This, in turn, opens new horizons of possibilities for egalitarian and holistic social and ecological relationships far exceeding what is practicable under the current destructive political order (Laudani 2013 Laudani, Raffaele. 2013. Disobedience in Western Political Thought. Translated by Jason Francis McGimsey. New York: Cambridge. [CrossRef] , xv, n. 23). Benjamin (1978 Benjamin, Walter. 1978. “Critique of Violence.” In Reflections, edited by Peter Demetz and translated by Edmund Jephcott, 277–300. New York: Harcourt Brace Jovanovich. , 300) also envisaged this immanent creative potential within destituent power as he attempted to identify a pure violence that could “break the false dialectics of lawmaking violence and law-preserving violence.” Following this line of reasoning, he argued that: [o]n the breaking of this cycle maintained by mythical forms of law, on the suspension [destitution] of law with all the forces on which it depends as they depend on it, finally therefore on the abolition of state power, a new historical epoch is founded. Thus, although a constituent power destroys law only to re-institute it again in a new form (merely perpetuating the cycle), insofar as destituent power dismantles and deposes the law once for all, it can function to open onto the terrain of a new epoch characterized by radically new possibilities (Agamben 2014 Agamben, Giorgio. 2014. “From the State of Control to a Praxis of Destituent Power.” ROAR Magazine, February 4. http://roarmag.org/2014/02/agamben-destituent-power-democracy/. ). In deposing the political order, destituent power opens becomings, enabling experimentation with new practices and the development of new knowledges that will, in turn, themselves be de-instituted in the continual and open-ended process unfolding (Colectivo Situaciones 2011 Colectivo Situaciones. 2011. 19&20 Notes for a New Social Protagonism. Translated by Nate Holdren and Sebastián Touza. New York: Minor Compositions. http://www.minorcompositions.info/wp-content/uploads/2011/12/1920-web.pdf. , 64, 87). Constituent power’s direct confrontation with the state – through terrorism or revolution – simply reinforces the security apparatus and invites greater levels of repression. As destituent power, disobedience can be conceived not as a direct clash with constituted power but instead as the withdrawal of consent to the political order, as a direct negation of its legitimacy (Laudani 2013 Laudani, Raffaele. 2013. Disobedience in Western Political Thought. Translated by Jason Francis McGimsey. New York: Cambridge. [CrossRef] , 37). Early twentieth-century German anarchist Gustav Landauer (2010 Landauer, Gustav. 2010. “Weak Statesmen, Weaker People!” In Revolution and Other Writings: A Political Reader, edited and translated by Gabriel Kuhn, 213–214. Oakland, CA: PM Press. , 214) deployed a similar argument in maintaining that all social and political institutions depend for their existence on the choices of individuals to continue to give them their support, and, thus, removal of this support and constituting ourselves apart from these institutions, thereby rendering them redundant, is the key to dissolving them. Furthermore, Landauer extended this insight concerning the extent to which our obedient practices and behaviors serve as the basis of the state, arguing that “[t]he state is a condition, a certain relationship among human beings, a mode of behavior between men; we destroy it by contracting other relationships, by behaving differently toward one another” (qtd. in Lunn 1973 Lunn, Eugene. 1973. Prophet of Community: The Romantic Socialism of Gustav Landauer. Berkeley, CA: University of California Press. , 226).

## Adv.1

#### Bio-d loss isn’t existential

**Kareiva and Carranza, 18**—Institute of the Environment and Sustainability, University of California, Los Angeles (Peter and Valerie, “Existential risk due to ecosystem collapse: Nature strikes back,” Futures, available online January 5, 2018, ScienceDirect, dml)

While there are data that relate local reductions in species richness to altered ecosystem function, these results do not point to substantial existential risks. The data are small-scale experiments in which plant productivity, or nutrient retention is reduced as species numbers decline locally (Vellend, 2017), or are local observations of increased variability in fisheries yield when stock diversity is lost (Schindler et al., 2010). Those are not existential risks. To make the link even more tenuous, there is little evidence that biodiversity is even declining at local scales (Vellend et al., 2013, 2017). Total planetary biodiversity may be in decline, but local and regional biodiversity is often staying the same because species from elsewhere replace local losses, albeit homogenizing the world in the process. Although the majority of conservation scientists are likely to flinch at this conclusion, there is growing skepticism regarding the strength of evidence linking trends in biodiversity loss to an existential risk for humans (Maier, 2012; Vellend, 2014). Obviously if all biodiversity disappeared civilization would end—but no one is forecasting the loss of all species. It seems plausible that the loss of 90% of the world’s species could also be apocalyptic, but not one is predicting that degree of biodiversity loss either. Tragic, but plausible is the possibility of our planet suffering a loss of as many as half of its species. If global biodiversity were halved, but at the same time locally the number of species stayed relatively stable, what would be the mechanism for an end-of-civilization or even end of human prosperity scenario? Extinctions and biodiversity loss are ethical and spiritual losses, but perhaps not an existential risk.

#### Warming doesn’t cause extinction---new studies.

**Nordhaus 20** Ted Nordhaus, an American author, environmental policy expert, and the director of research at The Breakthrough Institute, citing new climate change forecasts. [Ignore the Fake Climate Debate, 1-23-2020, https://www.wsj.com/articles/ignore-the-fake-climate-debate-11579795816]//BPS

Beyond the headlines and social media, where Greta Thunberg, Donald Trump and the online armies of climate “alarmists” and “deniers” do battle, there is a real climate debate bubbling along in scientific journals, conferences and, occasionally, even in the halls of Congress. It gets a lot less attention than the boisterous and fake debate that dominates our public discourse, but it is much more relevant to how the world might actually address the problem. In the real climate debate, no one denies the relationship between human emissions of greenhouse gases and a warming climate. Instead, the disagreement comes down to different views of climate risk in the face of multiple, cascading uncertainties. On one side of the debate are optimists, who believe that, with improving technology and greater affluence, our societies will prove quite adaptable to a changing climate. On the other side are pessimists, who are more concerned about the risks associated with rapid, large-scale and poorly understood transformations of the climate system. But most pessimists do not believe that runaway climate change or a hothouse earth are plausible scenarios, much less that human extinction is imminent. And most optimists recognize a need for policies to address climate change, even if they don’t support the radical measures that Ms. Thunberg and others have demanded. In the fake climate debate, both sides agree that economic growth and reduced emissions vary inversely; it’s a zero-sum game. In the real debate, the relationship is much more complicated. Long-term economic growth is associated with both rising per capita energy consumption and slower population growth. For this reason, as the world continues to get richer, higher per capita energy consumption is likely to be offset by a lower population. A richer world will also likely be more technologically advanced, which means that energy consumption should be less carbon-intensive than it would be in a poorer, less technologically advanced future. In fact, a number of the high-emissions scenarios produced by the United Nations Intergovernmental Panel on Climate Change involve futures in which the world is relatively poor and populous and less technologically advanced. Affluent, developed societies are also much better equipped to respond to climate extremes and natural disasters. That’s why natural disasters kill and displace many more people in poor societies than in rich ones. It’s not just seawalls and flood channels that make us resilient; it’s air conditioning and refrigeration, modern transportation and communications networks, early warning systems, first responders and public health bureaucracies. New research published in the journal Global Environmental Change finds that global economic growth over the last decade has reduced climate mortality by a factor of five, with the greatest benefits documented in the poorest nations. In low-lying Bangladesh, 300,000 people died in Cyclone Bhola in 1970, when 80% of the population lived in extreme poverty. In 2019, with less than 20% of the population living in extreme poverty, Cyclone Fani killed just five people. “Poor nations are most vulnerable to a changing climate. The fastest way to reduce that vulnerability is through economic development.” So while it is true that poor nations are most vulnerable to a changing climate, it is also true that the fastest way to reduce that vulnerability is through economic development, which requires infrastructure and industrialization. Those activities, in turn, require cement, steel, process heat and chemical inputs, all of which are impossible to produce today without fossil fuels. For this and other reasons, the world is unlikely to cut emissions fast enough to stabilize global temperatures at less than 2 degrees above pre-industrial levels, the long-standing international target, much less 1.5 degrees, as many activists now demand. But recent forecasts also suggest that many of the worst-case climate scenarios produced in the last decade, which assumed unbounded economic growth and fossil-fuel development, are also very unlikely. There is still substantial uncertainty about how sensitive global temperatures will be to higher emissions over the long-term. But the best estimates now suggest that the world is on track for 3 degrees of warming by the end of this century, not 4 or 5 degrees as was once feared. That is due in part to slower economic growth in the wake of the global financial crisis, but also to decades of technology policy and energy-modernization efforts. “We have better and cleaner technologies available today because policy-makers in the U.S. and elsewhere set out to develop those technologies.” The energy intensity of the global economy continues to fall. Lower-carbon natural gas has displaced coal as the primary source of new fossil energy. The falling cost of wind and solar energy has begun to have an effect on the growth of fossil fuels. Even nuclear energy has made a modest comeback in Asia.

#### Squo solves drug violence --- COVID-19

**Mustian 20** [Jim Mustian and Jake Bleiberg, Associated Press, “‘Cartels are scrambling’: Virus snarls global drug trade,” April 19, 2020, <https://apnews.com/4f0a4ca93cc2fee94d386efb13db31a0>]

NEW YORK (AP) — Coronavirus is dealing a gut punch to the illegal drug trade, paralyzing economies, closing borders and severing supply chains in China that traffickers rely on for the chemicals to make such profitable drugs as methamphetamine and fentanyl.

One of the main suppliers that shut down is in Wuhan, the epicenter of the global outbreak.

Associated Press interviews with nearly two dozen law enforcement officials and trafficking experts found Mexican and Colombian cartels are still plying their trade as evidenced by recent drug seizures but the lockdowns that have turned cities into ghost towns are disrupting everything from production to transport to sales.

Along the 2,000-mile U.S.-Mexico border through which the vast majority of illegal drugs cross, the normally bustling vehicle traffic that smugglers use for cover has slowed to a trickle. Bars, nightclubs and motels across the country that are ordinarily fertile marketplaces for drug dealers have shuttered. And prices for drugs in short supply have soared to gouging levels.

“They are facing a supply problem and a demand problem,” said Alejandro Hope, a security analyst and former official with CISEN, the Mexican intelligence agency. “Once you get them to the market, who are you going to sell to?”

Virtually every illicit drug has been impacted, with supply chain disruptions at both the wholesale and retail level. Traffickers are stockpiling narcotics and cash along the border, and the U.S. Drug Enforcement Administration even reports a decrease in money laundering and online drug sales on the so-called dark web.

“The godfathers of the cartels are scrambling,” said Phil Jordan, a former director of the DEA’s El Paso Intelligence Center.

Cocaine prices are up 20 percent or more in some cities. Heroin has become harder to find in Denver and Chicago, while supplies of fentanyl are falling in Houston and Philadelphia. In Los Angeles, the price of methamphetamine has more than doubled in recent weeks to $1,800 per pound.

“You have shortages but also some greedy bastards who see an opportunity to make more money,” said Jack Riley, the former deputy administrator of the DEA. “The bad guys frequently use situations that affect the national conscience to raise prices.”

Synthetic drugs such as methamphetamine and fentanyl have been among the most affected, in large part because they rely on precursor chemicals that Mexican cartels import from China, cook into drugs on an industrial scale and then ship to the U.S.

“This is something we would use as a lesson learned for us,” the head of the DEA, Uttam Dhillon, told AP. “If the disruption is that significant, we need to continue to work with our global partners to ensure that, once we come out of the pandemic, those precursor chemicals are not available to these drug-trafficking organizations.”

Cartels are increasingly shifting away from drugs that require planting and growing seasons, like heroin and marijuana, in favor of synthetic opioids such as fentanyl, which can be cooked 24/7 throughout the year, are up to 50 times more powerful than heroin and produce a greater profit margin.

Though some clandestine labs that make fentanyl from scratch have popped up sporadically in Mexico, cartels are still very much reliant upon Chinese companies to get the precursor drugs.

Huge amounts of these mail-order components can be traced to a single, state-subsidized company in Wuhan that shut down after the outbreak earlier this year, said Louise Shelley, director of the Terrorism, Transnational Crime and Corruption Center at George Mason University, which monitors Chinese websites selling fentanyl.

“The quarantine of Wuhan and all the chaos there definitely affected the fentanyl trade, particularly between China and Mexico,” said Ben Westhoff, author of “Fentanyl, Inc.”

#### 4. Even completely unchecked deforestation takes 200 years and won’t cause extinction

Hannah **Voak 16**, Assistant Ecologist, Nurture Ecology Ltd., 4/22/16, “A world without trees,” <http://www.scienceinschool.org/content/world-without-trees>

There are approximately 3.04 trillion trees on planet Earth (Crowther et al 15), covering 31% of the world’s land surfacew1. Today, for Earth day, we’re taking a look at trees. Around 15 billion trees are cut down each year. So, hypothetically speaking, it would take just over 200 years for the world’s forests to completely disappear. While this scenario is unlikely, what would be the consequences of a tree-free planet? Let’s start with perhaps the most obvious difference – oxygen concentration. A lack of oxygen? Oxygen makes up roughly 21% of the Earth’s atmosphere, but you probably know that already. What you might be surprised to find out, however, is that only half of this oxygen is produced through photosynthesis in trees and other plants on land. The other half is produced in oceans, by microscopic marine organisms called phytoplankton. The environment would not be devoid of oxygen if all trees were lost but the oxygen level would be lower. Would it be sufficient for humans to survive? In one year, a mature leafy tree produces as much oxygen as ten people breathe. If phytoplankton provides us with half our required oxygen, at current population levels we could survive on Earth for at least 4000 years before the oxygen store ran empty. However, that’s not considering a number of other factors: increasing population size, for example, would reduce the amount of oxygen available, whilst phytoplankton blooms due to an abundance of carbon dioxide could increase oxygen levels. Suffocating smog Whilst there may be enough oxygen for humans to survive on Earth, at least to begin with, the air we breathe could still be responsible for our demise. Like giant filters, trees help to cut down on pollution levels. Leaves intercept airborne particles and ozone, carbon monoxide, sulfur dioxide and other greenhouse gases are absorbed through the leaves stomata. In 2012, outdoor air pollution was estimated to cause 3.7 million premature deaths worldwidew2. Imagine the impact removing these environmental sieves would have on humankind. Air-pollution masks would become a necessity and bottled ‘clean air’ could come at a premium. Full of hot air? Armed with pollution masks, would the climate and temperature still be suitable for us? One important consideration is carbon dioxide. In one year, an acre of mature trees soaks up the same amount of carbon dioxide that we produce by driving the average car 26 000 miles. Since human activities like this increase the normal level of carbon dioxide in the atmosphere, cutting down trees would tip the balance even further, not to mention the enormous amount of stored carbon that would be released from doing so. Deforestation is already responsible for up to 15% of global greenhouse gas emissions and you might think that an overwhelming increase in carbon dioxide would result in a much warmer planet. However, the relationship between trees and global temperature is much more complicated. Energy and water fluxes between trees and the atmosphere also play a role and a tree’s colour, for example, can affect the amount of the Sun’s energy that is absorbed or reflected. Studies have shown that Europe’s trees have actually caused a slight increase in regional temperatures since 1750w3, while transpiration from plants in tropical forests cools the surface temperature. Therefore, whether the temperature becomes too hot to handle could depend on many factors, although a recent study concluded that reducing forest size increases average air surface temperatures in all climate zones (Alkama & Cescatti 16).

## adv. 2

#### Decline doesn’t cause war

**Clary 15** – Christopher Clary, PhD in Political Science from MIT, M.A. in National Security Affairs, Postdoctoral Fellow, Watson Institute for International Studies, Brown University, 2015 (“Economic Stress and International Cooperation: Evidence from International Rivalries,” April 25th, Available Online via SSRN Subscription)

Do economic downturns generate pressure for diversionary conflict?

Or might downturns encourage austerity and economizing behavior in foreign policy? This paper provides new evidence that economic stress is associated with conciliatory policies between strategic rivals. For states that view each other as military threats, the biggest step possible toward bilateral cooperation is to terminate the rivalry by taking political steps to manage the competition. Drawing on data from 109 distinct rival dyads since 19i9 50, 67 of which terminated, the evidence suggests rivalries were approximately twice as likely to terminate during economic downturns than they were during periods of economic normalcy. This is true controlling for all of the main alternative explanations for peaceful relations between foes (democratic status, nuclear weapons possession, capability imbalance, common enemies, and international systemic changes), as well as many other possible confounding variables. This research questions existing theories claiming that economic downturns are associated with diversionary war, and instead argues that in certain circumstances peace may result from economic troubles. I define a rivalry as the perception by national elites of two states that the other state possesses conflicting interests and presents a military threat of sufficient severity that future military conflict is likely. Rivalry termination is the transition from a state of rivalry to one where conflicts of interest are not viewed as being so severe as to provoke interstate conflict and/or where a mutual recognition of the imbalance in military capabilities makes conflict-causing bargaining failures unlikely. In other words, rivalries terminate when the elites assess that the risks of military conflict between rivals has been reduced dramatically. This definition draws on a growing quantitative literature most closely associated with the research programs of William Thompson, J. Joseph Hewitt, and James P. Klein, Gary Goertz, and Paul F. Diehl.1 My definition conforms to that of William Thompson. In work with Karen Rasler, they define rivalries as situations in which “[b]oth actors view each other as a significant political-military threat and, therefore, an enemy.”2 In other work, Thompson writing with Michael Colaresi, explains further: The presumption is that decisionmakers explicitly identify who they think are their foreign enemies. They orient their military preparations and foreign policies toward meeting their threats. They assure their constituents that they will not let their adversaries take advantage. Usually, these activities are done in public. Hence, we should be able to follow the explicit cues in decisionmaker utterances and writings, as well as in the descriptive political histories written about the foreign policies of specific countries.3 Drawing from available records and histories, Thompson and David Dreyer have generated a universe of strategic rivalries from 1494 to 2010 that serves as the basis for this project’s empirical analysis.4 This project measures rivalry termination as occurring on the last year that Thompson and Dreyer record the existence of a rivalry.

Economic crises lead to conciliatory behavior through five primary channels. (1) Economic crises lead to austerity pressures, which in turn incent leaders to search for ways to cut defense expenditures. (2) Economic crises also encourage strategic reassessment, so that leaders can argue to their peers and their publics that defense spending can be arrested without endangering the state. This can lead to threat deflation, where elites attempt to downplay the seriousness of the threat posed by a former rival. (3) If a state faces multiple threats, economic crises provoke elites to consider threat prioritization, a process that is postponed during periods of economic normalcy. (4) Economic crises increase the political and economic benefit from international economic cooperation. Leaders seek foreign aid, enhanced trade, and increased investment from abroad during periods of economic trouble. This search is made easier if tensions are reduced with historic rivals. (5) Finally, during crises, elites are more prone to select leaders who are perceived as capable of resolving economic difficulties, permitting the emergence of leaders who hold heterodox foreign policy views. Collectively, these mechanisms make it much more likely that a leader will prefer conciliatory policies compared to during periods of economic normalcy. This section reviews this causal logic in greater detail, while also providing historical examples that these mechanisms recur in practice.

#### No violent China rise, territorial conflict, or trade war

Yan **Xuetong 19**. Distinguished Professor and Dean of the Institute of International Relations at Tsinghua University. “The Age of Uneasy Peace.” <https://www.foreignaffairs.com/articles/china/2018-12-11/age-uneasy-peace>

What kind of world order will this bring? Contrary to what more alarmist voices have suggested, **a bipolar U.S.-Chinese world will** not be a world on the brink of apocalyptic war. This is in large part because China’s ambitions for the coming years are much narrower than many in the Western foreign policy establishment tend to assume. Rather than unseating the United States as the world’s premier superpower, Chinese foreign policy in the coming decade will largely focus on maintaining the conditions necessary for the country’s continued economic growth—a focus that will likely push leaders in Beijing to **steer clear of open confrontation** with the United States or its primary allies. Instead, the coming bipolarity will be an era of uneasy peace between the two superpowers. Both sides will build up their militaries but remain careful to manage tensions before they boil over into outright conflict. And rather than vie for global supremacy through opposing alliances, **Beijing and Washington will largely carry out their competition in the** [**economic**](https://www.foreignaffairs.com/articles/china/2018-11-27/there-no-grand-bargain-china) **and** [**technological**](https://www.foreignaffairs.com/articles/united-states/2018-10-19/can-pentagon-win-ai-arms-race) **realms**. At the same time, U.S.-Chinese bipolarity will likely spell the end of sustained multilateralism outside strictly economic realms, as the combination of nationalist populism in the West and China’s commitment to national sovereignty will leave little space for the kind of political integration and norm setting that was once the hallmark of liberal internationalism. WHAT CHINA WANTS China’s growing influence on the world stage has as much to do with the United States’ abdication of its global leadership under President Donald Trump as with China’s own economic rise. In material terms, the gap between the two countries has [not narrowed by much](https://www.foreignaffairs.com/articles/china/2018-09-21/stop-obsessing-about-china) in recent years: since 2015, China’s GDP growth has slowed to less than seven percent a year, and recent estimates put U.S. growth above the three percent mark. In the same period, the value of the renminbi has decreased by about ten percent against the U.S. dollar, undercutting China’s import capacity and its currency’s global strength. What has changed a great deal, however, is the expectation that the United States will continue to promote—through diplomacy and, if necessary, military power—an international order built for the most part around liberal internationalist principles. Under Trump, the country has broken with this tradition, questioning the value of free trade and embracing a virulent, no-holds-barred nationalism. The Trump administration is modernizing the U.S. nuclear arsenal, attempting to strong-arm friends and foes alike, and withdrawing from several international accords and institutions. In 2018 alone, it ditched the Intermediate-Range Nuclear Forces Treaty, the [nuclear deal with Iran](https://www.foreignaffairs.com/articles/2018-08-13/how-we-got-iran-deal), and the UN Human Rights Council. It is still unclear if this retrenchment is just a momentary lapse—a short-lived aberration from the norm—or a new U.S. foreign policy paradigm that could out-live Trump’s tenure. But the global fallout of Trumpism has already pushed some countries toward China in ways that would have seemed inconceivable a few years ago. Take Japanese Prime Minister Shinzo Abe, who effectively reversed Japan’s relations with China, from barely hidden hostility to [cooperation](https://www.scmp.com/news/china/diplomacy/article/2170436/china-japan-moving-competition-cooperation-leaders-say), during a state visit to Beijing in October 2018, when China and Japan signed over 50 agreements on economic cooperation. Meanwhile, structural factors keep widening the gap between the two global front-runners, China and the United States, and the rest of the world. Already, the two countries’ military spending dwarfs everybody else’s. By 2023, the U.S. defense budget may reach $800 billion, and the Chinese one may exceed $300 billion, whereas no other global power will spend more than $80 billion on its forces. The question, then, is not whether a bipolar U.S.-Chinese order will come to be but what this order will look like. At the top of Beijing’s priorities **is a liberal economic order built on free trade**. China’s economic transformation over the past decades from an agricultural society to a major global powerhouse—and the world’s second-largest economy—was built on exports. The country has slowly worked its way up the value chain, its exports beginning to compete with those of highly advanced economies. Now as then, these **exports are the lifeblood of the Chinese economy:** they ensure a consistent trade surplus, and the jobs they create are a vital engine of domestic social stability. There is no indication that **this will change** in the coming decade. Even amid escalating trade tensions between Beijing and Washington, China’s overall export volume continued to grow in 2018. **U.S. tariffs may sting**, **but they will neither change Beijing’s fundamental incentives nor portend a general turn away from global free trade on its part**. Quite to the contrary: because China’s exports are vital to its economic and political success, one should expect Beijing to double down **on its attempts to gain and maintain access to foreign markets**. This strategic impetus is at the heart of the much-touted [Belt and Road Initiative](https://www.foreignaffairs.com/articles/china/2018-10-24/why-democracies-are-turning-against-belt-and-road), through which China hopes to develop a vast network of land and sea routes that will connect its export hubs to far-flung markets. As of August 2018, some 70 countries and organizations had signed contracts with China for projects related to the initiative, and this number is set to increase in the coming years. At its 2017 National Congress, the Chinese Communist Party went so far as to enshrine a commitment to the initiative in its constitution—a signal that the party views the infrastructure project as more than a regular foreign policy. China is also willing to further open its domestic markets to foreign goods in exchange for greater access abroad. Just in time for a major trade fair in Shanghai in November 2018—designed to showcase the country’s potential as a destination for foreign goods—China lowered its general tariff from 10.5 percent to 7.8 percent. Given this enthusiasm for the global economy, the image of a revisionist China that has gained traction in many Western capitals is misleading. **Beijing relies on a global network of trade ties**, so it is loath to court direct confrontation

**with the United State**s. Chinese leaders fear—not without reason—that such a confrontation might cut off its access to U.S. markets and lead U.S. allies to band together against China rather than stay neutral, stripping it of important economic partnerships and valuable diplomatic connections. As a result, **caution**, not assertiveness or aggressiveness, will be the order of the day **in Beijing’s foreign policy in the coming years**. Even as it continues to modernize and expand its military, **China will** carefully avoid pressing issues **that might lead to war with the United States, such as those related to the South China Sea, cybersecurity, and the weaponization of space**. NEW RULES? Indeed, much as Chinese leaders hope to be on par with their counterparts in Washington, they worry about the strategic implications of a bipolar U.S.-Chinese order. American leaders balk at the idea of relinquishing their position at the top of the global food chain and will likely go to great lengths to avoid having to accommodate China. Officials in Beijing, in no hurry to become the sole object of Washington’s [apprehension](https://www.foreignaffairs.com/articles/united-states/2018-02-13/china-reckoning) and scorn, would much rather see a multipolar world in which other challenges—and challengers—force the United States to cooperate with China. Chinese leaders worry about the strategic implications of a bipolar U.S.-Chinese order. In fact, the United States’ own rise in the nineteenth and early twentieth centuries provides something of a model for how the coming power transition may take place. Because the United Kingdom, the world’s undisputed hegemon at the time, was preoccupied with fending off a challenger in its vicinity—Germany—it did not bother much to contain the rise of a much bigger rival across the pond. China is hoping for a similar dynamic now, and recent history suggests it could indeed play out. In the early months of George W. Bush’s presidency, for instance, relations between Beijing and Washington were souring over regional disputes in the South China Sea, reaching a boiling point when a Chinese air force pilot died in a midair collision with a U.S. surveillance plane in April 2001. Following the 9/11 attacks a few months later, however, Washington came to see China as a useful strategic partner in its global fight against terrorism, and relations improved significantly over the rest of Bush’s two terms. Today, unfortunately, the list of common threats that could force the two countries to cooperate is short. After 17 years of counterterrorism campaigns, the sense of urgency that once surrounded the issue has faded. Climate change is just as unlikely to make the list of top threats anytime soon. The most plausible scenario is that a new global economic crisis in the coming years will push U.S. and Chinese leaders to shelve their disagreements for a moment to avoid economic calamity—but this, too, remains a hypothetical. To make matters worse, some points of potential conflict are here to stay—chief among them [Taiwan](https://www.foreignaffairs.com/articles/asia/2018-07-27/storm-brewing-taiwan-strait). Relations between Beijing and Taipei, already tense, have taken a turn for the worse in recent years. Taiwan’s current government, elected in 2016, has questioned the notion that mainland China and Taiwan form a single country, also known as the “one China” principle. A future government in Taipei might well push for de jure independence. Yet a Taiwanese independence referendum likely constitutes a redline for Beijing and may prompt it to take military action. If the United States were to respond by coming to Taiwan’s aid, a military intervention by Beijing could easily spiral into a full-fledged U.S.-Chinese war. To avoid such a crisis, Beijing is determined to nip any Taiwanese independence aspirations in the bud by political and economic means. As a result, it is likely to continue lobbying third countries to cut off their diplomatic ties with Taipei, an approach it has already taken with several Latin American countries. Cautious or not, China set somewhat different emphases in its approach to norms that undergird the international order. In particular, a more powerful China will push for a stronger emphasis on national sovereignty in international law. In recent years, some have [interpreted](https://www.ft.com/content/67ec2ec0-dca2-11e6-9d7c-be108f1c1dce) public statements by Chinese leaders in support of globalization as a sign that Beijing seeks to fashion itself as the global liberal order’s new custodian, yet such sweeping interpretations are wishful thinking: China is merely signaling its support for a liberal economic order, not for ever-increasing political integration. Beijing remains fearful of outside interference, particularly relating to Hong Kong, Taiwan, Tibet, and [Xinjiang](https://www.foreignaffairs.com/articles/china/2018-06-20/reeducation-returns-china), as well as on matters of press freedom and online regulations. As a result, it views national sovereignty, rather than international responsibilities and norms, as the fundamental principle on which the international order should rest. Even as a new superpower in the coming decade, China will therefore pursue a less interventionist foreign policy than the United States did at the apex of its power. Consider the case of Afghanistan: even though it is an open secret that the United States expects the Chinese military to shoulder some of the burden of maintaining stability there after U.S. troops leave the country, the Chinese government has shown no interest in this idea. Increased Chinese clout may also bring attempts to promote a vision of world order that draws on ancient Chinese philosophical traditions and theories of statecraft. One term in particular has been making the rounds in Beijing: wangdao, or “humane authority.” The word represents a view of China as an enlightened, benevolent hegemon whose power and legitimacy derive from its ability to fulfill other countries’ security and economic needs—in exchange for their acquiescence to Chinese leadership. BIPOLARITY IN PRACTICE Given the long shadow of nuclear escalation, **the** [**risk of a direct war**](https://www.foreignaffairs.com/articles/china/2018-10-15/beijings-nuclear-option) **between China and the United States will** remain minimal, even as military, technological, and economic competition between them intensifies. Efforts on both sides to build ever more effective antimissile shields are unlikely to change this, since neither China nor the United States can improve its antimissile systems to the point of making the country completely impervious to a nuclear counterattack. If anything, the United States’ withdrawal from the Intermediate-Range Nuclear Forces Treaty will encourage both sides to build up their nuclear forces and improve their second-strike capabilities, ensuring that neither side will be confident it can launch a nuclear attack on the other without suffering a devastating retaliation. The threat of nuclear war will also keep Chinese tensions with other nuclear-armed powers, such as India, from escalating into outright war. Proxy wars, however, cannot be ruled out, nor can military skirmishes among lesser states. In fact, the latter are likely to become more frequent, as the two superpowers’ restraint may embolden some smaller states to resolve local conflicts by force. Russia, in particular, may not shy away from war as it tries to regain its superpower status and maintain its influence in eastern Europe and the Middle East. Faced with calls to reform the UN Security Council, fraying powers such as France and the United Kingdom may seek to buttress their claim to permanent membership in the council through military interventions abroad. In the Middle East, meanwhile, the struggle for regional dominance among Iran, Turkey, and Saudi Arabia shows no signs of abating. Across the globe, secessionist conflicts and terrorist attacks will continue to occur, the latter especially if competition between China and the United States reduces their cooperation on counterterrorism measures. China’s emphasis on national sovereignty, together with Western societies’ turn away from globalism, will deal an additional blow to multilateralism. In the economic realm, export-driven economies, such as China, Germany, and Japan, will ensure the survival of a global liberal trade regime built on free-trade agreements and membership in the World Trade Organization—no matter what path the United States takes. On other matters of global governance, however, cooperation is likely to stall. Even if a future U.S. administration led a renewed push toward multilateralism and international norm setting, China’s status as a junior superpower would make it difficult for the United States to sustain the strong leadership that has traditionally spurred such initiatives in the past. Differences in ideology and clashing security interests will prevent Beijing and Washington from leading jointly, but neither will have enough economic or military clout to lead on its own. To the extent that multilateral initiatives persist in such a world, they will be limited to either side’s respective sphere of influence. China’s emphasis on national sovereignty, together with Western societies’ turn away from globalism, will deal an additional blow to multilateralism. The European Union is already fraying, and a number of European countries have reintroduced border controls. In the coming decade, similar developments will come to pass in other domains. As technological innovation becomes the primary source of wealth, countries will become ever more protective of their intellectual property. Many countries are also tightening control of capital flows as they brace for a global economic slump in the near future. And as concerns over immigration and unemployment threaten to undermine Western governments’ legitimacy, more and more countries will increase visa restrictions for foreign workers. Unlike the order that prevailed during the Cold War, a bipolar U.S.-Chinese order will be shaped by fluid, issue-specific alliances **rather than rigid opposing blocs** divided along clear ideological lines. Since the immediate risk of a U.S.-Chinese war is vanishingly small, **neither side appears willing to build or maintain an extensive**—and expensive—**network of alliances**. China still avoids forming explicit alliances, and the United States regularly complains about free-riding allies. Moreover, neither side is currently able to offer a grand narrative or global vision appealing to large majorities at home, let alone to a large number of states. For some time to come, then, **U.S.-Chinese bipolarity will not be an ideologically driven, existential conflict over the fundamental nature of the global order**; rather, it will be a competition over consumer markets and technological advantages, playing out in disputes about the norms and rules governing trade, investment, employment, exchange rates, and intellectual property. And rather than form clearly defined military-economic blocs, most states will adopt a two-track foreign policy, siding with the United States on some issues and China on others. Western allies, for instance, are still closely aligned with the United States on traditional security matters inside NATO, and Australia, India, and Japan have supported the U.S. strategy in the Indo-Pacific. At the same time, these states still maintain close trade and investment relations with China, and several of them have sided with Beijing in trying to reform the World Trade Organization. This two-track strategy shows just how far down the road to bipolarity the world has already advanced. And the fundamental driver of this process—the raw economic and military clout on which American and, increasingly, Chinese dominance rests—will further cement Beijing’s and Washington’s status as the two global heavyweights in the coming decade. **Whether or not the United States recovers from its Trumpian fever and leads a renewed push for global liberalism is**, ultimately, of little consequence to the outcome: **opposed in their strategic interests but evenly matched in their power, China and the United States will be unable to challenge each other directly and settle the struggle for supremacy definitively**. As during the Cold War, each side’s nuclear warheads will prevent proxy conflicts from easily escalating into a direct confrontation between the two superpowers. More important still, **China’s leadership is** acutely aware of the benefits **its country derives from the status quo**, for now—**it is chief among the conditions for China’s continued economic and soft-power expansion**—**and will** avoid **putting these** benefits on the line anytime soon, unless China’s core interests are in the balance. Chinese leaders will therefore work hard to avoid setting off alarm bells in already jittery Western capitals, and their foreign policy in the coming years will reflect this objective. **Expect recurring tensions and fierce competition, yes, but** not a descent into global chaos.

## Adv 3.

#### No disease impact:

#### A ---Empirical record---out of 833 species extinctions, only 4% were disease, and were all weak and localized species – none were globally dispersed or had capacity to resist like humans

#### B ---burnout---if a pathogen is highly lethal, it kills the host before it has time to spread---creates evolutionary pressure towards less lethal diseases and caps existential risk

Sebastian **Farquhar 17**. Director at Oxford's Global Priorities Project, Owen Cotton-Barratt, a Lecturer in Mathematics at St Hugh’s College, Oxford, John Halstead, Stefan Schubert, Haydn Belfield, Andrew Snyder-Beattie, 01-23-17, "Existential Risk Diplomacy and Governance", GLOBAL PRIORITIES PROJECT 2017, https://www.fhi.ox.ac.uk/wp-content/uploads/Existential-Risks-2017-01-23.pdf

* + 1. Engineered pandemics For most of human history, natural pandemics have posed the greatest risk of mass global fatalities.37 However, there are some reasons to believe that natural pandemics are very unlikely to cause human extinction. Analysis of the International Union for Conservation of Nature (IUCN) red list database has shown that of the 833 recorded plant and animal species extinctions known to have occurred since 1500, less than 4% (31 species) were ascribed to infectious disease.38 None of the mammals and amphibians on this list were globally dispersed, and other factors aside from infectious disease also contributed to their extinction. It therefore seems that our own species, which is very numerous, globally dispersed, and capable of a rational response to problems, is very unlikely to be killed off by a natural pandemic
    2. . One underlying explanation for this is that highly lethal pathogens can kill their hosts before they have a chance to spread, so there is a selective pressure for pathogens not to be highly lethal. Therefore, pathogens are likely to co-evolve with their hosts rather than kill all possible hosts.39

# 2NC

## Ftc da

#### They’re rolling out enforcement---it’s a priority AND will solve innovation.

Gordon ’21 [Marcy; July 21; Journalist, graduate of the University of Florida; Washington Post, “Agency pledges tough action to buttress ‘right to repair’,” <https://www.washingtonpost.com/politics/agency-eyes-right-to-repair-rules-to-aid-consumers-shops/2021/07/21/3654d32a-ea31-11eb-a2ba-3be31d349258_story.html>]

Americans would be freer to repair their broken cellphones, computers, videogame consoles and even tractors themselves, or to use independent repair shops, under changes being eyed by federal regulators.

The regulators maintain that restrictions have steered consumers into manufacturers’ and sellers’ repair networks or led them to replace products before the end of their useful lives.

As the Federal Trade Commission and the Biden administration see it, that raises issues of anti-competitive conduct.

The FTC is moving toward writing new rules targeting the restrictions. On Wednesday, the five FTC commissioners unanimously adopted a policy statement supporting the “right to repair” that pledges beefed-up enforcement efforts and could open the way to new regulations.

“These types of (repair) restrictions can significantly raise costs for consumers, stifle innovation, close off business opportunity for independent repair shops, create unnecessary electronic waste, delay timely repairs and undermine resiliency,” FTC Chair Lina Khan said. “The FTC has a range of tools it can use to root out unlawful repair restrictions, and today’s policy statement would commit us to move forward on this issue with new vigor.”

The policy statement commits the agency to prosecute repair restrictions that violate current antitrust or consumer protection laws. A 1975 law, for example, requires that if a product has a warranty — which is not mandatory — the warranty must avoid using disclaimers in an unfair or deceptive way. It also prohibits tying a warranty to the use of a specific service provider or product, unless the FTC has issued a waiver in that case.

Unavailable parts, instruction manuals and diagnostic software and tools, product design restrictions and locks on software embedded in devices have made many consumer products harder to fix and maintain, regulators and industry critics say. Do-it-yourself repairs often require specialized tools, hard-to-obtain parts and access to diagnostic software that’s guarded by manufacturers.

The repair restrictions often fall most heavily on minority and low-income consumers, the regulators say. An FTC report to Congress in May noted that many Black-owned small businesses make equipment repairs, and repair shops often are owned by entrepreneurs from poor communities.

For minority and low-income consumers, the repair restrictions are especially acute for cellphones, the report says. Those consumers often have cellphones but no broadband access for computers at home, increasing their dependence on the phones.

Industry critics say the [coronavirus](https://www.washingtonpost.com/coronavirus/?itid=lk_inline_manual_15) pandemic worsened the effects of repair restrictions for all consumers as computers became essential for working remotely, schooling children at home and visiting relatives on screens — while many large chain stores stopped offering on-site repairs.

“Manufacturers, be warned: It’s time to clean up your act and let people fix their stuff,” Nathan Proctor, a director of U.S. Public Interest Research Group’s right-to-repair campaign, said in a statement Wednesday. “With unanimous support from commissioners, there’s a new sheriff in town. The FTC is ready to act to stop many of the schemes used to undermine repair.”

#### They’re litigating non-compliance and on drawing on resources throughout the agency.

FTC ’21 [Federal Trade Commission; July 2021; U.S. agency, tasked with enforcing antitrust and consumer protection law; Federal Trade Commission, “Policy Statement of the Federal Trade Commission on Repair Restrictions Imposed by Manufacturers and Sellers,” <https://www.ftc.gov/system/files/documents/public_statements/1592330/p194400repairrestrictionspolicystatement.pdf>]

While unlawful repair restrictions have generally not been an enforcement priority for the Commission for a number of years,4 the Commission has determined that it will devote more enforcement resources to combat these practices.5 Accordingly, the Commission will now prioritize investigations into unlawful repair restrictions under relevant statutes such as the Magnuson-Moss Warranty Act6 and Section 5 of the Federal Trade Commission Act.7

First, the Commission urges the public to submit complaints and provide other information to aid in greater enforcement of the Magnuson-Moss Warranty Act and its implementing regulations. While current law does not provide for civil penalties or redress, the Commission will consider filing suit against violators of the Magnuson-Moss Warranty Act to seek appropriate injunctive relief. The Commission will also closely monitor private litigation to determine whether the Commission may wish to investigate a pattern of unfair or deceptive acts or practices or file an amicus brief. Further, the Commission will explore rulemaking, as appropriate.

Second, the Commission will scrutinize repair restrictions for violations of the antitrust laws. For example, certain repair restrictions may constitute tying arrangements or monopolistic practices—such as refusals to deal, exclusive dealing, or exclusionary design—that violate the Sherman Act.8 Violations of the Sherman Act also violate the prohibition on unfair methods of competition codified in Section 5 of the Federal Trade Commission Act.

Third, the Commission will assess whether repair restrictions constitute unfair acts or practices, which are also prohibited by Section 5 of the Federal Trade Commission Act. In addition, the Commission will analyze any material claims made to purchasers and users to ascertain whether there are any prohibited deceptive acts or practices, in violation of Section 5 of the Federal Trade Commission Act.

Finally, the Commission will bring an interdisciplinary approach to this issue, using resources and expertise from throughout the agency to combat unlawful repair restrictions. The FTC will also closely coordinate with state law enforcement and policymakers to ensure compliance and to update existing law and regulation to advance the goal of open repair markets.

#### Adding a single case takes up fifty percent of resources---there’s minimal slack now and Congress will deny requests.

Kantrowitz ’20 [Alex; September 17; Author and reporter, B.A. from Cornell University; Medium, “‘It’s Ridiculous’: Underfunded U.S. Regulators Can’t Keep Fighting the Tech Giants Like This,” <https://onezero.medium.com/its-ridiculous-underfunded-u-s-regulators-can-t-keep-fighting-the-tech-giants-like-this-3b57487b4d63>]

“When I was there, the privacy wing had maybe 50 people, and that’s probably generous. That’s lawyers, support staff, everyone,” Justin Brookman, the former policy director at the FTC’s office of technology research and investigation, told Big Technology. “If they were to bring a case, that would tie up half the resources of the group. And they had two litigations ongoing and that took up most of everyone’s time.” The agency’s budget has barely increased since Brookman left in 2017, while the tech giants have added trillions of dollars to their market caps.

Inside the FTC and DOJ, employees are aware of the tech giants’ ability to fight, and the corporations’ budgets tend to live inside their heads. “Facebook will have the ability to raise every single issue, if they want to,” Kades said. “It doesn’t have to be a winner, doesn’t have to be close to winner. If they wanted to take this position in litigation, they can make every procedural maneuver difficult, they can not cooperate on discovery, they can fight on scheduling, they don’t have to win even half of those, but it would just suck up resources.” The ability to do this, not even the action itself, can impact regulators’ thinking.

Agency staffers are typically mission-driven and knowingly work for salaries below private-sector rates, but the resource-rich tech giants are now poaching directly from agencies at a rate remarkable even for Washington’s revolving door between the private and public sector.

Kate Patchen, a DOJ antitrust chief, went directly to Facebook in 2018. Bryson Bachman, a high-ranking attorney in the DOJ’s antitrust division, became a senior counsel at Amazon in 2018. Scott Fitzgerald, who worked in the DOJ’s antitrust division for nearly 13 years, became a corporate counsel working on regulation for Amazon this May. At the FTC, senior attorney Laura Berger moved to Microsoft in 2018 to become a privacy director for LinkedIn. And Nithan Sannappa, a well-regarded attorney in the agency’s division of privacy and identity protection left for Twitter in 2017 and is now a lawyer for Google.

The FTC declined to comment. The DOJ did not respond to an inquiry.

Hiring this type of talent gives the tech giants a major advantage in their effort to fend off regulation. Ashkan Soltani, a former chief technologist at the FTC, recalled agency lawyers hugging a former colleague who was working for the tech giants as an outside counsel as they prepared to face off in court. “They would have a really personal relationship with staff, which is kind of awkward,” he said. “And they’d know, in detail, all of the cases that the agency has currently and would be able to advise their clients whether to push hard on an issue or not.”

Ultimately, Congress is responsible for funding these agencies, and its lack of action in this regard makes its hearings and tough questioning of tech giant CEOs a little hollow. Getting Bezos to sweat in a made-for-YouTube interrogation pales in comparison to Congress’s responsibility to properly fund the regulators. None of five members of Congress contacted for this story, including some of the most theatrical in the hearings, agreed to comment.

#### Litigation snowballs, dragging the FTC in protracted legal and hiring fights.

Burke ’21 [Andrea and Henry; May 28; B.A. in Political Science and Labor Studies from the University of California at Los Angeles; Research Assistant, B.A. in Economics from the University of Maryland; Revolving Door Project, “Hobbled FTC Lacks Budget to Combat Corporate Buying Spree,” <https://therevolvingdoorproject.org/hobbled-ftc-lacks-budget-to-combat-corporate-buying-spree/>]

According to Revolving Door Project’s analysis, FTC appropriations have consistently declined since 2010, when the agency’s discretionary budget authority was $205 million. In the following years the number declined significantly from $205 million in FY 2010 to $180 in FY 2015 and $168 in FY 2019. Accounting for inflation, the decrease between FY 2010 and FY 2019 funding for the FTC amounted to a cut in discretionary appropriations of 30%.

Despite the decrease in discretionary funding, the agency has seen its overall budget increase slightly as a result of the increased merger filing fees that it receives. These are not enough to keep pace with the massive increase in caseload for the agency from which they result. As the fee schedule was implemented in 2001, the filing fees for mergers are far too low to cover the cost of the FTC’s investigations. In a 2021 statement on filing fees, acting Chair Rebecca Kelly Slaughter and Commissioner Rohit Chopra [stated](https://www.ftc.gov/system/files/documents/public_statements/1587163/p859910_concurring_statement_of_ac_slaughter_and_c_chopra_re_revised_hsr_thresholds.pdf) that the mega-mergers regulated by the agency “require more resources and staff. For example, large retail or service mergers often require investigation into dozens of geographic markets and large pharmaceutical or industrial mergers often require investigation into a dozen or more product markets.”

The Democratic commissioners specifically identify the need for experts to carry out investigations and litigation, noting “the amount of money the FTC spends on expert costs has risen dramatically over the last several years.” As new technologies are developed, the FTC’s investigations are bound to become more complex, necessitating higher funding altogether for hiring more technologists, economists and other experts. Although the FTC is known for an aversion to costly litigation (a fact which corporations use to their advantage), increased funding would also allow the agency to hire more attorneys to carry out challenges in court.

However, due to declining discretionary funding and fees not keeping up with inflation, the FTC has been forced to expend far fewer resources on each investigation than it had in prior years. The appearance of a budget increase since 2010 needs to be reconciled with the reality that the agency has been crushed under an increased caseload many times larger than the nominal increase in budget.

#### Right to repair’ is top-of-the-docket---especially in agriculture AND resource allocation.

Kavi ’21 [Aishvarya; July 21; Reporter in the Washington Bureau, graduate of George Washington University; New York Times, “The F.T.C. votes to use its leverage to make it easier for consumers to repair their phones,” <https://www.nytimes.com/2021/07/21/us/politics/phones-right-to-repair-FTC.html>]

The Federal Trade Commission voted unanimously on Wednesday to push harder for the right of consumers to repair devices like smartphones, home appliances, cars and even farm equipment, arguing that large corporations have cost consumers by making such products harder to fix.

All five commissioners — two Republicans and three Democrats — voted to back a policy statement that promises to explore whether companies that make it harder for consumers to repair products are breaking antitrust or consumer protection laws, and to step up enforcement of the laws against violators.

“These types of restrictions can significantly raise costs for consumers, stifle innovation, close off business opportunity for independent repair shops, create unnecessary electronic waste, delay timely repairs and undermine resiliency,” said [Lina Khan](https://www.nytimes.com/2021/06/16/technology/lina-khan-big-tech.html), the commission’s chairwoman. “The F.T.C. has a range of tools it can use to root out unlawful repair restrictions, and today’s policy statement would commit us to move forward on this issue with new vigor.”

The commission’s vote on Wednesday falls in line with President Biden’s policies to prioritize initiatives to increase competition between large corporations and to limit their power. In an [executive order](https://www.whitehouse.gov/briefing-room/presidential-actions/2021/07/09/executive-order-on-promoting-competition-in-the-american-economy/) this month, Mr. Biden encouraged the commission to crack down on companies that make it harder for consumers to get equipment or electronics repaired by third-party shops. It singled out manufacturers of farming equipment — the tractor manufacturer John Deere, for example — that use [license agreements](https://www.deere.com/assets/pdfs/common/privacy-and-data/docs/agreement_pdfs/english/2016-10-28-Embedded-Software-EULA.pdf) that block farmers from repairing their tractors on their own.

Wednesday’s vote was a victory for the “right to repair” movement, which has long been pushing for repair-friendly policies at the federal, state and local levels. Nathan Proctor, the senior director of the United States Public Interest Research Group’s Right to Repair campaign, celebrated the agency’s decision in a statement.

“They have pledged to assist states in making right to repair improvements, and to tackle illegal behavior from manufacturers,” Mr. Proctor said. “The F.T.C. is no longer on the sidelines.”

## States cp

## Case

#### No impact to Mexican instability

**Seelee and Shirt 10** – **\***director of theMexicoInstitute at the Woodrow Wilson International Center for Scholars AND \*\* fellow at the center and an associate professor at the University of San Diego (Andrew Selee, David Shirk, 3/27/10, " Five myths about Mexico's drug war ", Washington Post, http://www.washingtonpost.com/wp-dyn/content/article/2010/03/26/AR2010032602226.html)

The country has certainly seen a big rise in drug violence, with cartels fighting for control of major narcotics shipment routes -- especially at the U.S. border and near major seaports and highways -- and branching into kidnapping, extortion and other illicit activities. Ciudad Juarez, in particular, has been the scene of major battles between two crime organizations and accounted for nearly a third of drug-linked deaths last year. But the violence is not as widespread or as random as it may appear. Though civilians with no evident ties to the drug trade have been killed in the crossfire and occasionally targeted, drug-related deaths are concentrated among the traffickers. (Deaths among military and police personnel are an estimated 7 percent of the total.) A major reshuffling of leaders and alliances is occurring among the top organized crime groups, and, partly because of government efforts to disrupt their activities, violence has jumped as former allies battle each other. The bloodshed is also geographically concentrated in key trafficking corridors, notably in the states of Sinaloa, Chihuahua and Tamaulipas. While the violence underscores weaknesses in the government's ability to maintain security in parts of the country, organized crime is not threatening to take over the federal government. Mexico is not turning into a failed state.

# 1NR

## Pharma

### A2 shift in incentives

#### Restricting reverse-payments upends pharmaceutical innovation AND unsettles the foundation of intellectual property law.

Steinniger ’14 [Judge; May 1; J.D. Candidate at Villanova University, B.S. in Economics from Pennsylvania State University; Villanova Law Review, “Shortsighted Response to Reverse Payments: How the Third Circuit May Cause Consumers to ‘Pay for the Delay’ of New Drug Development,” vol. 58]

V. Third Circuit’s “Per Se” Approach is a “Per Se” Concern to the Future of New Drug Innovation

To have a comprehensive evaluation of reverse payment settlements, there must be a detailed examination of both policy incentives and the resulting economic effects.119 Circuit court precedent has pitted patent exclusion against protecting consumer costs.120 The fallout from each side of the disagreement carries with it extensive consequences for consumers in the pharmaceutical industry.121

Footnote 119:

119. See Backus, supra note 29, at 380 (discussing policy objectives that must be balanced through Hatch-Waxman resolution). The Act and its results need to weigh the delicate balance between continuing to encourage innovation, while still bringing cheaper alternatives into the market. See id. (asserting need to maintain balance and consider both policy objectives); see also Hanks et al., supra note 10, at 1 (explaining financial impact of resolution of reverse payment issues). The resolution of the question regarding reverse payment settlements involves billions of dollars. See id. (showing economic impact of resolution regarding issue of reverse payment settlements).

End of Footnote 119.

A. Misguided Policy Objectives Overshadow More Important Innovative Consequences

The Third Circuit has reignited arguments that do not address the entirety of the reverse payment settlement issue.122 While the court concentrated on the immediate concerns of high consumer costs and weak patents, it failed to sufficiently examine the more prominent long-term effects on pharmaceutical innovation and consumer needs.123 By applying this approach to reverse payment settlements, courts risk endangering the entire pharmaceutical industry and creating uncertainty in patent protection.124

Footnote 124:

124. See Reverse-Payments Ban Dropped, supra note 5 (insisting that ban on reverse payment settlements would lead to detrimental effects in entire pharmaceutical industry).

End of Footnote 124.

1. The Per Se Attempt to Eliminate Reverse Payment Settlements

The Third Circuit has rekindled the per se approach, declaring reverse payments to be prima facie evidence of illegality.125 The court highlighted concerns including the high rate of success for generic manufacturers in Hatch-Waxman litigation, a patent holder’s ability to utilize high profit margins to forcefully maintain market control, and a divergence from enforcing the very purposes of the Hatch-Waxman Act.126 The court asserted the belief that reverse payment settlements would hamper generic entry and consequently, consumer costs would continue to increase.127

According to oppositions of the scope of the patent test, this examination fails to address the issue of weak or invalid patents because it coincides with a presumption of patent validity.128 A Federal Trade Commission (FTC) study asserted that seventy-three percent of paragraph IV challenges pushed to litigation are successful; therefore, some courts have highlighted a need for judicial resolve they felt was necessary to clear the weak patents.129 Ultimately, courts have taken clear anti-settlement stances at times.130

2. A Sufficient Conflict Insufficiently Addressed

While several circuits have encouraged judicial activism in clearing the patent landscape, those courts have overlooked some important considerations when applying this per se rule.131 First, although weak patents may exist, the regulatory patent process helps to promote innovation and development.132 The Patent and Trademark Office (PTO) issues patents to parties that have invested in new inventions, whether in the pharmaceutical industry or any other.133 If there is a need for system maintenance, the legislature could take action to improve the PTO’s effectiveness.134

Footnotes 131 and 132:

131. See Reverse-Payments Ban Dropped, supra note 5 (raising concern about possible bans on reverse payment settlements). Arguing that future drug innovation from branded pharmaceutical companies would be endangered and generic companies would be dissuaded from challenging patents without the option to settle claims prior to expensive litigation. See id. (expressing concern for branded pharmaceutical companies and generic manufacturers if reverse payment settlements were banned).

132. See ORG. FOR ECON. CO-OPERATION & DEV., PATENTS AND INNOVATION: TRENDS AND POLICY CHALLENGES 9 (2004), available at http://www.oecd.org/science/scienceandtechnologypolicy/24508541.pdf (discussing patent system’s ability to foster innovation). “Viewed from the angle of innovation policy, patents aim to foster innovation in the private sector by allowing inventors to profit from their inventions.” Id.

End of Footnotes 131 and 132.

When reviewing reverse payments, courts should consider the anticompetitive effects of the reverse payment, not the strength of the patent.135 Through judicial activism, the courts will intervene in the patent process and risk interfering with the agency duties of the PTO.136 Further, courts are muddying the analysis of reverse payment settlements by considering patent strength or weakness.137 The court’s departure from a presumption of patent validity further complicates the issue and likely will cause undesirable results.138 An independent examination of the restraint of trade should determine the validity of reverse payments.139

Second, the Third Circuit called attention to the high profit margins that allow patent holders to pay off generic challengers.140 This may be a plausible assertion, but the court failed to contemplate the importance of maintaining these profit margins to ensure future development.141 Pharmaceutical companies continue to strive for more innovation because they have the financial security of patent law.142 Judicial interpretation of patent strength in these cases will apply a level of scrutiny that will bring uncertainty to the future of intellectual property rights.143 Courts must consider the consequences of this increased scrutiny.144

Footnotes 141, 142, and 144:

141. See Hemphill, supra note 9, at 1574–75 (discussing considerations of competition and innovation). “The innovator’s argument is that a lenient policy toward settlement increases patentee profits, which preserves and improves the incentive to innovate.” Id. at 1575. This strong preference for promoting innovation should be followed by antitrust law through allowing a lenient approach to analyzing reverse payment settlements. See id. (promoting antitrust law’s merging towards favoring settlement).

142. See Holman, supra note 11, at 503–04 (discussing high profitability of branded drugs). When patent protections cease, profit margins and market share are quickly eroded by generic entry. See id. at 503 (explaining sharp decrease in value when patent expires). “The high profitability of branded drugs motivates drug patent owners to take extreme measures to maintain and enforce their patent rights.” Id. at 503–04.

144. See Butler & Jarosch, supra note 6, at 90 (discussing how reverse payment settlements allow innovator to increase patent value). “Because reverse-payment settlements increase the value of the underlying patent to the patent holder, they also increase the brand-name company’s incentive to innovate . . . .” Id.; see also Carrier, supra note 49, at 62 (discussing how restricting settlements can lead to more uncertainty for patent holders). Denying reverse payment settlements will increase uncertainty and delay innovation. See id. (asserting policy concern).

End of Footnotes 141, 142, and 144:

Finally, the Third Circuit stressed that reverse payment settlements conflict with the purposes of the Hatch-Waxman Act.145 Reverse payment settlements have developed as the most effective solution to Hatch-Waxman disputes because they benefit both parties involved.146 These settlements are a consequence of faulty mechanics and should not be eliminated through judicial intervention.147 The effects of the Hatch-Waxman legislation may not have been as intended but amending the procedure should be left to the legislature.148

### AT: Biden/FTC – thumps

#### Biden’s XO is non-binding and ineffectual.

Posner ’21 [Eric; July 21; Professor at the University of Chicago Law School, fourth-most cited legal scholar in the United States; Project Syndicate, “The Antitrust War’s Opening Salvo,” <https://www.project-syndicate.org/commentary/biden-antitrust-executive-order-what-it-does-by-eric-posner-2021-07>]

US President Joe Biden’s new executive order on “Promoting Competition in the American Economy” is more significant for what it says than for what it does. In fact, the order doesn’t actually order anything. Rather, it “encourages” federal agencies with authority over market competition to use their existing legal powers to do something about the growing problem of monopoly and cartelization in the United States. In some cases, the relevant agencies are asked merely to “consider” ramping up enforcement; in others, they are directed to issue regulations, but the content of those regulations remains largely up to them.

#### Cases take years and have zero impact on confidence absent a victory.

Zakrzewski ’21 [Cat; August 19; Technology Policy Reporter; Washington Post, “Lina Khan’s first big test as FTC chief: Defining Facebook as a monopoly,” <https://www.washingtonpost.com/technology/2021/08/19/ftc-facebook-lawsuit-lina-khan-deadline/>]

Some legal experts think that the FTC will be able to address these criticisms from the judge to ensure that the case is not completely dismissed. But it’s no easy task for a relatively small agency, which sought several extra weeks to respond to the judge’s issues with the case after an initial July 29 deadline.

“There’s multiple signals that FTC is serious about doing their job of investigations and bringing these cases and fighting them hard,” said Charlotte Slaiman, competition policy director at the consumer group Public Knowledge.

Though the most significant, the Facebook case is but one of a wide range of issues on Khan’s plate. A month after she assumed office, the Biden administration issued a sweeping competition executive order, which called for her agency to take a tougher line on concentration throughout the economy.

So far, Khan has taken a series of steps to signal a shake-up has arrived at the FTC. She’s started hosting open meetings to open the agency’s business to the public, and she’s warned that greater scrutiny of mergers is on its way.

But the challenge will be for the agency to remain focused on the most important cases, including Facebook, Kovacic said. “She has a downpour of demands from both ends of the avenue,” he said.

And none of her other efforts will matter if she can’t show that she can win against companies, including Facebook, in court.

“The real measure to business decision-makers of your effectiveness and seriousness is your ability to prosecute and win cases,” Kovacic said.

## At: no innov now

#### Biotech and pharma innovation are booming.

Economist ’20 [Laura; April 30; Economist, “Drug innovation is back in fashion,” <https://www.economist.com/leaders/2020/05/23/drug-innovation-is-back-in-fashion>]

The pandemic has reminded the world of strengths-its capacity to innovate and provide drugs on a vast scale. Many of the big firms, such as Johnson & Johnson and Sanofi, are working on covid-19 vaccines and therapies. Scores of smaller companies are at work, too. On May 18th Moderna, an American biotech firm, said that its much-anticipated vaccine has shown positive early results (although some analysts questioned the validity of its tests). AstraZeneca, a big British firm that invests heavily in research and development (r&d), is working on a vaccine with scientists at Oxford University, helped by $1bn of new funding from America's government. Even before the virus, the industry had started to invest more heavily. In the most recent quarter America's 30 biggest firms boosted their r&d by a median of 6% year on year. Now medical innovation is back in fashion.

It looks like big pharma's moment to shine. However, the pandemic has also created new ethical and political dilemmas. Vaccine nationalism is spreading as governments panic that others may get their hands on crucial drugs first. France's Sanofi has found itself embroiled in a transatlantic row over who will be first to get any covid-19 vaccine it develops. Paul Hudson, the firm's boss, stated last week that because the American government invested in his firm's risky scientific efforts, the United States would have early access. This led to a political explosion in France and a dressing-down from Emmanuel Macron, France's president. And there is mounting pressure to suspend elements of the patent system. A gathering of the World Health Organisation this week passed a resolution urging drugs firms to pool patent rights. Several dozen current and former world leaders released an open letter demanding that any successful covid-19 vaccine should be made available patent-free.

There is an alternative to beggar-thy-neighbour nationalism and taking a sledgehammer to the intellectual property regime. First, a global agreement is needed to govern the manufacture and distribution of a potential vaccine. It could take several years to vaccinate the world's population; global co-operation will mean that the vaccine is deployed first where it brings most benefit.

Second, the patent system should be preserved because, correctly designed, it incentivizes investment in new treatments. The big drugs firms have already said they will make any vaccine available at cost-plus prices. Arrangements exist for tiered pricing of medicines and free vaccinations for diseases afflicting the world's poor that should be extended to covid-19 treatments. If a smaller drugs firm tried to price-gouge, governments in the West and elsewhere have the powers to pass compulsory licensing orders in an emergency. When the pandemic passes, there must be no going back to the bad old days. Governments should seek to authorize new drug patents faster, as the best way to balance innovation and lower prices. And big pharma needs to keep investing. That will help shareholders and global public health, too.

#### COVID is driving lucrative bio-pharma integration---market strength is key.

Nawrat ’21 [Allie; April 30; Consultant in McKinsey’s Brussels office; Pharmaceutical Technology, “Collaboration not competition: is big pharma and big tech a recipe for success?” https://www.pharmaceutical-technology.com/features/big-tech-big-pharma-collaboration-recipe-for-success/]

Big tech’s growing interest in the healthcare sector has largely been seen to put it on a collision course with big pharma. However, there are early signs of a culture of collaboration emerging between big tech and big pharma, which has only been accelerated by the Covid-19 pandemic. Allie Nawrat asks what this new era of collaboration between big tech and big pharma could mean for healthcare.

Collaboration has widely been deemed a silver lining of the Covid-19 pandemic. The word ‘unprecedented’ has certainly been overused in the past year, but nowhere is it more apt than in describing the actions of pharma companies big and small working together to tackle the coronavirus crisis.

One example is pharma giant Pfizer, which rapidly signed an agreement with mRNA technology vaccine pioneer BioNTech. A year later, Pfizer and BioNTech’s vaccine is approved for use across the world. The pair have now teamed up with other big pharma companies [Merck](https://www.pharmaceutical-technology.com/news/merck-biontech-lipid-supply/), [Novartis](https://www.pharmaceutical-technology.com/news/novartis-pfizer-vaccine-production/) and [Sanofi](https://www.sanofi.com/en/media-room/press-releases/2021) to support the manufacturing of their Covid-19 vaccine.

This growing culture of collaboration in healthcare is starting to lead to partnerships not only within life sciences but also with other sectors, such as technology.

Big tech companies’ growing interest in the lucrative healthcare market has largely led to them entering the pharma landscape. For instance, Amazon’s first foray into healthcare was its 2018 acquisition of PillPack. The e-commerce giant has now signalled its continued interest in the sector by launching [Amazon Pharmacy](https://pharma.nridigital.com/pharma_feb21/amazon_pharmacy_online) at the end of 2020. Whereas Google has formed its own healthcare company, Verily, to focus on life science research across a range of indications, including Covid-19.

However, both big pharma and big tech are increasingly realizing these two sectors have more to gain from working together, than by competing. This has led to a flurry of deals being signed in the past few years between big pharma and big tech. One recent example is Boehringer Ingelheim teaming up with Google to apply the tech giant’s quantum computing expertise to pharma research and development (R&D).

## At: solves symptoms – aff fails

#### Settlements are vital to strong patent rights and pharmaceutical innovation---antitrust chills the sector.

Steinniger ’14 [Judge; May 1; J.D. Candidate at Villanova University, B.S. in Economics from Pennsylvania State University; Villanova Law Review, “Shortsighted Response to Reverse Payments: How the Third Circuit May Cause Consumers to ‘Pay for the Delay’ of New Drug Development,” vol. 58]

II. The Hatching of a Problematic Act

The legislation of the Hatch-Waxman Act has sparked a heated debate in the pharmaceutical industry.22 Congress acted in an attempt to counter the high prices of pharmaceuticals, and their decision has further endangered medical consumers.23 A thorough examination of the motivations of the Act, the functionality of the Act, and the resulting litigation, leads to the logical conclusion that efficient and effective reform is essential.24

A. Enactment of the Hatch-Waxman Act as an Attempt to Counter High Market Prices

The issue of reverse payment settlements has its origins in the enactment of the Drug Price Competition and Patent Term Restoration Act, commonly known as the Hatch-Waxman Act.25 As a response to the high consumer costs experienced in the pharmaceutical industry, this legislation was proposed to encourage and increase the availability of generic alternatives to branded pharmaceutical medications.26 Congress formed the Hatch-Waxman Act, attempting to achieve three main objectives with the new application and approval process.27

First, Congress looked to expedite the process of bringing cheaper generic alternatives into the market by streamlining the procedure for filing a patent challenge.28 Second, the Act was created to incentivize drug manufacturers to focus more on new drug development.29 Finally, Congress intended for the Act to assist in clearing the landscape of invalid patents.30 Congress attempted to strike the precise balance between encouraging pharmaceutical innovation and ensuring fair competition.31

With this delicate equilibrium in mind, Congress included a 180-day exclusivity period, allowing an exclusive right to sell for the first generic challenger who brought forward a drug sufficient to enter the market.32 Congress utilized this exclusivity period in the hope that it would incentivize a greater influx of generic challengers.33 While on its face the enticement seems likely to produce the sought-after balance of innovation and competition, the functionality of the exclusivity period, and the Act as a whole, has actually resulted in the anticompetitive issues at hand.34

B. The Hatch-Waxman Process and Functionality

With the enactment of the 1984 Hatch-Waxman Act, generic companies were given a procedure that allows patent challenges to accelerate through the application process by making use of an Abbreviated New Drug Application (ANDA).35 The procedure begins by a generic manufacturer seeking FDA approval of a new generic medication through the filing of the ANDA.36 The generic drug manufacturer asserting the ANDA must certify that one of the following four conditions are met: (1) no patent related to the pioneer drug has been filed; (2) the relevant patent has expired; (3) the patent will expire on a certain date; or (4) the patent is invalid or will not be infringed by the manufacture, use, or sale of the generic drug entity.37 Most Hatch-Waxman litigation and resulting reverse payment settlements arise when the challenger files a paragraph four certification.38

Once the generic manufacturer files the ANDA, it is required to notify the patent holder of the application and certification under paragraph four.39 A forty-five day patentee response period follows, which allows the challenged pharmaceutical company to file an infringement claim automatically staying the ANDA approval process.40 When a conclusion is reached, or the stay is concluded, the first ANDA filer receives their 180-day exclusivity period as long as there is no failure to market their product.41 Pharmaceutical companies have responded by settling cases, effectively allowing them to maintain their patent rights and eliminate the exclusivity period privilege using the failure to market provision.42

C. Reverse Payment Settlements as a Controversial Solution

Pharmaceutical companies often respond to Hatch-Waxman litigation by settling prior to the generic drug entering the market.43 While settlements are a common resolution to patent claims, reverse payment settlements have come under scrutiny because they result in patent holders paying to keep alternative drugs off the shelves.44 This ingenious approach allows pharmaceutical companies to maintain patent rights for the relatively small price of sharing a designated amount of profits with the opposing generic producer.45 Furthermore, the resolution eliminates any incentive for subsequent challengers to come forward with true intentions of entering the market because the exclusivity period is only granted to the first ANDA filer.46

Footnote 45:

45. See Scott Bergeson, A Vaccine Approach to the Reverse Payment Illness, 18 RICH. J.L. & TECH. 14, \*2 (2012) (explaining that instead of risking financial benefits of losing their patent rights, pharmaceutical companies pay generic companies portion of profits in order to keep stronghold on monopolistic benefits of patent).

End of Footnote 45.

These reverse payment settlements have been criticized for having anticompetitive effects in the pharmaceutical industry.47 Wholesalers and manufacturers have begun filing class action claims against the settling parties involved in the agreements.48 These claims assert that the alleged anticompetitive consequences drive industry prices up and negatively affect consumer welfare.49 The resulting litigation has left the circuit courts in disarray, searching for the appropriate resolution to these disputes.50

III. A Circuit Court Precedent in Disarray

Although each settlement resulting from Hatch-Waxman challenges may differ in terms, the antitrust questions that arise are always a consequence of the underlying reverse payments.51 The circuits that first addressed the issue analyzed the relevant settlements under strict antitrust scrutiny, essentially creating a presumption of illegality.52 More recently, circuit courts have departed from the strict scrutiny approach, shifting towards a “scope of the patent” test.53 This method of examination attempts to determine whether the pertinent settlement exceeds the exclusionary scope of the related patent.54 The conflict in analytical approaches has created a muddled precedent in need of Supreme Court intervention.55

A. The D.C. and Sixth Circuits Put a “Per Se” Stop to Reverse Payment Settlements

In 2001, the D.C. Circuit handed down the first decision pertaining to reverse payment agreements.56 The court considered an arrangement that effectively extended monopolistic effects by delaying generic entry into the market until a resolution to the litigation was reached.57 As a response to this proposed anticompetitive activity, the D.C. Circuit took the drastic measure of applying strict antitrust scrutiny.58 The court held the payment to be prima facie evidence of an illegal agreement not to compete.59 This decision established per se illegality for reverse payments.60

Affirming the D.C. Circuit’s approach, the Sixth Circuit added to per se precedent for examining reverse payments.61 In 2003, the Sixth Circuit contemplated the first reverse payment settlement that attracted public scrutiny.62 The court held that the relevant agreement was “a classic example of a per se unreasonable restraint of trade.”63 This decision validated a per se approach that stood as preliminary legal precedent for reverse payment antitrust analysis.64

B. Subsequent Circuits Respond by Reversing the Trend of Reverse Payment Analysis

Following the initial outcry for the illegality of reverse payment settlements, subsequent circuits diverged from per se analysis.65 Fortunately, in a later 2003 decision, the Eleventh Circuit asserted the right to exclude provided through patent protection.66 The court emphasized that an agreement advancing only patent protection could not be per se illegal.67 Instead, the inquiry turned on whether the settlement at issue stretched beyond the scope of the patent, consequently establishing the “scope of the patent” test.68

Additionally, the Second and Federal Circuits would later add to the Eleventh Circuit’s precedent by applying a presumption of patent validity when utilizing the scope of the patent test.69 The courts advanced a strong judicial preference for allowing settlement, which outweighed any threat posed by invalid patents.70 The courts had begun to clearly deviate from the highly assumptive per se approach; however, this trend would progress no further following the Third Circuit’s decision in In re K-Dur Antitrust Litigation.71

Footnotes 70 and 71:

70. See Tamoxifen, 466 F.3d at 211 (explaining that judicial preference for settlement counters possibility of weak patents being able to extend their monopoly). The court explained that the mechanics of the Hatch-Waxman Act offer logical reasons supporting settlement for both parties involved. See id. at 206–07 (explaining that Hatch-Waxman litigation encourages both sides to settle). Unlike normal patent infringement cases, Hatch-Waxman disputes take place prior to any generic investment into the market. See id. (explaining difference between normal patent infringement cases and Hatch-Waxman cases). Further, the patentee will not be able to recover any infringement damages if they push the litigation through. See id. (discussing incentive for pharmaceutical patent holder to settle as well). Settlement results in financial benefits for generic manufacturers prior to market investment and guarantees the patent holder that no infringement will take place. See id. at 207 (asserting mutual benefits resulting from settling Hatch-Waxman disputes); see also KDur, 686 F.3d at 214 (stating that Second Circuit determined that risk of weak patents being extended is counterbalanced by judicial preference for allowing settlement resolutions).

71. See Tamoxifen, 466 F.3d at 212–13 (holding that as long as competition is restrained within scope of patent, then no injury to market is cognizable under existing antitrust law). The court reaffirmed the Eleventh Circuit approach and additionally presumed patent validity. See id. (asserting that patent validity is presumed and will only be questioned if accessed through fraud); see also Ciprofloxacin, 544 F.3d at 1336 (holding that scope of patent test is to be applied). “[T]he essence of the inquiry is whether the agreements restrict competition beyond the exclusionary zone of the patent.” Id. But see K-Dur, 686 F.3d at 214 (holding that scope of patent test improperly restricts antitrust analysis needed to correctly evaluate reverse payment settlements).

End of Footnotes 70 and 71.

IV. In Re K-Dur Antitrust Litigation

The recent Third Circuit case In re K-Dur Antitrust Litigation addressed reverse payment settlements that were a result of challenges to the patent protecting the technology in the drug K-Dur 20.72 The Third Circuit’s decision to retreat back to a per se approach has generated more fear in the pharmaceutical industry and created a legitimate threat to pharmaceutical innovation.73 This substantiation of an evident circuit split validates the need for Supreme Court intervention and affirms a necessity for a resolution that allows reverse payment settlements to effectively and efficiently resolve Hatch-Waxman disputes.74

#### Applying antitrust reverses the presumption of patent validity and proliferates uncertainty in patent law---kills innovation.

Steinniger ’14 [Judge; May 1; J.D. Candidate at Villanova University, B.S. in Economics from Pennsylvania State University; Villanova Law Review, “Shortsighted Response to Reverse Payments: How the Third Circuit May Cause Consumers to ‘Pay for the Delay’ of New Drug Development,” vol. 58]

3. Resulting Litigation

Initially, the FTC brought an action alleging the Schering settlements unreasonably restrained trade.94 While the Eleventh Circuit ultimately dismissed the FTC action, the holding in K-Dur seemed to validate the muddled circuit split.95 The Third Circuit’s decision in K-Dur poses a serious threat to future drug innovation and illustrates the need for Supreme Court intervention.96

B. Third Circuit’s Analysis of Reverse Payment Settlements

The Third Circuit began its analysis in K-Dur by surveying the general landscape of antitrust law.97 Applying the Sherman Act, the court stated, “[e]very contract, combination in the form of trust or otherwise, or conspiracy, in restraint of trade or commerce among the several States, or with foreign nations, is declared to be illegal.”98 While the text of the Sherman Act appears to prohibit any restraint of trade, the Supreme Court has interpreted it to prohibit only an unreasonable restraint of trade.99 Furthermore, in analyzing the reasonableness of an alleged restraint of trade, the court discussed the scope of inquiry, which ranged from unyielding per se illegality to a more thorough “rule of reason” examination that utilizes the scope of the patent test.100

The Third Circuit relied on general antitrust law and reverse payment precedent to establish the guiding criteria for their analysis of the Schering-Upsher and Schering-ESI settlements.101 After examining the case law for reverse payment settlements, the court proposed two options for determining the validity of the agreements.102 The court could subject the settlements to strict antitrust scrutiny with a presumption of per se illegality or it could apply the scope of the patent test.103 Ultimately, the Third Circuit contradicted the recent circuit court trend and refused to apply the scope of the patent test.104

In disagreeing with the scope of the patent test, the court first took aim at the presumption of patent validity that corresponds with the assessment.105 The court’s analysis referred to the high success rates of paragraph IV challenges under the Hatch-Waxman Act, noting the high percentage of patents that are eventually determined to be invalid.106 The court stressed that patents are a legal conclusion issued by the Patent Office and the judicial system should play an important role in carefully analyzing the strengths and weaknesses of these challenged patents.107 Moreover, the court dismissed the proposition that subsequent challengers would effectively follow and eliminate weak patents.108 The Third Circuit contended that the monopolistic profit margin stemming from reverse payment settlements would allow for the patent holder to pay off numerous generic manufacturers while still maintaining strong earnings.109

After assessing the policy concerns, the circuit court detailed the test they would employ and its implications moving forward.110 The court stressed that once parties include a reverse payment in a settlement, antitrust analysis is triggered and the scope of the patent test is not sufficient.111 Furthermore, the court concluded that any payment from patent holder to generic manufacturer must be treated as prima facie evidence of an unreasonable restraint of trade.112 Ultimately, the Third Circuit regressed reverse payment analysis to an approach of per se illegality.113

C. Consequences of the K-Dur Decision Moving Forward

Through the Third Circuit decision in K-Dur, reverse payment precedent has shifted back towards the per se rule.114 It has left lower courts with six circuit court decisions that attempt to advance conflicting policy objectives.115 This reversion back to per se illegality has endangered business incentives that patent law uses to drive pharmaceutical innovation.116 The Supreme Court must act to establish clear precedent and allow for reverse payment settlements to properly resolve patent litigation.117 The Third Circuit overlooked economic and policy concerns that must be highlighted in order to ensure that the most economically effective analytical approach is established for evaluating reverse payment settlements.118

Footnotes 116 and 118:

116. See Butler & Jarosch, supra note 6, at 66 (discussing circuit split and policy objectives driving each position). “On one hand, patents give their holders exclusive rights to use the patented good, spurring innovation.” Id.; see also Carrier, supra note 49, at 62 (discussing courts’ reasoning to defer to settlements because of innovation). By disallowing settlement in such cases, the courts could possibly harm innovative incentives by increasing uncertainty in patent law. See id. (examining impact that courts’ disallowance of reverse payment settlements could have on pharmaceutical innovation).

118. See K-Dur, 686 F.3d at 214–19 (discussing policy concerns driving Third Circuit approach). The court identified issues regarding consumer protection and patent weakness, but failed to address innovation incentives provided by patent law. See id. (asserting clear position against reverse payments without considering positive effects they may have). But see Dolin, supra note 7, at 318 (discussing problems posed by reverse payment analysis). By disallowing reverse payment settlements to resolve these issues, exclusion rights offered by patent law are affected and litigation would increase; therefore, generic entry would be delayed further and the very purpose of the Act would fail. See id. at 319 (arguing that disallowance of reverse payment settlements “would push more disputes into litigation where the outcome is far from certain”).

End of Footnotes 116 and 118.

## At- innovation

## At- light 11

Profitability---only large companies with developed market share can distribute new drugs.

Shepherd ’18 [Joanna; August 8; Professor of Law at Emory; Health Care Law and Policy, “Consolidation and Innovation in the Pharmaceutical Industry: The Role of Mergers and Acquisitions in the Current Innovation Ecosystem,” <https://digitalcommons.law.umaryland.edu/cgi/viewcontent.cgi?article=1356&context=jhclp>]

However, concerns about the impact of consolidation on drug innovation are largely based on an outdated understanding of the innovation ecosystem in the pharmaceutical industry. Today, most drug innovation originates not in traditional pharmaceutical companies, but in biotech companies and smaller firms, where a culture of nimble decision-making and risk-taking facilitates discovery and innovation. In the later stages of the drug development process, the biotech companies routinely partner with large pharmaceutical companies to advance through expensive late-stage clinical trials and to effectively manufacture, market, and distribute the drugs. In this current ecosystem, biotech and pharmaceutical firms are each able to specialize in what they do best, bringing expertise and efficiencies to the innovation process. The specialization has led to an environment in which approximately three-fourths of new drugs are externally-sourced. Internal R&D is no longer the primary source, or even an important source, of drug innovation in large pharmaceutical companies.

As a result, analyses that focus on mergers’ impacts on internal R&D and innovation are missing the point. Instead, proper analyses of the impacts of consolidation on innovation should focus on whether consolidation enables firms to better support aggregate drug innovation in the current ecosystem. Concerns about harm to innovation could be relevant in specific mergers or acquisitions if the consolidating firms are the primary innovators in the area, the firms innovate internally, and there are essentially no sources of external innovation. However, such scenarios are increasingly rare in the current ecosystem. As long as there is sufficient market competition so that firms must innovate to ensure their future profitability and market share, consolidation will often allow firms to devote more resources to externally-sourced innovation. The increased demand for externally-sourced innovation will, in turn, spur incentives to innovate in biotech and small companies. Indeed, data suggests that consolidation is associated with increases in aggregate innovation. In recent years, aggregate innovation has held strong notwithstanding dramatic increases in M&A activity; in fact, 2014 and 2015 generated both record numbers of new drug approvals and record pharmaceutical M&A.

#### Capital---drug regulations and setbacks choke off small firms---resilient financial assets are key.

Quinn ’21 [Gene; August 11; Patent attorney and a leading commentator on patent law and innovation policy; IPWatchDog, “Bankrupting Big Pharma Isn’t a Solution,” <https://www.ipwatchdog.com/2021/08/11/bankrupting-big-pharma-isnt-solution/id=136672/>]

They’re Not All Blockbusters

The pharmaceutical companies lose money on more than 90% of the drugs that are conceived. [One study](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6609997/) demonstrated that from 2006 to 2015, only 9.6% of drugs entering Phase 1 clinical trials even made it to market successfully. A [more recent study by MIT](https://www.centerwatch.com/articles/12702-new-mit-study-puts-clinical-research-success-rate-at-14-percent) suggests that 14% of drugs entering clinical trials make it to market, but there is a wide variation of between 33% in vaccines for infectious diseases to 3% for cancer treatments. So, no matter how you choose to look at the issue, upwards of 86% of drugs that even make it into clinical trials are never going to make it to market, and a far smaller percentage of those that do will ever become blockbuster drugs that make real money for the pharmaceutical company.

Notwithstanding, Professor Feldman in her infinite wisdom suggests that pharmaceutical companies should not be able to charge enough for the drugs that make it to market to cover the costs associated with researching, developing, engaging in clinical trials and the regulatory processes for those drugs that don’t make it to market. Or, that they should be limited on the profit they make because they simply acquired the drugs from a smaller life sciences company. The inconvenient truth that Feldman does not explain is that the FDA regulatory process is too burdensome and costly for any except for the largest pharmaceutical companies to navigate over the 12+ years it will take and billions of dollars in investment. That is why deals are struck between smaller innovative companies and large pharma. And let’s not forget that those smaller life science companies do extremely well monetarily, and so too do the investors, which is precisely why and how the system works.

When Feldman says the bulk of the patent reward is going to the company that “walked the last mile,” she is not telling the whole story—not by a longshot. Those small life science companies with the good ideas that take risk are able to obtain ca4pital in order to pursue the treatments and cures they do precisely because big pharmaceutical companies are going to come calling if they look like they might be successful.

“If Big Pharma wants to start buying assets, more venture capital is going to start pouring into biotech because they know that Big Pharma will be interested in acquiring it down the road,” Bill Bolding, a senior analyst at Provident Healthcare Partners, explained for a recent article that described a 60% uptick in venture capital availability for small biotech companies in 2021 compared to 2020. So, there is a fundamental mischaracterization (to be kind) with the alleged problem identified by Feldman. She begrudges pharmaceutical companies making what she believes to be excess profits on an exceptionally small number of drugs, but those profits are what incentivizes investors to pay for very risky innovation that seeks to tackle the very problems for which we need solutions the most.

Feldman also claims that to allow pharmaceutical companies to charge a high enough price to make it worthwhile to stay in business creates an incentive to fail, in what has to be one of the most illogical, business naïve arguments one could possibly make.

No business can stay alive if they are prevented from making money, particularly when 86% of what is attempted is going to lose money. Perhaps it is Professor Feldman’s position that pharmaceutical companies should just focus on the 9.6% to 14% of drugs that will make it to market and stop spending money on the 86% to 90.4% of drugs that will lose money, but if that is her expert opinion, she really needs to consult with a science textbook. Only someone who thinks creating drugs and vaccines is as easy as waving a magic wand could form such an ignorant position. And ignorant it is, on both the science and the business.

#### Data---the best studies verify substantial increases in pharmaceutical innovation following megamergers.

Richman et al. ’17 [Barak, Will Mitchell, Elena Vidal, and Kevin Schulman; June 6; Professor of Law at Duke; Professor of Strategic Management at the University of Toronto; Assistant Professor of Management at Baruch College; Professor of Medicine at Duke University Medical Center; Loyola University Chicago Law Journal, “Pharmaceutical M&A Activity: Effects on Prices, Innovation, and Competition,” vol. 48]

III. M&A and R&D—A Changing Market for Discovery

Perhaps even more important than the potential impact on prices, some observers and theorists suggest that M&A activity in the pharmaceutical sector might reduce innovative activity in the industry.33 Commentators not only worry that industry co nsolidation increases prices, but also that it reduces incentives to innovate.34 These commentators express concern that large pharmaceutical firms exhibited diminishing R&D productivity—producing fewer discoveries, generating less valuable discoveries, and creating discoveries that represent more incremental and duplicative innovations.35 In parallel, commentators suggest that the recent merger trend contributed to big pharma’s diminishing innovation, in part because mergers are often followed by layoffs in R&D personnel, changes in management and research priorities, and reductions in total R&D spending.36

Our review of data measuring pharmaceutical innovation, however, tells a different story. First, even as merger activity in the United States increased over the past ten years, there has been a steady upward trend of FDA approvals of new molecular entities (“NMEs”) and new biological products (“BLAs”).37 Hence, the industry has been highly successful in bringing new products to the market.

In addition, the diversity of firms carrying out R&D in the industry grew strikingly. Figure 4 denotes the status of firms receiving approvals from the FDA since 1979, and it illustrates the growing importance of “bio and specialty firms” and of (to a lesser degree) Japanese companies as drug developers for the United States and other markets. Although established United States and European firms continue to be important sources of new products, a vast array of specialized firms, ranging from large biological companies such as Amgen and Biogen to a globally distributed set of smaller specialists, now lead the industry. This fragmentation of the development base reflects both the increasing complexity of science underlying pharmaceutical products and the growing global scope of R&D expertise.

This fragmentation and diversification of discovery reveals one significant reason why pharmaceutical M&A activity increased. While established pharma companies such as Pfizer, Merck, GlaxoSmithKline (“GSK”), Eli Lilly, and Novartis continue to develop new drugs in their own labs, they are becoming increasingly dependent on acquiring other firms to fuel their new product lines. The locus of innovation is shifting from inside large firms to smaller start-ups and to firms operating in nontraditional geographic markets and complementary product markets. As a result, the pharmaceutical industry appears to be in significant structural transition, and the surge of acquisitions reflects that transition.

A number of forces are contributing to these industry changes. First, some medical researchers suggest that the frontier of discovery is moving away from small molecules—which has been the core of large pharma research—and toward biologics and delivery systems. One reason for this shift might be diminishing opportunities to discover new molecular innovations. Some academic physicians believe that the molecular space available for new discovery for small molecules is finite, and that current pharmacological technology is pressing against those upper limits.40 Meanwhile, the growth of research on biologics is rapidly expanding, and meaningful innovation is coming from research in biological interventions (some call this the “biological revolution,” as biologicals constituted more than one third of approvals in 2015). Traditional large pharmaceutical firms do not have dominant expertise in this scientific area, and the shift away from small-compound interventions and toward alternatives means a corresponding shift of innovation away from established pharmaceutical firms. Thus, established firms must pursue strategic acquisitions to sustain sales and pursue market opportunities now available from biological discoveries. The growth of new sources of discovery creates both growing scientific breadth in the industry’s underlying knowledge base and increasing market complexity, both domestically and globally.41

Another significant change in the market for innovation is the decline in costs and resources required to pursue meaningful innovation. The growing codification of scientific knowledge has increased the role of information technology (“IT”) on research. Thus, information for basic research is much easier both to transmit and to obtain. As a result, startup biotech firms have been able to pursue meaningful innovations while remaining small. Consequently, competition for discovery of new pharmaceutical therapies is robust, and consolidation of big pharma companies does not seem to threaten the competitiveness of this upstream market for innovation.

Yet while large and established pharmaceutical companies no longer have the dominant presence in discovery they once did, they still maintain an important comparative advantage over smaller firms from their ownership of large-scale marketing networks in multiple countries. Small firms developing drugs typically do not have the marketing capabilities required to bring those new drugs to global and segmented markets on their own. This need for global reach has been accelerated by the growth of pharmaceutical sales in emerging markets. Where the major markets were once concentrated in North America, Western Europe, and Japan, multiple emerging markets in Asia, South America, and elsewhere are now key targets for global pharmaceutical firms.42 Indeed, China alone is now one of the top three pharmaceutical markets in the world, about level with Japan and markedly behind only the United States.43 To succeed, established pharmaceutical companies now require global reach, while smaller players seeking to expand often need to acquire regional development and/or commercialization targets. Figure 5 highlights the growing importance of a broader range of pharmaceutical markets, particularly in the Asia-Pacific region, and Figure 6 depicts the proportion of acquisition targets that were based in the United States, Western Europe, and Asia between 1991 and 2015. The share of targets in the United States and Europe declined from over 40 percent each in the early 1990s to about 20–25 percent by 2015, while the share of targets based in Asia (other than Japan) grew rapidly, approaching 40 percent in 2015.

Serving such a disparate global market requires both refinements to products to suit local demand and local presence for development, regulatory, and marketing activity. While some of the expansion can build on existing internal skills or alliances with local partners, creating a strong local base in multiple markets commonly requires purchasing firms that already have a relevant presence.

For these reasons, many smaller firms with valuable discoveries opt to sell their innovative products, and often the entire company, to an established firm that wants to fill its pipeline.46 Such deals provide an efficient way to leverage existing investments in marketing systems at the established companies, and they explain much of the growth in M&A activity that occurred during the past two decades.47

Another comparative advantage established firms have over start-ups is their access to the financing required to obtain FDA approval, and especially to fund Phase-III human trials or large scale trials at earlier phases. For this reason, start-ups frequently sell their discoveries to large pharmaceutical firms prior to FDA approval and commercialization. Accordingly, large pharmaceutical firms are occupying a different role in drug development. Rather than primarily being creators of innovation— investing in R&D and managing a soup-to-nuts operation—these firms are increasingly functioning as purchasers of innovations and are adding value to the downstream regulatory and commercialization processes.

Perhaps ironically, many of the megamergers contributed to, rather than squelched, the competitiveness of this process. Mergers often result in the departures of important executives, and many of those executives then form new ventures that aid in turning discoveries—often the discoveries they helped develop before departing to the large company— into commercialized products. One trend is to form small companies that purchase the rights to specific compounds, contract with firms to conduct the appropriate clinical trials to win FDA approval, and then sell to a large pharmaceutical company for distribution and marketing. Such ventures are called “virtual companies” because they conduct neither research nor clinical tests themselves, but manage the development-tocommercialization process through contracting agents. They signal a new disaggregation of the pharmaceutical industry that dilutes many concerns for industry concentration.

One remaining question is whether small companies—whether startups engaged in R&D, virtual companies that rely on contracting services, or even mid-sized clinical trial companies that take ownership of discoveries—will find the capital to pay for substantial clinical trials. Even if the industry is moving toward further disaggregation, megamergers might harm competition if it means fewer parties are available to finance the development process. But the emergence of venture capital (“VC”) in the health care sector helps mitigate any monopsony power that large pharmaceutical companies might have for new discoveries. Even though large pharmaceutical firms are increasingly relying on purchasing rather than producing innovation (it is likely that over 25 percent of total sales of the twenty largest pharmaceutical firms now come from in-licensed products), the flow of VC into the health sector has increased significantly in recent years, with health sector VC representing 31 percent of total VC investments in 2007. 48

Although the number of VC investors declined during this recent economic downturn, VC will remain an important part of health care innovation in the years to come.

Whether VC is a reliable source of funding for Phase III and other human trials, however, is an open question. Venture capitalists view FDA review and Medicare and insurance reimbursement policies as sources of significant risk that steer VC investments toward firms that do not focus exclusively on health care. Though venture capitalists looked into funding Phase-III trials, they achieved few successes to date. The role of VC is especially important because although the market for discovery is vibrant, it is also fragile, with up to 50 percent of listed firms at risk of going bankrupt in 2017 and many currently trading at less than cash value.49 If the finance and VC markets cannot adequately fund the innovation process, then large pharmaceutical firms with significant cash on hand and reliable sources of income from currently commercialized drugs will have an advantage in the market for purchasing discoveries.

Although VC and third-party funding slowed with the current downturn, companies of all sizes are still able to attract sufficient funding to carry discoveries forward, and the market should remain vibrant for players in addition to big pharma firms. This suggests that recent megamergers have not sufficiently concentrated either the market for discoveries to harm the rate of innovation. Thus, there remains an adequate number of parties capable of shepherding discoveries through to commercialization.

In short, we are witnessing a major structural change in the locus of biomedical research. The three trends discussed herein—that innovation is increasingly occurring within start-ups, that large pharmaceutical companies are increasingly relying on in-licensed products, and that megamergers are potentially concentrating the market for buyers of innovation—will lead to major changes in drug discovery. Although it is unclear whether megamergers stifled innovation within this new industry paradigm, the data do not conclusively suggest that mergers have actually created harm.

#### Prefer it---their evidence suffers from confounding effects and selection bias, omitting gains in external R&D or efficiency.

Shepherd ’18 [Joanna; August 8; Professor of Law at Emory; Health Care Law and Policy, “Consolidation and Innovation in the Pharmaceutical Industry: The Role of Mergers and Acquisitions in the Current Innovation Ecosystem,” <https://digitalcommons.law.umaryland.edu/cgi/viewcontent.cgi?article=1356&context=jhclp>]

Concerns that pharmaceutical M&A may reduce innovation have been expressed in several recent academic studies that find a negative relationship between consolidation and “innovation activities” within the newly-consolidated firm. Various studies have found that pharmaceutical mergers have led to lower R&D expenditures in the consolidated firm, as compared to the expenditure in both companies beforehand or to the expenditure in other non-merging companies.62 Similarly, studies have found that consolidation leads to a reduction in the number of R&D projects in the consolidated firm.63 Some evidence also suggests that the consolidated firm produces fewer new patents than the two separate firms did before the merger.64 However, as acknowledged by the studies themselves, much of the reduction in R&D expenditures, projects in development, and number of new patents in the newly-consolidated firm is the result of efficiency gains. 65 Mergers enable firms to streamline duplicative operations, reduce excess capacity, and achieve economies of scale, in turn reducing the consolidated firms’ expenses and eliminating redundant projects or patents.66 Additionally, studies comparing the innovation activities in newly-merged firms with the activities in non-merging firms likely suffer from selection bias; firms under economic stress are more likely to merge, so a comparison of merging with non-merging firms is capturing differences between firms with different economic prospects.67

To escape these confounding influences and selection effects, a recent study has examined the impact of consolidation on innovation activities outside the firm on the theory that a reduction in competition following a merger would reduce competitors’ incentives to innovate. 68 The study found that mergers reduce R&D spending and the number of patents in both the merging firm and in rival firms. However, as I explain in the next section, all firms (including consolidated firms and rivals) have experienced a general decrease in internal R&D activities as they adjust to the new economic reality of the pharmaceutical industry that makes external sourcing of R&D more attractive than internal development. Moreover, consolidation of a rival may compel firms to substitute away from internal R&D even more than the general trend would suggest. Because consolidation typically improves efficiency in the consolidated firm, rival firms may begin to outsource more of their R&D, with a corresponding decrease in their in-house innovation, in an effort to compete with the more efficient consolidated firm.