# Disclosure---Northwestern---Round 4

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#### Interpretation---prohibit means to forbid a given practice---that’s distinct from restriction.

Kennard 93 – Judge, California Supreme Court

Joyce L. Kennard, THEODORE R. HOWARD et al., Plaintiffs and Appellants, v. GEORGE H. BABCOCK et al., Defendants and Respondents. No. S027061., Supreme Court of California, 1993, https://law.justia.com/cases/california/supreme-court/4th/6/409.html

As I pointed out earlier, the majority's conclusion is at odds with the great weight of authority. Also, in determining reasonableness based on the relationship between or among attorneys, the majority gives little regard to the relationship between the attorney and the client. Moreover, the majority fails to recognize that restrictive covenants are intended to and do restrict the practice of law. Rule 1-500 proscribes agreements that "restrict" the practice of law, not just those that prohibit "altogether" the practice of law. (Contra, Haight, Brown & Bonesteel v. Superior Court (1991) 234 Cal.App.3d 963, 969 [285 Cal.Rptr. 845] [rule 1-500 "simply provides that an attorney may not enter into an agreement to refrain altogether from the practice of law"].) To "restrict" means to restrain, to confine within bounds. (Webster's New Collegiate Dict. (9th ed. 1988) p. 1006.) To "prohibit" means to prevent, to [\*\*164] [\*\*\*94] forbid. (Id. at p. 940.) The terms are not synonymous.

#### Violation---exemptions based on the rule of reason means practices are not prohibited.

Skoczny 01 – Professor of law, Holder of the Jean Monnet Chair on European Economic Law at the Warsaw University Faculty of Management

Tadeusz Skoczny, “Polish Competition Law in the 1990s - on the Way to Higher Effectiveness and Deeper Conformity with EC Competition Rules,” European Business Organization Law Review, Vol. 2, Issue 3-4, September 2001, LexisNexis

Most importantly, the new Act departed from the relativity of the prohibition of dominant position abuses; as in Article 82 EC Treaty, it is now a general prohibition which does not allow for exemptions on the basis of a rule of reason. Also new is the prohibition of the abuse of dominant position by groups of undertakings, which will allow to effectively control the state and the development of competition on oligopolistic markets. The Act also eliminated the distinction between monopolistic and dominant position; in theory and in practice, it was difficult to justify the maintenance of this distinction. Therefore, the Act relates only to a dominant position, the definition of which however has been changed. According to the new Article 4 point 9, dominant position means a position "which allows [the undertaking] to prevent effective competition on the relevant market thus enabling [the undertaking] to act to a significant degree independently from its competitors, contracting parties and consumers". It is easy to notice that this definition is based on the United Brands and Hoffmann La-Roche standards. It must nevertheless be emphasised that such understanding of dominance was introduced by the AMC already in 1993; it considered dominance as the capacity to act "to a large extent independently of the competitors and clients, thus also the consumers". Thanks to the AMC's judgements also the relevant product and geographical markets are defined on the basis of the criteria of "close commodity substitutability" and "homogenous competition conditions".

#### That’s a voter for limits and ground---allowing exemptions on the rule of reason lets the aff straight turn core topic DAs and get advantages based off clarifying vague statutes.

### OFF

#### Text: The United States federal government should:

#### --increase the ability of SEP holders to seek injunctive relief against infringers under FRAND

#### --adopt the "Georgia Pacific" standard on a case-by-case basis to calculate FRAND royalty rates

#### --determine FRAND royalty base payments according to value of the technologies covered by the SEPs

#### Solves and doesn’t touch antitrust liability.

**Ménière 15** – Yann Ménière is the Chief Economist at the European Patent Office. Former economics professor, MINES ParisTech

(Yann Meniere, 2015, “Fair, Reasonable and Non-Discriminatory (FRAND) Licensing Terms Research Analysis of a Controversial Concept,” European Commission, <https://publications.jrc.ec.europa.eu/repository/bitstream/JRC96258/jrc96258.pdf>)

4.3 FRAND is in the details

The general economic issues raised by SEP licensing have crystallized into a number of precise technical issues that divide the community of stakeholders in standardization. Recent discussions have already made it possible to solve some of them, such as the transfer of FRAND encumbrance along with SEP ownership. Several other important issues still remain open, revealing vested interests among stakeholders, but also opportunities to clarify (or not) the rules of the game for the benefit of all.

- Injunctive relief. The ability of SEP holders to seek injunctive relief against infringers is certainly the most disputed issue, echoing the general controversy regarding “hold-up” as opposed to “hold-out” arguments. On the one hand, there is concern among implementers that SEP holders may abusively wield the threat of injunction to extract more value than their technology is actually worth. On the other hand, SEP holders argue that the threat of injunction is necessary as a last resort to involve implementers in a negotiation before a trial. Beyond these stances, it is generally admitted that FRAND commitments do not imply that injunction should be prohibited, but rather that it should be allowed only when the infringer is unwilling to accept a FRAND offer to negotiate in good faith. This view is supported by the refusal of courts in most major countries (including the U.S. since 2006) to automatically issue injunctions based on the mere finding of patent infringement. The real pending issue thus concerns the definition of criteria for establishing that an infringer is unwilling to accept a FRAND offer, keeping in view that the objective is to reduce legal uncertainty and transaction costs. This issue is compounded by potential interferences between the working of national courts and competition authorities, following the latter’s statements that seeking injunctive relief against an infringer who is willing to negotiate could also be considered as an abuse of dominant position. A number of legal scholars therefore argue that the intervention of antitrust authorities is not needed and can in fact be counterproductive (Lemley, 2007; Jacob, 2013).

- Royalty rate. Since SSO IPR policies usually do not indicate how to calculate FRAND royalty rates, different methods have been developed for their determination by third parties in the case of litigation. Though all of them basically proceed by analogy to the outcome of a “hypothetical negotiation” between the SEP owner and the implementer, these methods 19 may yield significantly different results (Geradin, 2014). The choice of one or another method can thus affect the balance of interests between SEP holders and implementers, especially as court decisions in turn provide reference points for other negotiations.

The “Ex-Ante Incremental Value” rule is a first approach. It states that a FRAND royalty rate should reflect the incremental value of the patented invention over the next-best alternative available at the time the standard was defined (which corresponds to the maximum amount that a licensee would have been willing to pay in a hypothetical negotiation at this moment). As already mentioned, this approach to FRAND chiefly aims to address the hold-up problem by isolating the intrinsic value of the technology from the expost value of practising the standard. The US FTC and the DG Competition of the European Commission support this approach. (EC, 2011; FTC, 2011) However, the rule has proved hard to implement in practice because substituting two patents within a standard is not that easy and would change the standard’s performance and value along several different dimensions. SEP holders also object to the fact that the method amounts to simulating tough price competition between technologies after inventors have sunk their R&D costs, which gives all the bargaining power to the licensee. In their view, it therefore fails to preserve inventors’ incentives to invest in R&D and to contribute their inventions to the standard-setting process (Sidak, 2013).

The “Georgia Pacific factors” provide an alternative method8 for the calculation of reasonable royalty damages for patent infringement. Like the “Ex-Ante Incremental Value” rule, this method simulates a hypothetical negotiation between a willing licensee and a willing licensor. However, a key difference is that this negotiation is assumed to take place at the time the infringement began (and therefore after the implementer has adopted the standard) which is more advantageous for the licensor. The method provides a nonhierarchical list of 15 factors that aim to replicate the different parameters of a real negotiation and allow for a high degree of freedom in the determination of royalties9 . These factors include a set of relevant comparable factors – such as royalties received by the patentee for the same patent or rates paid by the infringer for the use of other comparable patents – but also considerations related to the invention’s incremental value – such as its importance as compared with available alternatives or the portion of the infringer’s profit that can be attributed to the infringed patent.

So far, courts have determined FRAND royalty rates in only a few cases, and in the two most important ones they opted for adapting the “Georgia Pacific” approach to a FRAND context rather than directly using the “Ex Ante Incremental Value” rule. In his 2011 Microsoft v. Motorola decision, US Judge Robart decided to apply the hypothetical negotiation ex-ante standardization. He then sought to adjust it for the importance of the SEPs to the standard and infringing product and for “unresolved disagreement” on the infringement and validity of the SEPs. This led him to use comparators (including some from patent pools) to eventually define a royalty rate below the one usually asked for the same SEPs by the patent holder (here, Motorola). In his 2013 Innovatio judgement, US Judge Holderman opted for a quite different interpretation of the “Georgia Pacific” factors, by proceeding “top down” rather than focusing on the stand-alone value of the infringed patent. He first sought to determine which portion of the income generated by the relevant infringing product is actually available to pay royalties on SEPs and then decided which portion of this income should accrue to a particular patent holder, given the relative size and importance of its SEP portfolio as compared with the set of all relevant SEPs. 8 This method was elaborated by a US Court in the landmark case of Georgia-Pacific Corp. v. United States Plywood Corp. 9 A complete list of the 15 factors is available in Annex. 20

A key issue in these decisions is how exactly the “Georgia Pacific” approach should be adapted to take into account the patent holder’s obligation to license its technology on FRAND terms. In its recent Ericsson v. D-Link decision, the US Court of Appeal of the Federal Circuit (CAFC) rejected the idea of applying a “one-size-fits-all” modified version of the “Georgia Pacific” factors to all cases of FRAND-encumbered patents. Instead, it ruled that the “Georgia Pacific” approach should be applied on a case-by-case basis, keeping in mind that the royalty for SEPs should be apportioned to the value of their technological contribution and not the value of their standardization. In particular, the CAFC affirmed that concerns about hold-up and royalty stacking should not be taken into account unless the accused infringer provides evidence on their “record in relation to both the FRAND commitment and the specific technology referenced therein”.

- Royalty base. The choice of a base for calculating FRAND royalties is another debated issue. The base could be the entire market value of infringing products (for instance, smartphones) or that of the infringing components that actually perform the standard functionalities (for instance, the baseband processor of a smartphone). SEP holders usually have a preference for the entire market value approach because it enables them to increase the net sales base by going after the most downstream manufacturer.

However, the choice of one or another base should be neutral if FRAND royalties are determined according to the value of the technology covered by the SEPs. In this case, the royalty rate should be adapted to the chosen base so as to precisely capture this technology value. Case law has also established limits on the entire value approach by seeking to establish “sound economic connection” between the claimed invention and the royalty base. The notion of “smallest saleable patent-practicing unit” has emerged as a focal point because it facilitates the practical market valuation and monitoring of the royalty base.

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#### Text: The Federal Trade Commission should---

#### ---issue cease and desist letters to companies engaging in price gouging stating that their practice violates FRAND.

#### ---determine that “unfair methods of competition” pursuant to Section 5 of the FTC Act prohibits private sector conduct that is more restrictive of competition than reasonably necessary to enable creation of information technology standards and bring associative enforcement actions.

#### Plank 1 solves---non-respondent liability deters anticompetitive action without modifying antitrust law.

Hoofnagle, Hartzog, and Solove 19 – Chris Jay Hoofnagle is an American professor at the University of California, Berkeley who teaches information privacy law, computer crime law, regulation of online privacy, internet law, and seminars on new technology. Woodrow Hartzog is Professor of Law and Computer Science at Northeastern University. Daniel J. Solove is a professor of law at the George Washington University Law School.

Chris Hoofnagle, Woodrow Hartzog and Daniel Solove, August 8 2019, “The FTC can rise to the privacy challenge, but not without help from Congress,” Brookings, https://www.brookings.edu/blog/techtank/2019/08/08/the-ftc-can-rise-to-the-privacy-challenge-but-not-without-help-from-congress/

The FTC also could achieve greater deterrence by leveraging an obscure power known as “non-respondent liability.” In cases where the FTC has a fully-adjudicated matter concerning some business practice, the agency can use that precedent to issue civil penalties to others engaging in the same activity. The power is limited to instances of actual knowledge of a closely-matching precedent by the new defendant, butthis can be established by sending that company notice of its wrongdoing and the relevant previous order. If we think about recent privacy wrongs—poor data security, selling data despite promising not to, and so on—many are widespread, recurring practices. If the FTC were willing to adjudicate just one case involving information “sale,” changing users’ settings, or even storing passwords in plain text, hundreds of companies could inherit exposure to civil penalty liability though this mechanism.

#### Plank 2 solves---Section 5 is comparatively more effective than Sherman at promoting standard setting

Dagen 10 – Special Counsel to the Director, Bureau of Competition, Federal Trade Commission.

Richard Dagen, August 2010, “RAMBUS, INNOVATION EFFICIENCY, AND SECTION 5 OF THE FTC ACT,” Boston University Law Review, http://www.bu.edu/law/journals-archive/bulr/documents/dagen.pdf

d. Efficiency Considerations Weigh in Favor of Use of Section 5 Enforcement, but Not Sherman Act

Critics might argue that Section 5 enforcement has resulted in at least one firm leaving a standard-setting organization. Rambus’s counsel advised Rambus of the risks of equitable estoppel well before the Dell decision, yet Rambus continued to participate in JEDEC.260 It was very soon after Dell that Rambus withdrew from JEDEC.261 Thus, if the FTC enforces equitable estoppel principles, a firm with an intent to engage in “bad” conduct may leave.262 But this is not an undesirable thing – particularly in the case of Rambus, which gained valuable information during SSO deliberations but provided none.

Section 5 enforcement might increase the likelihood that potential hold-up victims participate in standard setting. Enforcement would encourage “innocent” firms to participate because they would be less likely to suffer from opportunistic behavior. The net would be an increase in standard setting.

Conversely, finding the negligent IP holder liable for treble damages under Section 2 could significantly deter firms from participating in standard setting or cause overinvestment in patent tracking. Treble damages for negligence (over and above an injunction) will generally exceed any patent law remedy.

If treble damages were available, unintentional conduct could be penalized significantly more than under laches. Rather than risking treble damages in addition to the loss of IP, firms might choose not to participate in standard setting.

In summary, monopoly gained through conduct that is within the control of the monopolist and not on the merits resembles monopolization, as the term is used by courts and in common parlance, rather than historic accident or luck. Such conduct is proscribed by patent law defenses and other external norms. Where external norms already exist, the incentive to engage in that conduct is already affected. The existence of a patent law defense, in conjunction with relief that is similar in nature to the patent law defense, mitigates any risk of harm to incentives. Using these defenses as one potential limiting principle ensures that no skill, foresight, or business acumen is involved. The deadweight social welfare loss associated with monopoly can be eliminated with minimal concern for false positives. The use of Section 5 in this way is consistent with Supreme Court precedent.263

#### Gives the FTC an opportunity to assert broad Section 5 rulemaking authority---solves institutional expertise deficits in antitrust.

**Carlson 14** --- Vanderbilt University, J.D.; University of Oxford, M.Sc. (forthcoming); Colorado College, B.A.

Christian, 2014, “Antitrusting the Federal Trade Commission: Why Courts Should Defer to Federal Trade Commission Antitrust Decision Making”, Vanderbilt University Law.

As it turns out, the answers to these questions are not so simple. The FTC was founded to rein in judicial decision-making and place the expert decisions with the experts. However, the FTC does not serve the institutional role that Congress sought in 1914. One Senator sought "an administrative body of practical men thoroughly informed in regard to business, who will be able to apply the rule enacted by Congress to particular business situations, so as to eradicate evils with the least risk of interfering with legitimate business operations."' This Senator's charge, and the charge of his fellow Congressman, has not been heeded.

Courts have acted contrary to congressional desires and not deferred to the independent expert body tasked with preventing unfair competition, the FTC. This is particularly troubling today, as modern antitrust economics have made courts increasingly less able to make normatively appropriate decisions. 2 Courts themselves have recognized this, erecting procedural and substantive barriers to protect themselves from disturbing the market status quo.3 Yet, at the same time, they have chosen not to defer to the FTC, the expert body tasked with regulating the market.4 Courts have usurped agency decision-making power with occasionally questionable results.5 The FTC should assert, and courts should grant, Chevron deference when the FTC makes antitrust legal decisions in order to mitigate judicial error and protect FTC expert decisions from the generalist judiciary's institutional shortcomings.

#### Allows the FTC to crack down on pay-for-delay.

**Zeisler 14** --- J.D. Candidate 2014, Columbia Law School; B.S., B.A. 2012, University of British Columbia.

Royce, 2014, HEVRON DEFERENCE AND THE FTC: HOW AND WHY THE FTC SHOULD USE CHEVRON TO IMPROVE ANTITRUST ENFORCEMENT, Columbia Law Review.

As a final example, this Note examines pay-for-delay liability. 162 The history of this problem can be summarized briefly. For over a decade, the FTC has cracked down on pay-for-delay settlements. 163 During this time, appellate courts consistently rejected the FTC's theory of liability because of the statutory presumptions inherent to patent law and the Hatch-Waxman Act.164 Eventually, the FTC succeeded in creating a circuit split, giving rise to the Actavis decision, where the Court held that a settlement "can sometimes violate the antitrust laws."16 5 From the perspective of this Note, what makes pay-for-delay important is that it provides a retrospective lesson-the FTC could not have forced this change earlier by taking advantage of Chevron deference-as well as a prospective opportunity- the FTC has a unique occasion to promulgate notice-and-comment rules.

Turning first to the retrospective lesson, understanding the logic of these courts' holdings leads to the conclusion that the FTC could not have used notice-and-comment rulemaking or Chevron deference to hasten this change. The FTC's rulemaking grant does not permit direct regulation of patents, nor does it empower interpretations of the HatchWaxman Act. 167 Circuits that have ruled against pay-fordelay settlements would also find that the FTC lacked authority to promulgate such regulations. In a sense, there is an inverse Chenery principle at work. In Chenery, the Supreme Court explained that the SEC's mandate included the ability to proceed either through litigation or adjudication.168 In the pay-for-delay context, the FTC can proceed with neither rulemaking nor litigation. Once a court determines that a substantive legal issue falls outside of an agency's mandate through litigation, rulemaking is also likely to be found inappropriate. As a larger jurisprudential insight, this reveals a powerful method that courts can use to check the FTC. If a court can justify a presumption on broader regulatory grounds, and not merely antitrust law, then the FTC lacks authority to regulate this conduct.

Moving to the post-Actavis antitrust regime, the FTC is now in a different situation. In Actavis, the Court created a new sphere of antitrust liability and left "to the lower courts the structuring of the present rule-of-reason antitrust litigation. 1 69 Faced with this new precedent, the FTC has three reasons to begin exercising its rulemaking authority. First, the FTC correctly identified reverse settlements as potentially anti-competitive while lower courts remained skeptical. The FTC's characterization of this conduct will carry a certain rhetorical force that can be leveraged toward more assertive regulation. Second, and building on the first point, the FTC's institutional advantages and capabilities to form presumptions in this regulatory arena are at their height. Indeed, as Professor Hemphill argues, the FTC's ability to aggregate data gives it the unique ability to form the presumptions required for understanding the pay-for-delay regulatory structure. 170 Third, FTC regulation can provide crucial guidance to businesses. In creating, but not defining, the scope of liability, the Court has created considerable uncertainty around settlements. 171 Concededly, while FTC regulation cannot shield a corporation from liability under the Sherman Act, it can provide initial guidance for conduct likely to lead to liability in this unsettled area.

#### Limited patent protection is best for innovation---the CP maintains incentives while avoiding stagnation.

Kotlikoff 08 - Professor of Economics Boston University

Laurence J. Kotlikoff, “Stimulating Innovation in the Biologics Industry: A Balanced Approach to Marketing Exclusivity,” September 2008, http://people.bu.edu/kotlikof/New%20Kotlikoff%20Web%20Page/Kotlikoff\_Innovation\_in\_Biologics21.pdf

But my main focus will be to amplify the point raised immediately below, namely, that extended periods of exclusivity pose a threat to sustaining a rapid rate of innovation. This analysis forms the basis for my recommendation that when it comes to promoting biologic competition Congress should stick with what works, namely Hatch-Waxman, with its very limited exclusivity. Economic theory speaks clearly here. So does the evidence. There are, quite simply, no compelling differences between the chemical-based and protein-based medication industries to justify deviating from a policy that has succeeded for over a quarter of a century in both dramatically reducing drug prices and stimulating innovation. Indeed, to the extent there are differences, they generally favor less exclusivity. A key example here is the likelihood that obtaining FDA approval of generic biologics will take considerably longer than obtaining FDA approval of a chemical entity.9 If this proves true, it will automatically provide brand companies with an extended period of effective exclusivity even absent any legislated exclusivity.

Can Extended Periods of Exclusivity Threaten Innovation?

Raising this question may sound surprising given that some period of exclusive marketing rights is required to incentivize discovery. But starting a train is not the same as keeping it moving, let alone getting it to run at the proper speed. When it comes to innovation, each “discovery” builds on prior knowledge, with progress measured by the next innovation, not the last, and by how fast the next innovation gets to market.10 Policies that lengthen the time between innovations may do little to stimulate more innovation; instead, they may simply reduce the pace of innovation (the number of discoveries per unit of time) on which the economy’s growth so critically depends. The key problem with providing excessive monopoly protection is that once an invention has been made, the inventor faces different incentives. The main goal becomes marketing and protecting one’s intellectual property, not developing a dramatically different and better version of the product. Doing so would diminish, if not vitiate, the value of the initial invention, which may have been undertaken at considerable cost. Hence, at least within a given product line, yesterday’s inventors are much less likely to be either today’s innovators or tomorrow’s. This point comes across clearly in the economics literature starting with the seminal 1959 paper on intellectual property by Nobel laureate Kenneth Arrow.11 In the years since Arrow showed that “the incentive to invent is less under monopolistic than under competitive conditions,” numerous economists have developed alternative models of the innovation process, but they invariably reach the same conclusion — monopolists don’t innovate. The reason is simple: bringing new products to the market undercuts a monopolist’s revenues on his existing products.

#### Biologics innovation is key to US lead in mRNA development

Biopharma-Reporter 8/03 - News & analysis on the clinical development and manufacture of large molecule drugs

“mRNA and beyond: Opportunities for US biologics,” 03-Aug-2021, https://www.biopharma-reporter.com/Article/2021/08/03/Opportunities-for-US-manufacturing-in-biologics

The success of mRNA vaccine technology could be one of the new opportunities for US pharmaceutical manufacturing looking forward, with pandemic investments helping turbocharge the sector. Production of a number of drugs are likely to remain in lower cost production hubs, such as China and India. But biologics may tell a different story: with different dynamics for small volume, high margin treatments. There’s an opportunity for the US to lead in advanced biologicals; as well as manufacturing in viral vectors and cell and gene therapies, according to CPhI’s insight’s report ‘US Pharma Market 2022 and Beyond’, prepared for this year’s CPhI’s event. But first, the country must overcome current capacity restraints through increased efficiencies and investments.

A chunky boost of capital from Operation Warp Speed was designated to increasing development and manufacturing capacity in the US. “We expect to see the approval of mRNA-based cancer therapies in the next few years," notes Peter Shapiro, Senior Director of Drugs and Business Fundamentals at GlobalData, in the report. "Furthermore, these mRNA therapies will be able to use the same manufacturing equipment as mRNA vaccines now that the industry has shelled out the high CapEx cost for this equipment, and trained more staff in sophisticated pharma manufacturing.” Moderna, for example, has wasted no time in setting out a host of mRNA opportunities for the coming years. A mRNA quadrivalent flu vaccine has already started a Phase 1/2 clinical trial – dosing its first participants last month; with an HIV vaccine set to follow into the clinic later this year. Other programs include mRNA vaccines for CMV and RSV. A key advantage of the platform is not only its speed and flexibility in capacity for COVID-19 vaccine production: but also that the same tech could be applied to mRNA therapeutics.

Viral vectors – already in short supply pre-pandemic for gene therapies and gene-modified therapies – are now also required for viral vector vaccines (namely AstraZeneca and J&J). As of May, there were 14 therapies/vaccines that use a viral vector marketed in the EU, Japan, US and UK, according to GlobalData – who predicts this number will soar over the next six years to more than 100 (and with more than 3,000 in the longer term development pipeline). Meanwhile, there are only 87 viral vector contract manufacturing facilities available worldwide. “Adding to the shortage of supply is the current inefficiency in manufacturing – including low titres and complexity – with both biopharma innovators and contract manufacturers working on both upstream and downstream process innovations," notes the CPhI report. "One suggestion from our experts is for [regulatory] agencies to approve standardized viral platforms that could be used interchangeably by therapy developers, potentially speeding up cell and gene therapies’ development, approval, and technology transfer to CMOs.” With pressure on viral vector manufacturing coming from both COVID-19 vaccines and the increased number of gene therapies, manufacturing in this sector will have to increase through scaling up facilities, developing more efficient processes both upstream and downstream, and more investment from contract manufacturing organisations.

Biologics and cell and gene manufacturing are ‘potentially entering a hugely profitable period’, notes the report. But for this to be realised, greater capacity is needed. "In fact, the pandemic has further aggravated capacity constraints as priority is given to COVID vaccines. Anyone with available capacity in the US is likely to be booked up well in advance and able to charge a premium. For the CDMO space, this presents huge opportunities with a large number of acquisitions in the last year as well as increased capital coming in from VCs," notes the CPhI report.

And technological advances will have a particularly important role to play. “Our experts predict that the US is going to play a key role in the development of advanced manufacturing technologies improving the technology base in general and potentially lowering costs. While the country cannot compete on labour costs, it has the scope to bring new efficiencies to advanced biologics manufacturing,” notes the report. Cell and gene therapy, API manufacturing and injectable dose manufacturing are the best immediate opportunities for reshoring in the US, notes the report. “There are opportunities for the US to lead in particular for advanced biologicals. But there are also medium and long-term opportunities for manufacturers capable of manufacturing mRNA-based vaccines and therapies and vector manufacturing for recombinant vector vaccines, gene therapy and gene modified cell therapy." Peter Shapiro, Senior Director of Drugs and Business Fundamentals at GlobalData.

Across the biologics space, the industry is continually looking for new innovations in upstream and downstream processing, with organisations like the National Institute for Innovation in Manufacturing Biopharmaceuticals (NIMBL) pushing continuous bioprocessing. This is potentially an even bigger breakthrough than in the small molecule space as production costs are significantly higher and any innovation that lowers this will potentially make US manufacturers more competitive domestically and internationally. “Innovation in manufacturing will be required for the production volumes necessary for the widespread use of advanced biologics, as well as the reduction in price of these therapies; just as innovation was previously involved in the popularization of monoclonal antibodies. There are already large market-based incentives for success in increasing the efficiency and volumes of advanced biologic production,” commented Shapiro.

#### Solves inevitable extinction—New scalable tech breakthroughs are key

Millett 17

Piers Millett, Global Fellow in biosecurity at the Wilson Center, former Acting Head of the Biological Weapons Convention Implementation Support Unit of the UN, researcher and expert on the prevention of bioweaponization with a range of international organizations, and Andrew Snyder-Beattie, Director of Research at the Future of Humanity Institute, Existential Risk and Cost-Effective Biosecurity, *Health Security* Volume 15, Number 4, 14 August 2017, DOI: 10.1089/hs.2017.0028, http://online.liebertpub.com/doi/pdfplus/10.1089/hs.2017.0028

In the decades to come, advanced bioweapons could threaten human existence. Although the probability of human extinction from bioweapons may be low, the expected value of reducing the risk could still be large, since such risks jeopardize the existence of all future generations. We provide an overview of biotechnological extinction risk, make some rough initial estimates for how severe the risks might be, and compare the cost-effectiveness of reducing these extinction-level risks with existing biosecurity work. We find that reducing human extinction risk can be more cost-effective than reducing smaller-scale risks, even when using conservative estimates. This suggests that the risks are not low enough to ignore and that more ought to be done to prevent the worst-case scenarios. How worthwhile is it spending resources to study and mitigate the chance of human extinction from biological risks? The risks of such a catastrophe are presumably low, so a skeptic might argue that addressing such risks would be a waste of scarce resources. In this article, we investigate this position using a cost-effectiveness approach and ultimately conclude that the expected value of reducing these risks is large, especially since such risks jeopardize the existence of all future human lives. Historically, disease events have been responsible for the greatest death tolls on humanity. The 1918 flu was responsible for more than 50 million deaths,1 while smallpox killed perhaps 10 times that many in the 20th century alone.2 The Black Death was responsible for killing over 25% of the European population,3 while other pandemics, such as the plague of Justinian, are thought to have killed 25 million in the 6th century—constituting over 10% of the world’s population at the time.4 It is an open question whether a future pandemic could result in outright human extinction or the irreversible collapse of civilization. A skeptic would have many good reasons to think that existential risk from disease is unlikely. Such a disease would need to spread worldwide to remote populations, overcome rare genetic resistances, and evade detection, cures, and countermeasures. Even evolution itself may work in humanity’s favor: Virulence and transmission is often a trade-off, and so evolutionary pressures could push against maximally lethal wild-type pathogens.5,6 While these arguments point to a very small risk of human extinction, they do not rule the possibility out entirely. Although rare, there are recorded instances of species going extinct due to disease—primarily in amphibians, but also in 1 mammalian species of rat on Christmas Island.7,8 There are also historical examples of large human populations being almost entirely wiped out by disease, especially when multiple diseases were simultaneously introduced into a population without immunity. The most striking examples of total population collapse include native American tribes exposed to European diseases, such as the Massachusett (86% loss of population), Quiripi-Unquachog (95% loss of population), and the Western Abenaki (which suffered a staggering 98% loss of population).9 In the modern context, no single disease currently exists that combines the worst-case levels of transmissibility, lethality, resistance to countermeasures, and global reach. But many diseases are proof of principle that each worst-case attribute can be realized independently. For example, some diseases exhibit nearly a 100% case fatality ratio in the absence of treatment, such as rabies or septicemic plague. Other diseases have a track record of spreading to virtually every human community worldwide, such as the 1918 flu,10 and seroprevalence studies indicate that other pathogens, such as chickenpox and HSV-1, can successfully reach over 95% of a population.11,12 Under optimal virulence theory, natural evolution would be an unlikely source for pathogens with the highest possible levels of transmissibility, virulence, and global reach. But advances in biotechnology might allow the creation of diseases that combine such traits. Recent controversy has already emerged over a number of scientific experiments that resulted in viruses with enhanced transmissibility, lethality, and/or the ability to overcome therapeutics.13-17 Other experiments demonstrated that mousepox could be modified to have a 100% case fatality rate and render a vaccine ineffective.18 In addition to transmissibility and lethality, studies have shown that other disease traits, such as incubation time, environmental survival, and available vectors, could be modified as well.19-21 Although these experiments had scientific merit and were not conducted with malicious intent, their implications are still worrying. This is especially true given that there is also a long historical track record of state-run bioweapon research applying cutting-edge science and technology to design agents not previously seen in nature. The Soviet bioweapons program developed agents with traits such as enhanced virulence, resistance to therapies, greater environmental resilience, increased difficulty to diagnose or treat, and which caused unexpected disease presentations and outcomes.22 Delivery capabilities have also been subject to the cutting edge of technical development, with Canadian, US, and UK bioweapon efforts playing a critical role in developing the discipline of aerobiology.23,24 While there is no evidence of staterun bioweapons programs directly attempting to develop or deploy bioweapons that would pose an existential risk, the logic of deterrence and mutually assured destruction could create such incentives in more unstable political environments or following a breakdown of the Biological Weapons Convention.25 The possibility of a war between great powers could also increase the pressure to use such weapons—during the World Wars, bioweapons were used across multiple continents, with Germany targeting animals in WWI,26 and Japan using plague to cause an epidemic in China during WWII.27 Non-state actors may also pose a risk, especially those with explicitly omnicidal aims. While rare, there are examples. The Aum Shinrikyo cult in Japan sought biological weapons for the express purpose of causing extinction.28 Environmental groups, such as the Gaia Liberation Front, have argued that ‘‘we can ensure Gaia’s survival only through the extinction of the Humans as a species . we now have the specific technology for doing the job . several different [genetically engineered] viruses could be released’’(quoted in ref. 29). Groups such as R.I.S.E. also sought to protect nature by destroying most of humanity with bioweapons.30 Fortunately, to date, non-state actors have lacked the capabilities needed to pose a catastrophic bioweapons threat, but this could change in future decades as biotechnology becomes more accessible and the pool of experienced users grows.31,32 What is the appropriate response to these speculative extinction threats? A balanced biosecurity portfolio might include investments that reduce a mix of proven and speculative risks, but striking this balance is still difficult given the massive uncertainties around the low-probability, high-consequence risks. In this article, we examine the traditional spectrum of biosecurity risks (ie, biocrimes, bioterrorism, and biowarfare) to categorize biothreats by likelihood and impact, expanding the historical analysis to consider even lower-probability, higherconsequence events (catastrophic risks and existential risks). In order to produce reasoned estimates of the likelihood of different categories of biothreats, we bring together relevant data and theory and produce some first-guess estimates of the likelihood of different categories of biothreat, and we use these initial estimates to compare the cost-effectiveness of reducing existential risks with more traditional biosecurity measures.We emphasize that these models are highly uncertain, and their utility lies more in enabling order-of-magnitude comparisons rather than as a precise measure of the true risk. However, even with the most conservative models, we find that reduction of low-probability, high-consequence risks can be more cost-effective, as measured by quality-adjusted life year per dollar, especially when we account for the lives of future generations. This suggests that despite the low probability of such events, society still ought to invest more in preventing the most extreme possible biosecurity catastrophes.

The Impact Spectrum of Various Biothreats Here, we use historical data to analyze the probability and severity of biothreats. We place biothreats in 6 loose categories: incidents, events, disasters, crises, global catastrophic risk, and existential risk. Together they form an overlapping spectrum of increasing impact and decreasing likelihood (Figure 1).\* The historical use of bioweapons provides useful examples of some categories of biothreats. Biocrimes and bioterrorism provide examples of incidents.{Biological warfare provides examples \*While noting that the use of bioweapons can have a wide range of other impacts, including sociopolitical and economic, here we consider their impact purely in terms of fatalities. { There is considerable uncertainty involved with the dataset on the historical use of biological weapons, including considerable variation in key terms and assumptions, likely knowledge gaps, and motivations for both claiming natural events as unnatural, and vice versa. The numbers used here are intended as indicative and are used to place boundaries on the likelihood and impact of different types of biothreat. As noted elsewhere in this article, the conclusions drawn are considered by orders of magnitude, which helps to address these uncertainties. RISKS AND COST-EFFECTIVENESS OF BIOSECURITY 374 Health Security of events and disasters. These historical examples provide indicative data on likelihood andimpact thatwe can thenfeedinto a cost-effectiveness analysis. We should note that these data are both sparse and sometimes controversial. Where possible, we usemultiple datasets to corroborate our numbers, but ultimately the ‘‘true rate’’ of bioweapon attacks is highly uncertain. Biocrimes and Bioterrorism Historically, risks of biocrime{ and bioterrorismx have been limited. A 2015 Risk and Benefit Analysis for Gain of Function Research detailed 24 biocrimes between 1990 and 2015 (0.96 per year) and an additional 42 bioterrorism incidents between 1972 and 2014 (1 per year).36 This is consistent with other estimates of biocrimes and bioterrorism frequency, which range from 0.35 to 3.5 per year (see supplementary material, part 1, at http://online.liebertpub. com/doi/suppl/10.1089/hs.2017.0028). Most attacks typically result in no more than a handful of casualties (and many of these events include hoaxes, threats, and attacks that had no casualties at all). For example, the anthrax letter attacks in the United States in 2001, perhaps the most high-profile case in recent years, resulted in only 17 infections with 5 fatalities.37 The 2015 Risk and Benefit Analysis for Gain of Function Research detailed only a single death from the recorded biocrimes.\*\* Only 1 of the bioterrorism incidents in the report had associated deaths (the 2001 anthrax letter attacks).36 Based on this data, for the purposes of this article, we assume that we could expect 1 incident per year resulting in up to tens of deaths. Biological Warfare Academic overviews of biological warfare{{ detail 7 programs prior to 1945.38 A further 9 programs are recorded between 1945 and 1994.39 For most of the last century, at least 1 program was active in any given year (Table 1). The actual use of bioweapons by states is less common: Over the 85 years covered by these histories (1915 to 2000), 18 cases of use (or possible use) were recorded, including outbreaks connected to biological warfare (see supplementary material, part 2, at http://online.liebertpub.com/ doi/suppl/10.1089/hs.2017.0028). Extrapolating this out (dividing 18 by 85), we would have about a 20% chance per year of biowarfare. It is worth noting the limitations of these data. Most of these events occurred before the introduction of the Biological Weapons Convention and were conducted by countries that no longer have biological weapons programs. Since many of these incidents occurred during infrequent great power wars, we revise our best guess to around 10% chance per year of biowarfare. We use 2 sets of data to estimate the magnitude of such events. The first dataset was Japanese biological warfare in China,40 where records indicate a series of attacks on towns resulted in a mean of 330 casualties per event and 1 case in which an attack resulted in a regional outbreak causing an estimated 30,000 deaths (see supplementary material, part 3, at http://online.liebertpub.com/doi/suppl/10.1089/hs.2017. 0028). The second data set came from disease events that were Figure 1. A spectrum of differing impacts and likelihoods from biothreats. Below each category of risk is the number of human fatalities. We loosely define global catastrophic risk as being 100 million fatalities, and existential risk as being the total extinction of humanity. Alternative definitions can be found in previous reports,33 as well as within this journal issue.34 { Biocrimes can be considered to be ‘‘the use of a biological agent to kill or make ill a single individual or small group of individuals, motivated by revenge or the desire for monetary gain by extortion, rather than by political, ideological, religious or other beliefs.’’35 x Bioterrorism can be considered to be ‘‘the deliberate release of viruses, bacteria or other agents used to cause illness or death in people, but also in animals or plants. It is aimed at creating casualties, terror, societal disruption, or economic loss, inspired by ideological, religious or political beliefs.’’35 \*\*A number of other biocrimes involved deliberately infecting another individual with HIV, the results of which were not evident and have not been included in this analysis. {{Biological warfare can be considered to be the ‘‘ability to use biological agents in warfare.’’35 MILLETT AND SNYDER-BEATTIE Volume 15, Number 4, 2017 375 alleged to have an unnatural origin.41 In one case study, a point source release of anthrax resulted in at least 66 deaths. In a second case study, a regional epidemic of the same disease resulted in more than 17,000 human cases. While these events were not confirmed as having been caused by biological warfare, contemporary or subsequent analysis has suggested that such an origin was at least feasible. Combined, these figures provide an estimated impact of between 66 to 330 and 17,000 to 30,000. For the purposes of this analysis, we are assuming the lower boundary figures from biological warfare are indicative of events, with a likelihood of 10% per year and an impact ranging between tens and thousands of fatalities. The upper boundary figures from biological warfare are indicative of disasters, with a likelihood of 1% per year and an impact range of thousands to tens of thousands of fatalities.{{ Global Catastrophic and Existential Risk Unlike standard biothreats, there is no historical record on which to draw when considering global catastrophic or existential risks. Alternative approaches are required to estimate the likelihood of such an event. Given the high degree of uncertainty, we adopt 3 different approaches to approximate the risk of extinction from bioweapons: utilizing surveys of experts, previous major risk assessments, and simple toy models. These should be taken as initial guesses or rough order-of-magnitude approximations, and not a reliable or precise measure. Model 1: Survey of 2008 Global Catastrophic Risk Conference An informal survey at the 2008 Oxford Global Catastrophic Risk Conference asked participants to estimate the chance that disasters of different types would occur before 2100. Participants had a median risk estimate of 0.05% that a natural pandemic would lead to human extinction by 2100, and a median risk estimate of 2% that an ‘‘engineered’’ pandemic would lead to extinction by 2100.42 The advantage of the survey is that it directly measures the quantity that we are interested in: probability of extinction from bioweapons. The disadvantage is that the estimates were likely highly subjective and unreliable, especially as the survey did not account for response bias, and the respondents were not calibrated beforehand. We therefore also turn to other models that, while indirect, provide more objective measures of risk.xx Table 1. The duration of state-run offensive biological weapons programs detailed in key historical reviews up to 1945 and from 1945 to 2000.5,6 State Duration (Review up to 1945) Duration (Review from 1945-2000) Canada 1925-1945 1945-1969 France 1921-1926 and 1935-1940 1947-1972 Germany 1915-1918 — Hungary — 1938-1944 Iraq — 1974-1990 Japan 1931-1945 — Poland — 1945-1960? South Africa — 1981-1994 Soviet Union 1920-1945 1945-1992 United Kingdom 1925-1945 1945-1957 United States 1942-1945 1945-1969 {{Whilst there are no documented examples, it is possible that if an attack similar to the one that caused the plague epidemic in China were to be carried out in a modern mega-city, even relatively low infectivity and case fatality rates could result in disasters or even crises. For example, the population of Dhaka, Bangladesh, is approaching 20 million. A disaster would require around 0.5% of its population to die, and a crisis would equate to 5% of the city’s population. xxA more rigorous survey examined the probability of a bioweapons attack in a 10-year timeframe with more than 100 illnesses43 and found that opinions varied widely between 1% and 100%, with a mean of 57.5%. While this survey had a superior methodology to the one we cite in model 1, it did not focus on attacks that could result in global catastrophic risk. RISKS AND COST-EFFECTIVENESS OF BIOSECURITY 376 Health Security Model 2: Potentially Pandemic Pathogens Recent controversial experiments on H5N1 influenza prompted discussions as to the risks of deliberately creating potentially pandemic pathogens. These agents are those that are highly transmissible, capable of uncontrollable spread in human populations, highly virulent, and also possibly able to overcome medical countermeasures.44 Previous work in a comprehensive report done by Gryphon Scientific, Risk and Benefit Analysis of Gain of Function Research,36 has laid out very detailed risk assessments of potentially pandemic pathogen research, suggesting that the annual probability of a global pandemic resulting from an accident with this type of research in the United States is 0.002% to 0.1%. The report also concluded that risks of deliberate misuse were about as serious as the risks of an accidental outbreak, suggesting a 2-fold increase in risk. Assuming that 25% of relevant research is done in the United States as opposed to elsewhere in the world, this gives us a further 4-fold increase in risk. In total, this 8-fold increase in risk gives us a 0.016% to 0.8% chance of a pandemic in the future each year (see supplementary material, part 4, at http://online.liebertpub .com/doi/suppl/10.1089/hs.2017.0028). The analysis in Risk and Benefit Analysis of Gain of Function Research suggested that lab outbreaks from wildtype influenza viruses could result in between 4 million and 80 million deaths,36 but others have suggested that if some of the modified pathogens were to escape from a laboratory, they could cause up to 1 billion fatalities.45 For the purposes of this model, we assume that for any global pandemic arising from this kind of research, each has only a 1 in 10,000\*\*\* chance of causing an existential risk. This figure is somewhat arbitrary but serves as an excessively conservative guess that would include worst-case situations in which scientists intentionally cause harm, where civilization permanently collapses following a particularly bad outbreak, or other worst-case scenarios that would result in existential risk. Multiplying the probability of an outbreak with the probability of an existential risk gives us an annual risk probability between 1.6 · 10–8 and 8 · 10–7. {{{ Model 3: Naive Power Law Extrapolation Previous literature has found that casualty numbers from terrorism and warfare follow a power law distribution, including terrorism from WMDs.46 Power laws have the property of being scale invariant, meaning that the ratio in likelihood between events that cause the deaths of 10 people and 10,000 people will be the same as that between 10,000 people and 10,000,000 people.{{{ This property results in a distribution with an exceptionally heavy tail, so that the vast majority of events will have very low casualty rates, with a couple of extreme outliers. Past studies have estimated this ratio for terrorism using biological and chemical weapons to be about 0.5 for 1 order of magnitude,47 meaning that an attack that kills 10x people is about 3 times less likely (100.5) than an attack that kills 10x–1 people (a concrete example is that attacks with more than 1,000 casualties, such as the Aum Shinrikyo attacks, will be about 30 times less probable than an attack that kills a single individual). Extrapolating the power law out, we find that the probability that an attack kills more than 5 billion will be (5 billion)–0.5 or 0.000014. Assuming 1 attack per year (extrapolated on the current rate of bioattacks) and assuming that only 10% of such attacks that kill more than 5 billion eventually lead to extinction (due to the breakdown of society, or other knock-on effects), we get an annual existential risk of 0.0000014 (or 1.4 · 10–6). We can also use similar reasoning for warfare, where we have more reliable data (97 wars between 1820 and 1997, although the data are less specific to biological warfare). The parameter for warfare is 0.41,47 suggesting that wars that result in more than 5 billion casualties will comprise (5 billion)–0.41 = 0.0001 of all wars. Our estimate assumes that wars will occur with the same frequency as in 1820 to 1997, with 1 new war arising roughly every 2 years. It also assumes that in these extreme outlier scenarios, nuclear or contagious biological weapons would be the cause of such high casualty numbers, and that bioweapons specifically would be responsible for these enormous casualties about 10% of the time (historically bioweapons were deployed in WWI, WWII, and developed but not deployed in the Cold War— constituting a bioweapons threat in every great power war since 1900). Assuming that 10% of biowarfare escalations resulting in more than 5 billion deaths eventually lead to extinction, we get an annual existential risk from biowarfare of 0.0000005 (or 5 · 10–7).

Perhaps the most interesting implication of the fatalities following a power law with a small exponent is that the majority of the expected casualties come from rare, catastrophic events. The data also bear this out for warfare and terrorism. The vast majority of US terrorism deaths occurred during 9/11, and the vast majority of terrorism injuries in Japan over the past decades came from a single Aum Shinrikyo attack. Warfare casualties are dominated by the great power wars. This suggests that a typical individual is far more likely to die from a rare, catastrophic attack as opposed to a smaller scale and more common one. If our goal is to reduce the greatest expected number of fatalities, we may be better off devoting resources to preventing the worst possible attacks. Why Uncertainty Is Not Cause for Reassurance Each of our estimates rely to some extent on guesswork and remain highly uncertain. Technological breakthroughs in areas such as diagnostics, vaccines, and therapeutics, as well as vastly improved surveillance, or even eventual space colonization, could reduce the chance of disease-related extinction by many orders of magnitude. Other breakthroughs such as highly distributed DNA synthesis or improved understanding of how to construct and modify diseases could increase or decrease the risks. Destabilizing political forces, the breakdown of the Biological Weapons Convention, or warfare between major world powers could vastly increase the amount of investment in bioweapons and create the incentives to actively use knowledge and biotechnology in destructive ways. Each of these factors suggests that our wide estimates could still be many orders of magnitude off from the true risk in this century. But uncertainty is not cause for reassurance. In instances where the probability of a catastrophe is thought to be extremely low (eg, human extinction from bioweapons), greater uncertainty around the estimates will typically imply greater risk of the catastrophe, as we have reduced confidence that the risk is actually at a low level.48 [Footnote] For example, let’s say our best guess for a risk is 0.01%, and that we are highly uncertain about this. Even just a 10% chance of underestimating the risk by an order of magnitude will double the risk—with a revised best guess of around 0.02%—while it would take a full 90% chance of overestimating the risk by an order of magnitude to cut the risk in half to around 0.005%. Model uncertainty with respect to low-probability, high-consequence risks is therefore typically additional cause for concern. See Ord et al48 for a more in-depth analysis of this problem. [End footnote] Given that our conservative models are based on historical data, they fail to account for the primary source of future risk: technological development that could radically democratize the ability to build advanced bioweapons. If the cost and required expertise of developing bioweapons falls far enough, the world might enter a phase where offensive capabilities dominate defensive ones. Some scholars, such as Martin Rees, think that humanity has about a 50% chance of going extinct due in large part to such technologies.49 However, incorporating these intuitions and technological conjectures would mean relying on qualitative arguments that would be far more contentious than our conservative estimates. We therefore proceed to assess the cost-effectiveness on the basis of our conservative models, until superior models of the risk emerge. How Bad Would Human Extinction Be? Human extinction would not only end the 7 billion lives in our current generation, but also cause the loss of all future generations to come. To calculate the humanitarian cost associated with such a catastrophe, one must therefore include the welfare of these future generations. While some have argued that future generations ought to be excluded or discounted when considering ethical actions,50 most of the in-depth philosophical work around the topic has concluded that future generations should not be given less inherent value.51-55 Therefore, for our calculations, we include future lives in our cost-effectiveness estimate.\*\*\*\* The large number of future generations at stake mean that reducing existential risk even by a small amount may have very large expected value. The Earth is thought to be habitable for roughly another billion years;56 our closest relative, homo erectus, lasted over 1.6 million years,57 and the typical mammalian species also lasts on the order of 1 to 2 million years.58 Following Matheny,29 if we were to assume that humanity would otherwise maintain a global population of 10 billion for the next 1.6 million years, human extinction would jeopardize on the order of 1.6 · 10^16 life years. Cost-Effective Biosecurity How should we balance speculative risks of human extinction in a biosecurity portfolio? Here we turn to costeffectiveness analysis, which is one method of prioritizing public projects.29 Cost-effectiveness analysis is helpful if our goal is to maximize the effect of our resources to achieve a measurable aim (such as life-years saved or cases of disease averted). Here we compare the cost-effectiveness of reducing risks in the categories of incidents, events, disasters, and existential risks. Calculating Costs The US federal government was projected to spend almost $13 billion on health security–related programs in 2017.59 To our knowledge, there has not been a quantitative assessment of how this spending has reduced the chances of bioterrorism, biowarfare, or even naturally occurring pandemics. However, the World Bank estimates that it would cost $1.9 billion to $3.4 billion per year over 5 years to bring all human and animal health systems up to minimal international standards, and it suggests that these measures would prevent at least 20% of pandemics.60{{{{ Many countries do not currently have healthcare systems that meet international standards—for example, in 2014 only 33% of countries reported their national arrangements met those required under the International Health Regulations.61 These mitigation measures would be adopted to be effective regardless of whether a disease outbreak originates naturally, accidentally, or deliberately.{{{{ The ability to rapidly detect and characterize the agent involved helps fast-track public health and R&D responses. Acting promptly enables basic public health measures that might decrease the likelihood of spread (such as social distancing) and track its emerging epidemiology (providing critical input for tailoring the responses). Even if we lack existing or candidate vaccines or therapeutics, having the capacity to treat symptoms can have a dramatic impact on case fatality rates.xxxx We therefore assume that strengthening healthcare systems to meet international standards would have an impact on mitigating all types of disease risk, ranging from incidents and events to existential risks.\*\*\*\*\* [Footnote] \*Given the zoonotic nature of many emerging diseases and the recognized importance of adopting a One Health approach when addressing epidemic and pandemic risk, it will be important that both public health and animal health systems are strengthened to meet international standards. [End footnote] We extend the World Bank’s assumptions to include bioterrorism and biowarfare—that is, we assume that the healthcare infrastructure would reduce bioterrorism and biowarfare fatalities by 20%. We conservatively assume that existential risks will be reduced by only 1%, since any potential existential risk would likely be deliberately designed to overcome medical countermeasures. We calculate that purchasing 1 century’s worth of global protection in this form would cost on the order of $250 billion, assuming that subsequent maintenance costs are lower but that the entire system needs intermittent upgrading.{{{{{ To calculate the cost per life-year saved, we use the equation C/(N · L · R), where C is the cost of reducing risk, N is the number of biothreats we expect to occur in 1 century, L is the number of life-years lost in such an event, and R is the reduction in risk achieved by spending a given amount (specified by C). For nonextinction risks, we increase L 50 times over to denote 50 lifeyears saved per life. The denominator N · L · R denotes the total number of life-years saved. [Footnote] We evaluate the first order effects of these interventions and ignore second order spillover effects (such as any economic benefits of innovation that could come with the biosecurity spending). This could be an important oversight, as even short-term and small-scale biosecurity spending could have ramifications for humanity’s long-term future (eg, preventing a moderate bioterrorist attack could in turn prevent large wars that escalate or the erosion of norms in civil society, which in turn could evolve into existential risks). [End footnote] In a subsequent model we also apply a discount rate to represent policymakers concerned only about lives in the short term. Results Including future generations into our cost-effectiveness calculations demonstrates that reducing existential risks, even if they are improbable, can be incredibly cost-effective in expectation (Table 2). Depending on the model used, we estimate that we can purchase 1 quality adjusted life-year in expectation for 10s of dollars (with outliers suggested around 12 cents to $1,600). Even with the most conservative estimates of existential risk, reducing the risk of human extinction is at least 100 times more cost-effective than standard biosecurity interventions, and possibly up to 1 million times more cost-effective. It is important to note that this result does not depend on the $250 billion figure—if we found a cheaper intervention that reduced all risks by a similar amount, cost-effectiveness of all the interventions would increase, but the relative merits of reducing existential risk would remain the same.xxxxx There are certainly cheaper ways to reduce the low-level risks of biocrime and bioterrorism, and so our estimates of cost-effectiveness could be far too pessimistic. Examples of cheaper interventions might include dramatically increasing resources for specialized law enforcement prevention and interdiction, or increased surveillance on potential perpetrators. However, there are likely also far cheaper ways of reducing the more extreme risks that threaten extinction, and there is no reason to think similar efficiency gains could not be made in this area as well. Despite the vast resources spent on counterterrorism, governments may have neglected low-probability, high-impact risks.65,66 This therefore constitutes a critically underdeveloped area of research, for which there is likely low-hanging fruit. Even if the humanitarian case for reducing existential risk is clear, most policymakers will be responsible primarily for the interests of a more limited constituency comprising only the current generation and near future.\*\*\*\*\*\* It is therefore instructive to evaluate how well these cost-effectiveness results hold up when we largely ignore the benefits to future generations. We therefore repeat the cost-effectiveness estimates with a discount rate imposed on the benefits and costs borne in future years, and we find that the merits of reducing existential risk still hold. If we ignore distant future generations by discounting, the benefits of reducing existential risk fall by between 3 and 5 orders of magnitude (with a 1% to 5% discount rate), which is still far more cost-effective than measures to reduce small-scale casualty events. Under our survey model (Model 1), the cost per life-year varies between $1,300 and $52,000 for a 5% discount rate and between $770 and $30,000 for a 1% discount rate. These costs are even competitive with first-world healthcare spending, where typically anything less than $100,000 per quality adjusted life-year is considered a reasonable purchase.29 This suggests that even if we are concerned about welfare only in the near term, reducing existential risks from biotechnology is still a cost-effective means of saving expected life if the future chance of an existential risk is anything above 0.0001 per year. Our conservative models (with much lower risk) suggest that existential risk prevention is not cost-effective when compared to basic healthcare spending: Model 2 results in a cost per life-year between $330,000 and $16 million for a 5% discount rate and $190,000 and $9.7 million for a 1% discount rate, while Model 3 results in a cost per life-year of between $190,000 and $500,000 for a 5% discount rate and between $110,000 and $310,000 for a 1% discount rate. These conservative numbers would suggest that healthcare spending is a better purchase than marginal biosecurity funding, but even these numbers still support the notion that we are better off focusing on low-probability, high-impact risks rather than low-casualty biosecurity risks. For a biosecurity portfolio, even policy with limited time horizons is likely better off investing in measures that prevent the worst-case scenarios. Conclusions Although the probability of human extinction from bioweapons may be extremely low, the expected value of reducing the risk (even by a small amount) is still very large, since such risks jeopardize the existence of all future human lives. An initial attempt to estimate the cost-effectiveness of reducing these risks finds that it takes likely between 10 cents and 10s of dollars to save 1 life-year, assuming we value future human lives. Although this result is striking, it is not unprecedented. Similar analysis done by Matheny found that spending $1 billion on an asteroid deflection system would have a similar cost-effectiveness, at about $2.50 per life-year.29 Although preventing existential risks might be a far more cost-effective way to save lives than many existing biosecurity measures, this does not imply that we ought to devote all of our resources to protecting against existential risks. Many actions that fall under the rubric of standard health spending also likely reduce existential risk, and many of the resources spent reducing existential risk would in turn help address less extreme risks. Moreover, occasionally there are other opportunities that might be particularly cost-effective—for example, smallpox eradication cost less than $300 million (roughly $1.5 billion in 2017 dollars) and likely saved millions of lives.68 The conclusion is thus not that we should abandon all other health interventions for the sake of saving future lives, but rather that on balance we should increase investments that reduce these lowprobability, high-stakes risks. We propose several steps forward. Given the high uncertainty around our estimates, we can expect a high value of information for additional research, implying that resources should be allocated to further assessment of these risks before large sums are directly allocated on the basis of unreliable evidence. Areas for basic research could include examining existential risk using the tools of technological horizon scanning, red-teaming, ecosystem and epidemic modeling, analyzing historical epidemic death tolls, and examining past species that have gone extinct due to disease, among others. And if existential risk could be as important as we claim, more work should be done to assess possible existential risks and countermeasures. Many actions that would reduce existential risk are already being pursued by those in biosecurity and public health. But there are also measures that would be particularly important in the context of existential risk—including measures that may be unduly neglected without a special focus on existential risk. One particularly inexpensive measure would be to invest in contingency plans for worst-case scenarios. Countering a pandemic does not typically require a large fraction of worldwide economic output, so there is not a clear path forward for rapidly pivoting to a total war footing in which a large percentage of worldwide GDP is spent on countermeasures. Running small experiments with easily scalable interventions could be a cheap way to explore avenues for rapidly turning resources into protection (examples of such experiments might include paying bounties to individuals or companies to avoid flu infection for a year while conducting essential services, such as power and sanitation).{{{{{{ Countering existential risks could also result in reprioritizing current approaches—for example, favoring broadspectrum diagnostics and countermeasures, as opposed to those tailored to a single pathogen. The worst possible attacks could come from built-up arsenals of multiple pathogens, possibly designed with long incubation periods and traits to overcome vaccination or medical treatment. Platform technologies that allow customizable countermeasures (eg, phages for bacteria, generalized vaccine templates) or pathogen-blind diagnostics (eg, distributed sequencing and improved software to interpret novel pathogens before symptoms occur) will stand a better chance against such threats. An existential risk focus also would place extraordinary weight on avoiding arms races or the widespread weaponization of biotechnology. The near collapse of the 8th Review Conference of the Biological Weapons Convention in December 2016 demonstrates how fragile this regime is and how far current instruments are from the ideal. Strengthening the global norm against biological weapons might go a long way toward reducing the risks associated with state actors. The current 3-person Implementation Support Unit costs less than $1 million per year to support.71 In comparison, the 2017 budget for the work of the Organization for the Prohibition of Chemical Weapons is around $77 million (and provides for more than 450 fixed-term posts).72 Increasing the human capacity currently focusing on biological weapons risks by several orders of magnitude would be notably cheaper than the costs associated with building core capacities in public and animal health. More generally, any action that reduces the chance of arms races or great power conflict could substantially reduce the probability of existential risk from biotechnology in the century to come.

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#### The fifty states and all relevant United States territories should mandate creation and adoption of information technology standards and establish joint and several liability for SSO members and SSOs pursuant to state antitrust laws for all conduct more restrictive of competition than reasonably necessary to enable creation of information technology standards.

#### States have the right to enforce federal antitrust law and enact and enforce their own antitrust laws---those state-level laws are not inherently Congressionally preempted.

HLR 20 – Harvard Law Review

“Note: Antitrust Federalism, Preemption, and Judge-Made Law,” Harvard Law Review, Vol. 133, June 2020, LexisNexis

I. THE ANTITRUST FEDERALISM LANDSCAPE

Antitrust federalism, meaning the space carved out for the states in the more generally federal antitrust arena, can be thought of as made up of two "swords" -- the first the states' ability to bring suit under federal antitrust law and the second their ability to enact and enforce their own state antitrust laws -- and one "shield" -- immunity from federal antitrust law for state actions. The swords allow states to attack antitrust offenders, while the shield allows states to defend against federal antitrust action.

All three elements of antitrust federalism find their roots in congressional action or the courts' interpretation of congressional inaction. The power to enforce federal antitrust law as parens patriae for full treble damages -- the first sword -- was granted to the states by Congress in Hart-Scott-Rodino. On the judicial front, the Supreme Court acknowledged state immunity from federal antitrust actions -- the shield -- in Parker v. Brown, noting that the Sherman Act did not explicitly mention its application to state action. Finally, when the Court confirmed that states' ability to make their own antitrust laws -- the second sword and the one discussed in this Note -- was not preempted in California v. ARC America Corp., it considered the same Sherman Act silence.

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#### The 1AC’s antitrust paradigm is underpinned by assumptions imported from neoclassical economics that naturalize corporate domination. Recognizing the political nature of antitrust and working to define its content is key to counter corporate power.

Vaheesan 18 – Policy Counsel at the Open Markets Institute. Former regulations counsel at the Consumer Financial Protections Bureau

Sandeep Vaheesan, “The Twilight of the Technocrats’ Monopoly on Antitrust?,” The Yale Law Journal Forum, 6/4/18, <https://www.yalelawjournal.org/pdf/Vaheesan_ir9dchg8.pdf>.

ii. antitrust law is not and cannot be “apolitical”

Antitrust law is unavoidably political. Of course, the enforcement of antitrust law should not be political in the popular sense: the President and the heads of the Department of Justice Antitrust Division and Federal Trade Commission should not employ the antitrust laws to reward their friends and punish their enemies.22 Rather, antitrust is political in its content. In designing a body of law, Congress, federal agencies, and the courts must answer the basic questions of whom the law benefits and to what end. Answering these questions inherently requires moral and political judgments. These fundamental questions do not have a single “correct” answer and cannot be resolved through “neutral” methods or decided with an “apolitical” answer.23

Antitrust regulates state-enabled markets, which cannot be separated from politics. The history of antitrust law shows competing visions of both the law’s aims and its methods, suggesting there is no “apolitical,” universal concept of antitrust. Rather than aspire for an impossible utopia of “apolitical” antitrust, we must decide who should determine the political content of the field—democratically-elected representatives or unelected executive branch officials and judges.

A. Markets Cannot Be Divorced from Politics

A market economy is the product of extensive state action and so is inevitably political. The conception of the market as a “spontaneous order” is a useful construct for defenders of the status quo because it lends legitimacy to the current order and suggests that intervention is futile.24 This model, however, is a myth and bears no correspondence to actual markets. Most fundamentally, state action supports a market economy through the creation and protection of property rights25 and the enforcement of contracts.26 As sociologist Greta Krippner writes, “there can be no such excavation of politics from the economy, as this is the sub- stratum on which all market activity—even ‘free’ markets—rests.”27 In addition to property and contract law, examples of state action necessary for the contemporary U.S. economy to function include corporate and tort law (typically established and enforced by state governments), intellectual property, protection of interstate commerce, banking regulation, and monetary policy (generally con- ducted at the federal level).

Antitrust law, therefore, is a governmental action that shapes the power of state-chartered corporations and the scope of their state-enforced property and contractual rights. This regulation of state-enabled markets makes antitrust inherently political. Moreover, in formulating antitrust rules, lawmakers must determine whom the law seeks to protect. Antitrust law could conceivably protect consumers, small businesses, retailers, producers, citizens, or large businesses. But even identifying the protected group or groups does not fully resolve the question. For instance, if consumers are antitrust law’s sole protected group, how should the law protect consumers? Antitrust could protect consumers’ short- term interest in low prices or their long-term interests in product innovation or product variety, just to name a few possibilities.28

Given the foundational role of state action—and therefore politics—in a market economy, the choice of objective in antitrust law is not between intervention and nonintervention. Rather, antitrust law must choose between different configurations of state action and different sets of beneficiaries.29 More concretely, we must decide, openly or otherwise, whose interests antitrust law should protect.

B. The History of Antitrust Law Reveals the Unavoidability of Politics

The history of antitrust law further demonstrates the political nature of the field. Although Congress has not modified the antitrust statutes significantly since 1950,30 the content of antitrust has changed dramatically since then. Even the consumer welfare model has not banished political values from the field. While the range of debate within the community of antitrust specialists is narrow, the continuing disagreement over the interpretation of consumer welfare reveals the inescapability of political judgment.

Antitrust law today is qualitatively different from antitrust law fifty years ago. In the 1950s and 1960s, the courts and agencies interpreted antitrust law to advance a variety of objectives. The Supreme Court held that the antitrust laws promoted consumers’ interest in competitively-priced goods,31 freedom for small proprietors,32 and dispersal of private power.33 The Court held that business conduct injurious to competitors could give rise to antitrust violations, irrespective of the effects on consumers.34 It also interpreted congressional intent to be that a decentralized industrial structure should override possible economies of scale gained from greater consolidation of economic power.35 Recognizing this goal of decentralization, the federal judiciary adopted strict limits on business conduct with anticompetitive potential, including mergers36 and exclusionary practices.37

Since the late 1970s, however, the Supreme Court, along with the Department of Justice and Federal Trade Commission, has reduced the scope of the antitrust laws. With a rightward shift in the composition of the Supreme Court under the Nixon Administration and in the leadership at the federal antitrust agencies under the Reagan Administration,38 these institutions curtailed the reach of antitrust law, scaling back its objectives39 and rewriting legal doctrine to preserve the autonomy of powerful businesses—all in the name of protecting consumers.40

Even the adoption of the consumer welfare model has not somehow banished politics from antitrust. Instead, it has underscored the unavoidability of politics in the field. Despite being the prevailing goal of antitrust for nearly four decades now, the meaning of consumer welfare is still not settled. The two primary schools of thought on consumer welfare disagree on a fundamental question—who are the beneficiaries of antitrust law? One holds that actual consumers, as understood in the popular sense, should be the principal beneficiaries of antitrust law.41 The rival camp holds that both consumers and businesses should be the beneficiaries of antitrust law, and that whether a dollar of economic sur- plus goes to a consumer or a monopolistic business should be of no concern to the federal antitrust agencies and courts.42 C. Who Should Decide the Political Content of Antitrust?

Because the objective of antitrust law is thus bound up with political judgments and values, seeking an “apolitical” antitrust jurisprudence is futile at best and a cynical effort to conceal political choices at worst. The choice is not be- tween “apolitical” antitrust and “political” antitrust; rather, lawmakers must decide between different political objectives. Once the inevitably political valence of antitrust law has been acknowledged, we can turn to the key question of whether unelected officials at the antitrust agencies and federal judges (collectively “the technocrats”) or democratically-elected members of Congress should decide this political content.43

Over the past forty years, technocrats have dominated antitrust law.44 Leadership at the Department of Justice and Federal Trade Commission as well as Supreme Court Justices have rewritten much of antitrust law.45 They have ignored or distorted the legislative histories of the antitrust laws and have even overridden Congress’s legislative judgments.46 By restricting private antitrust enforcement, the Supreme Court has also limited the ability of ordinary Ameri- cans to influence the content of antitrust law.47

While the antitrust technocrats have been on the march, Congress has been dormant. Its antitrust activities have been confined to secondary issues.48 This combination of technocratic hyperactivism and legislative lethargy has created, in the words of Harry First and Spencer Waller, “an antitrust system captured by lawyers and economists advancing their own self-referential goals, free of political control and economic accountability.”49 Although proponents of technocratic antitrust may characterize it as “pure” or “scientific,” the reality is quite different as big business interests and their representatives dominate debate within this cloistered enterprise.50

This congressional indifference to antitrust is not inevitable. Despite pro- longed quietude, Congress could become an active player in antitrust again. Some members of Congress are showing a renewed awareness of the field and an interest in reasserting control over the content of the antitrust statutes.51 The most democratically accountable branch of the federal government may be poised to take the lead on antitrust in the coming years, reclaiming authority over a technocracy that has not answered to the public in decades.

iii. the consumer welfare model is not anchored in congressional intent and reflects a narrow conception of monopoly and oligopoly

Given that consumer welfare antitrust is a political choice, this model can be evaluated against alternatives on a level playing field. Consumer welfare is not “above politics.” It is a political construct that features at least two serious deficiencies. First, the consumer welfare model contradicts the legislative histories of the principal antitrust statutes; the courts and federal antitrust agencies have instead substituted their own political judgments for those of Congress. Second, the consumer welfare model represents an impoverished understanding of corporate power. It focuses principally on one aspect of business power—power over consumers—and ignores other critical manifestations.

Congress’s original vision for the antitrust laws, one that recognizes both the economic and the political impacts of monopoly, is a superior alternative to the consumer welfare philosophy. As the enforcers and interpreters of statutory law in a democratic polity, federal antitrust officials and judges should follow the congressional intent underlying the antitrust laws. Furthermore, commentators, legislators, and policymakers should recognize that controlling the power of large businesses over not only consumers but also competitors, workers, producers, and citizens is essential for preserving at least a modicum of economic and political equality in a democratic society.

A. In Passing the Antitrust Laws, Congress Expressed Aims Much Broader than Consumer Welfare

The consumer welfare model of antitrust is not true to the intent of Congress. An extensive body of careful research has shown that Congress had several objectives when it passed the Sherman, Clayton, and Federal Trade Commission Acts.52 The Congresses that passed these landmark statutes recognized that eco- nomics and politics are inseparable. Congress originally sought to structure markets to advance the interests of ordinary Americans in multiple capacities, not just as consumers. Consumer welfare antitrust reflects, at best, a selective reading of this legislative history and, at worst, an intentional distortion of this historical record. Contrary to Robert Bork’s historical analysis, the legislative histories show no congressional awareness, let alone support, for interpreting consumer welfare as the economic efficiency model of antitrust, one nominally indifferent toward distributional effects.53

In passing the antitrust statutes, Congress aimed to protect consumers and sellers from monopolies, oligopolies, and cartels, as well as defend businesses against the exclusionary practices of powerful rivals.54 Key members of the House and Senate condemned the prices that powerful corporations charged consumers as “robbery”55 and “extortion.”56 The debates reveal similar solicitude for farmers and other producers who received lower prices for their products thanks to powerful corporate buyers.57 In addition to consumers and producers, Congress aimed to protect another important group of market participants: competitors. In enacting the antitrust statutes, Congress sought to restrain large businesses from using their power to exclude rivals.58 Congress recognized the political power of large corporations and aimed to curtail it through strong federal restraints. Indeed, the political power of these corporations represents a running theme in the legislative histories of the anti- trust laws. A number of speakers in the course of the debates pointed to the power wielded by these big businesses over government at all levels.59 In the debate over the Clayton Act, one Congressman declared that the trusts were commandeering ostensibly democratic political institutions.60 Senator John Sherman warned his colleagues that “[i]f we will not endure a king as a political power[,] we should not endure a king over the production, transportation, and sale of any of the necessaries of life.”61

B. The Consumer Welfare Model Reflects an Impoverished Understanding of Corporate Power

Focusing solely on harms to consumers and sellers, the consumer welfare model embodies an emaciated conception of corporate power. With its foundation in neoclassical economics, the consumer welfare model privileges short-term consumer interests. The neoclassical representation of the market—commonly known through supply-and-demand diagrams—presents a static picture of a market and does not account for long-term dynamics. As the default analytical guide for consumer welfare antitrust, the neoclassical model, with its focus on quantification, prizes short-term price harms to consumers and sellers and discounts longer-term injuries.62

Furthermore, the consumer welfare model legitimizes the existing distribution of resources by focusing on change to the status quo. Current antitrust law measures consumer welfare by changes in prices paid; what a person can pay, though, depends on both her willingness-to-pay for goods and services and her existing wealth. By this definition, a rich person who pays more for a luxury good due to a cartel suffers an antitrust harm, but a poor person who has no income and is unable to afford necessities cannot suffer antitrust harm from a monopoly. A wealthy consumer commands power in the market; a poor consumer, in comparison, has little or no clout in the market.63

The consumer welfare model, moreover, affords little or no importance to corporations’ ability to dictate the development of entire markets. Antitrust practitioners and scholars are wont to remind each other and critics that the antitrust laws “protect[] competition, not competitors.”64 Although the expression is arguably empty,65 it is taken to mean that harm to actual and prospective competitors alone is of no import to the antitrust laws. This doctrinal cornerstone is a political choice,66 which gives monopolists and oligopolists the power to dictate who participates in a market and on what terms.67 Under consumer welfare antitrust, businesses can use their muscle to exclude rivals and strangle economic opportunity so long as this exclusion is not likely to injure consumers. In practical terms, consumer welfare antitrust grants big businesses broad latitude to engage in private industrial planning. 68

For the consumer welfare school, the hegemonic power of large corporations is also of no consequence. Monopolistic and oligopolistic businesses across the economy use their power to seek and win favorable political and regulatory de- cisions.69 The ongoing—and frenzied—contest between states and cities to at- tract Amazon’s second headquarters is indicative of a giant business’s weight. In recent years, the concentrated financial sector has offered a vivid example of corporate political power in action.71 Leading banks helped trigger a worldwide economic crisis through their fraud and reckless speculation, and yet they defeated subsequent political efforts to control their size and structure and man- aged to preserve their institutional power.72 An influential analysis of congressional decision making suggests that the United States today is closer to an oligarchy than a democracy—the wealthy and large businesses wield tremendous political clout, whereas most ordinary people have little or no influence.73 Large businesses also set the parameters of political debate through control of the me- dia,74 sponsorship of supportive figures and organizations,75 and marginalization of critical voices.76 Consumer welfare antitrust itself is, at least in part, a product of big business’s reaction against the relatively vigorous antitrust pro- gram of the postwar decades.77

With its narrow analytical frame, the consumer welfare model of antitrust accepts and legitimizes many forms of state-supported corporate power. Under consumer welfare antitrust, large corporations have the freedom to enhance their power through mergers and monopolisstic practices that hurt competitors and citizens. Viewed as part of the overall landscape of state-enabled markets, consumer welfare antitrust is not an apolitical choice, but a charter of liberty for dominant businesses.

#### Elite capture locks in civilizational collapse, but it’s not inevitable. Try-or-die for putting power in the hands of the citizenry and reorienting government decision-making toward the public good.

MacKay 18 – Professor of Sociology, Mohawk College

Kevin MacKay, also a union activist & executive director of a sustainable community development cooperative, The Ecological Crisis is a Political Crisis, 2018, https://www.resilience.org/stories/2018-09-25/the-ecological-crisis-is-a-political-crisis/

With each passing day, reports on global climate change become increasingly bleak. Recent research has affirmed that the glaciers are melting faster than anticipated1, and that acidification, with its catastrophic effect on ocean ecosystems, is also proceeding faster than feared2. As the concentration of atmospheric carbon continues to rise, so does the likelihood we’ve passed the tipping point for irreversible climate change.3

When one looks at other critical earth ecosystems, the danger is equally apparent. Soil is being destroyed.4 Fresh water shortages are wracking several continents and leaving billions of people without reliable access to clean drinking water.5 Fish stocks are plummeting.6 Oceans are clogged with plastic garbage.7 Biodiversity is disappearing at an alarming rate.8 In the face of this full-spectrum ecological assault, a growing number of scientists have been saying that the collapse of civilization is now unavoidable.9

Stopping the destructive effects of industrial, capitalist civilization has now become the defining challenge of our age. If we don’t radically change our society’s course within the next 30 years, then a deep collapse and protracted Dark Age are all but assured. In order to confront this challenge, we need to understand what is causing civilization’s crisis, and most importantly, how the crisis can be resolved. At stake is nothing less than a viable future on this planet.

The Five Horsemen of the Modern Day Apocalypse

In my book, Radical Transformation: Oligarchy, Collapse, and the Crisis of Civilization, I argue that industrial civilization is being driven toward collapse by five key forces – related to terminal dysfunction within its ecological, economic, socio-cultural, and political sub-systems:

Dissociation: globalized production and distribution systems disrupt people’s ability to put their own actions, and the actions of elites, into a coherent causal and ethical framework. Actions by individuals, institutions, and systems of governance are therefore disconnected from their effect on the natural world and on other peoples. Without this critical feedback, even well-intentioned actors can’t make rational and ethical choices regarding their behaviour.

Complexity: the world-spanning nature of industrial capitalist civilization, and the massive number of interrelationships it represents, make predicting the effect of any given change on the system as a whole devilishly difficult. Disastrous tipping points loom in several of civilization’s systems – from the collapse of ocean ecology to the threat of nuclear war. In addition, because the crisis cannot be contained in one part of the globe, the dysfunctions can’t be dealt with in isolation.

Stratification: a profoundly unequal distribution of wealth – both globally and within nations – leads to mass human poverty, displacement, and to premature death through disease and continuous warfare. Stratification also leads to political instability, eroding a society’s social cohesion and undermining decision-making structures.

Overshoot: the economic practices of industrial capitalism are exceeding ecological limits. Our civilization is critically degrading the biosphere, burning through non-renewable energy sources, and shifting the entire climatic balance.

Oligarchy: in states worldwide, political decision-making is controlled by a numerically small, wealthy elite. This form of government serves to lock in patterns of conflict, oppression, and ecological destruction.

Societies as Decision-Making Systems

Each of the horsemen presents a significant threat to civilization’s viability. However, oligarchy is particularly important as it deals with a society’s decision-making systems. In his 2005 book Collapse: How Societies Choose to Fail or to Succeed, geographer Jared Diamond argued that many past civilizations have collapsed due to their inability to make correct decisions in the face of existential threats.10 Diamond drew on the work of archaeologist Joseph Tainter, who in his 1998 book The Collapse of Complex Societies, argued that civilizations fail due to a constellation of factors.11

To Tainter, the ultimate mistake failed civilizations made was to continually solve problems by adding social complexity, and as a result, increasing the society’s energy needs. Eventually, Tainter argued that civilizations encounter a “thermodynamic crisis” in which they are unable to sustain an energy-intensive level of complexity. The result is collapse – ecological devastation, political upheaval, and mass population die-off.

The tendency for societies to collapse under excessive energy demands is an important insight. However, what Tainter and Diamond failed to appreciate is how oligarchy is an even more fundamental cause of civilization collapse.

Oligarchic control compromises a society’s ability to make correct decisions in the face of existential threats. This explains a seeming paradox in which past civilizations have collapsed despite possessing the cultural and technological know-how needed to resolve their crises. The problem wasn’t that they didn’t understand the source of the threat or the way to avert it. The problem was that societal elites benefitted from the system’s dysfunctions and prevented available solutions.

Oligarchic Control in “Democratic” States

Citizens in countries such as Canada, the United States, Australia, or the Eurozone members, would generally consider themselves to be living in democratic societies. However, when the political systems of Western democracies are scrutinized, clear and pervasive signs of oligarchy emerge.

A 2014 study by American political scientists Martin Gilens and Benjamin Page revealed that the great majority of political decisions made in the United States reflect the interests of elites. After studying nearly 1,800 policy decisions passed between 1981 and 2002, the researchers argued that “both individual economic elites and organized interest groups (including corporations, largely owned and controlled by wealthy elites) play a substantial part in affecting public policy, but the general public has little or no independent influence.”12

Today, oligarchic control over decision-making, and its catastrophic ecological effects, have never been clearer. In the U.S., Donald Trump and his billionaire-dominated cabinet are seeking to dismantle the Environmental Protection Agency13, to question climate science14, and to pursue a policy of “American energy dominance” that will dramatically expand production of fossil fuels.15

U.S. energy companies are also having a profound impact on domestic energy policy by accelerating the development of hard-to-access fuel sources through hydraulic fracturing, deep-sea oil drilling, and mountain-top removal coal mining.16 At the same time, fossil fuel oligarchs are working overtime to dismantle green energy initiatives, such as the Koch brothers’ war on the solar industry in Florida, and in other cities across the continent.17

In Canada, often thought of as more progressive than its southern neighbor, the situation hasn’t been much different. Under prime minister Stephen Harper’s two terms, the Canadian state became an unapologetic cheerleader for extracting some of the world’s dirtiest oil –Tar Sands bitumen. Harper accelerated Tar Sands production, leading to the clear-cutting of thousands of acres of boreal forest, the diversion of millions of gallons of freshwater, and the creation of miles of toxic tailings ponds, filled with water contaminated by the bitumen extraction process.18

Like the Trump administration, the Harper government silenced federal climate scientists.19 The government also targeted environmental charities and non-profits, using funding cuts and the threat of audits to undermine climate advocacy.20 When a movement of national outrage swept Harper from power in 2015, Canadians were hopeful that climate change would once more be taken seriously. However, the new government of Justin Trudeau, while embracing the international discourse on global warming, has shown a continued allegiance to the fossil-fuel oligarchy by committing over $7 billion in federal funds to purchase the failing Kinder-Morgan Trans Mountain pipeline.21

What is To Be Done?

To create a sustainable future, we must first learn the lessons of the past, and what archaeological research shows is that throughout history, civilizations that have been captive to the interests of an oligarchic elite have all collapsed.22 Today’s industrial, capitalist civilization is trapped in this same deadly cycle.

As long as a self-interested elite controls decision-making in modern states, we will be far too late to avoid the effects of steadily contracting ecological limits. In addition, we will be unable to avert the downward spiral of economic crisis, conflict, and warfare that will result as oligarchs scramble to maintain their wealth and power in the face of dwindling resources and mounting crisis.23

Breaking free from this destructive pattern will require us to take political and economic power back from the 1% and return it to the hands of citizens. This means that advocates for ecological sustainability must move far beyond individual actions, lobbying, or reform of existing political and economic institutions. If we are to have a chance, we must ensure that governments make decisions based on the public good, not on private profit.

Radically transforming industrial, capitalist civilization won’t be easy. It will require movements for environmental sustainability, social justice, and economic fairness to come together, and to realize their common interest in dismantling the system of oligarchy and building a democratic, eco-socialist society.24 This “movement of movements” must put aside sectarian squabbles, and finally realize that the goals of economic justice, human rights, and ecological sustainability are all intrinsically linked.

Such changes may seem like a tall order, but hope can be found in the deepening struggle being waged to protect our fragile ecosystems. First Nations groups are leading this charge and beginning to win some important victories. The inspiring Water Protectors of Standing Rock were able to disrupt the Dakota Access Pipeline in the face of intense government oppression.25 In Canada, Several British Columbia First Nations recently won an impressive court victory in their opposition to the Trans Mountain pipeline.26

If successful grassroots struggles can be linked with equally hopeful movements for real political change, then there is hope for the future. However, if we continue on with “business as usual” – hoping that change will come from lifestyle choices and the interchangeable representatives of elite political parties, then the future looks grim indeed.

#### An anti-domination approach to the political economy counters neoclassical assumptions that prevent effective regulation---restoring popular sovereignty ensures agencies will carry out democratic lawmaking.

Jackson 21 – DeOlazarra Fellow at the Program in Political Philosophy, Policy & Law at the University of Virginia. She received her Ph.D. with distinction in political theory at Columbia University.

Kate Jackson, “All the Sovereign’s Agents: The Constitutional Credentials of Administration,” *William & Mary Bill of Rights Journal*, 8 July 2021, pp. 2-7, https://papers.ssrn.com/sol3/papers.cfm?abstract\_id=3813904.

We face no less than four urgent crises: an ongoing pandemic1; racial injustice and its consequent civil unrest2; an economic depression approaching the pain inflicted in 1929; and the accumulating, existential threat of climate change.4 Citizens must rely on their state to tackle these burning perils.5 Yet critics both left 6 and right 7 would tear down its institutional capacity to do so. Some denounce the exercise of administrative power as illiberal, unconstitutional and obnoxious to the rule of law.8 Others impugn it as undemocratic, paternalistic, and corrupt.9 Yet without some kind of agent to carry out collective solutions, these perils may very well proceed unabated.

Pushing an anti-administravist agenda, libertarians continue their “long war”11 against government agencies by insisting that they are an unconstitutional fourth branch of government. For them, administration is a kind of “absolutism”12 that violates the separation of powers and defies the principle of limited government.13 They contend that agencies’ discretionary rulemaking offends the liberal commitment to the rule of law. 14 Accordingly, they would punt agencies’ responsibility for social, economic, and environmental problems to courts and legislatures. 15 Regulation would thus be placed at the mercy of an undemocratic judiciary who increasingly “weaponizes” the First Amendment in favor of big business16 – or of a Congress whose already inefficient decision-making is crippled by hyperpolarization17 and distorted by the kind of material inequalities that the welfare state is meant to ameliorate. 18

Conservatives with a more authoritarian inflection seek to recall administration from its constitutional exile by subsuming it under presidential power. 19 Such critics would lend administration some democratic credentials by bootstrapping them to the president’s electoral accountability. Yet ridding agencies of their independence by placing them under the discretion of the president grants the president personal control over agency policymaking and adjudication without the checks provided by Congress, the courts, or an independent civil service.20 It thus, arguably, solves a separation-of-powers problem by introducing a new one.21 More ominously, empowering the president with the patina of democratic legitimacy emits a strong whiff of Schmittian politics.22 The prospect of a largely unbound executive officer claiming a popular mandate to hire and fire civil servants on a whim should alarm any that followed the Trump Administration’s treatment of refugees, civil protestors, polluters, and political cronies.

Agency power likewise fares poorly in the hands of the left. 23 They blame administrative technocracy for a variety of social and political ailments: the reification of social differences and the juridification of human nature24; corruption, privatization and regulatory capture25; the depoliticization of economic issues and the subsidization of globalized financial capitalism26 and, ultimately, the constellation of conspiratorial populist politics currently threatening liberal democratic states.27 Their preferred solutions include democratizing agency decision-making28 and constraining Congress’ capacity to delegate its lawmaking function. 29 While their interventions are welcome, they may deprive government of the nimble expertise necessary to address environmental and economic crises.30 Moreover, as illustrated by the president’s extraordinary powers to shape national immigration policy despite its “notoriously complex and detailed statutory structure,” increasing the amount of formal legislation may only expand agencies’ enforcement discretion.31 Agency democratization, furthermore, risks reproducing, perhaps under the cover of ostensible public consensus, the same social, economic and political inequalities that distort Congressional lawmaking. 32

In this essay, I contend that this multi-pronged anti-administravist attack stands upon shaky conceptual foundations. Each builds atop a theory of constitutionalism that embraces a too-literal conception of popular sovereignty.33 It is a conception that posits that there is, in fact, a “people” with a sovereign “will.” It is a “will” that can be clearly identified (through elections); straightforwardly transcribed (through lawmaking); mechanically applied (by administrators) and constrained (by judges). 34 But in a country of hundreds of millions, the diverse multiplicity of citizens could never find a common will.35 It is even more impossible that it could ever be accurately expressed through the lawmaking of elected representatives.36 As a result, critics of administration often grant statutory lawmaking more democratic credentials than it deserves. 37 The non-delegation doctrine purports to prevent the delegation of something that simply may not exist.

Critics commit another mistake when they invoke a theory of constitutionalism that analytically divides functions that cannot, as either a moral or empirical matter, be disentangled. First, they incorrectly posit two separate, autonomous processes: the collective formation of ends (lawmaking) and the implementation (execution) and application (adjudication) of those ends. 38 But we cannot presume that judges and administrators can mechanically apply and enforce the law without importing into the process their own value-laden, and therefore political, judgments.39 “They who will the end will the means” is a naïve argument that occludes the power wielded by unelected actors.40 It is also a mistake to presume that the legislative branch concerns itself only with value-laden final ends, and not with the means required to execute them.41 Indeed, most of our most bitter political fights are fights conducted precisely over means: how best to grow the economy; how best to care for the sick; how best to mitigate climate change, etc. 42 As a result, the theories overemphasize and distort the purpose of separating powers.43

Critics commit yet another mistake when they divorce the constitutional functions of (1) protecting rights and limiting government power, and (2) providing the decision-making procedures necessary for democratic will-formation. 44 They isolate elections and lawmaking from the process of enforcing rights and the rule of law – as if they have nothing to do with one another. Yet quarantining rights from democracy requires reliance on an outsourced moral order external to the political system itself – a reliance inappropriate for contemporary secular polities.45 They therefore lend judges too many liberal credentials while denying any to mechanisms of popular feedback.

Rather than critiquing agencies for violating the separation of powers, for their over-reliance on unelected technocrats, or for their indifference to universalizable legal principles, I argue that administration does indeed carry constitutional liberal democratic credentials – credentials borne out by political theory’s “representative turn.”46 By understanding agencies as embedded in a system of representative democracy that aims to set the conditions by which citizens can relate to each other as political equals, we can assess the legitimacy of government agencies without any “idolatrous”47 commitments to a fictitious popular sovereign or legal formalism. I suggest that agency institutions should be measured against the notion that popular sovereignty demands not consensus and consent, but instead institutions that permit citizens to understand themselves as co-equal participants in the collective decision-making process.

This essay will proceed as follows. Part I situates administrative agencies in an understanding of liberal democratic constitutionalism that (A) eschews outmoded notions of popular sovereignty and (B) natural law. It will then (C) explain how adequately conceived notions of the separation of powers and the rule of law cannot serve as indefeasible objections to administration. Part II makes a positive case for agency authority by drawing from the insights gained from political theory’s representative turn. It will first (A) define this important intellectual development and then (B) explain how administrative agencies might fit comfortably within a representative system. The essay (C) concludes by showing how theories of representation can inform some enduring debates in administrative law and suggesting some changes that might enhance the legitimacy of agency action.

PART I: ADMINISTRATION, POPULAR SOVEREIGNTY AND RIGHTS

Democracy promises the rule of “we the people.”48 Democratic citizens, possessing inalienable rights, are to come together, deliberate,49 and jointly create the laws that bind them. The administrative agency, with its unaccountable expert technocrats, policymaking autonomy, and immunity from micromanaging judicial review, looks like an unwelcome uncle at the constitutional dinner table.

Intuitively, these knee-jerk objections cannot be quite correct. Agencies carry some obviously democratic credentials. As Adrian Vermeule points out, they are, after all, the creation of statutory lawmaking.50 At least as early as 1798, Congress has delegated coercive rule-making power to Federal bureaucracy on matters as diverse as tax inspections, territorial governance, veterans’ pensions, mail delivery, intellectual property, and the payment of public debts.51 In McCullough v. Maryland,52 the U.S. Supreme Court interpreted the “necessary and proper” clause53 to anticipate Congress’ desire to create such agencies – in this case, a national bank. Bruce Ackerman,54 in his seminal work, argues that our contemporary agencies carry Constitutional credentials. Many were birthed through multiple hyperpolitical elections and constitutional challenges within the courts. Further, from their very inception, agencies struggled internally to accommodate their actions to constitutional requirements.55 The Administrative Procedure Act56 (“APA”), for example, imposes upon agencies principles of due process and the rule of law.57

Regardless, if democratic lawmaking is to shape the community of those that make it, there must be some kind of agent or instrumentality to carry it out.58 A Congressional decision to levy a tax is meaningless without an Internal Revenue Service to collect it.59 Yet it is impossible to imagine that such agencies might operate like mindless, loyal robots. Whether performed by court or administrator, the application of laws will inevitably involve controversial policy judgments.60 Lawmaking is, by its nature, always more abstract than we would like. Such “general propositions do not,” noted Justice Holmes, Jr. in his influential Lochner v. New York61 dissent, “decide concrete cases.” The required elaboration almost always imports values that are not clearly and unambiguously identified in any statutory text.62 The task of accommodating administration to constitutional democracy cannot, therefore, aim at eliminating the agency costs implicit in the application of law. It can only seek to understand how they might comfortably fit within a constitutional order.

The next two sections will elaborate upon these intuitions. Many objections to agency power presume antiquated conceptions of sovereignty and rights. They juxtapose the will of a powerful organ-body sovereign63 against a governed mass of subjects who hold an array of pre-political liberties that require judicial protection. This all-powerful body is thought to be represented by Congress64 as the commissioned agent (or embodiment?) of the popular sovereign. To preserve citizens’ natural, pre-political liberties, this agent of the popular sovereign is constrained by a separation of powers, checks and balances, a Bill of Rights, etc. – each policed by independent courts capable of identifying and enforcing citizens’ inalienable liberties.65 If this is indeed the rubric of the liberal democratic constitutional state, it is difficult to see how agencies pass constitutional muster. They are not Congress – and so their policymaking cannot be legitimate expressions of the popular will. They often avoid substantial judicial review, and so they might violate natural liberties with impunity. Fortunately, this rubric is wrong.

A. The Mind and Body of the Democratic Sovereign

True, for much of modern Western history, sovereignty, understood as the supreme, absolute and indivisible power to make law, was thought to be held by a specific body: the one wearing the crown.66 To constitute and justify public power, Hobbes, for example, imagined a state of nature full of individuals authorizing and relinquishing their natural liberties to a “Mortall God,”67 i.e., the modern corporate state, represented (or re-presented) in the flesh-and-blood bodies of the king or legislature.68 During the democratic revolutions, radical69 theorists merged the monarch with her subjects.70 They imagined “the people” not only replacing the king as sovereign, but also governing itself as a subject, thereby creating an identity between ruler and ruled. Rousseau’s volonté générale71 serves as a model for this kind of logic.72 Montesquieu, whose thinking influenced the American founders,73 likewise held that the “people as a body have sovereign power” in a republic.74 Even A.V. Dicey, despite his fame as a rule of law scholar, believed that a representative legislature would “produce coincidence between the wishes of the sovereign and the wishes of the subjects.”75 It is a sovereign-subject hat trick: the ruled become the ruler, the democratic “people,” understood as a body, a “unitary macro-subject,”76 come to occupy what was once occupied by the body of the king. Carl Schmitt likewise endorsed a scrupulous identity between governed and governor - with homogenizing and fascist implications.77 For Schmitt, it was impossible to imagine a leader speaking with the voice of the people unless the people themselves first sang in perfect harmony.

There are flaws in this equation. The “people,” understood literally, cannot rule. They do not possess a primordial collective will existing outside and independent of their political institutions.78 Moreover, the entire population of a diverse community of hundreds of millions cannot be present within those institutions. Nor can that population ever find a unanimous general will, a non-controversial understanding of the common good, no matter how constrained and qualified their public reasoning or how universal and general its aspirations.79 Thus, no coherent popular will can obtain even after undertaking the decision-making processes of political institutions.80 Just as the contractual “meeting of the minds” is a legal fiction of private law,81 a popular “meeting of the minds” is a political fiction of public law. As a result, despite the democratic revolutions, the old gap between ruler and ruled remains.82 In other words, the merger between governed and governor attempted by the democratic revolutions did not remove the danger of heteronomy,83 even if the offices of government might be staffed by elected representatives and even as constitutional systems split powers and limited legal authority.84 Some (body) would wield public power, and the rest would be subject to its rules. Even Rousseau downgraded the popular sovereign to a silent, passive actor that left the actual business of governing to functionaries.85 Like the client of a travel agent, Rousseau’s democratic citizen was meant only to approve or disapprove the prepackaged plans presented by ministers.86

Lawmaking under constitutional liberal democracy is thus not a question of ascertaining the existence of some non-existent popular “will” to be left in the hands of loyal fiduciaries in government87 to carry out like mindless automatons. Nor is it comprised of the dictates of a caesarist leader purporting to speak with the unified voice of the sovereign people.88 Instead, it a question of developing transparent and accessible collective decision-making procedures that ensure that all citizens can understand themselves as equal participants in their collective ordering; that ordinary people are involved in public life and have a say in their collective destiny.89 They do not rule. Rather, they are equal players in the game of representative democracy.90

Thus, although contemporary notions of constitutional liberal democracy ascribe the highest legitimate source of authority to “the people,” they do not understand “the people” as a reified, homogenous whole with an identifiable will that pre-exists whatever governing apparatus might be laid atop it. Though “popular sovereignty” is a political fiction, it is a useful one – at least if it is used as a standard of justification and critique, not as a proper noun. It is an aspirational, regulative idea intended to depersonalize and distribute public power in a way that serves the entire community.91 It is a Kantian “as if” principle.92 Namely, if we try to think like a popular sovereign might think, if such a thing could ever exist, we will orient our public reasoning not towards our individual self-interest alone, but in terms of inclusivity, human equality and the public good.93 Because if the sovereign is a “we,” then governing involves more than the interests and preferences of single individuals. We will therefore demand that political institutions remain accountable and accessible to popular complaints. We will adopt a Weberian politics of responsibility, remembering that our decisions might inflict unforeseen costs upon others.94

This figurative idea of popular sovereignty also unlocks the closed doors of power and forces the inclusion of voices previously ignored.95 Whosoever happens to be governing at any given time, that person is not “the people” precisely because “the people” cannot ever be present. As a result, anyone denied an audience can appeal to popular sovereignty as they seek admission to political decision-making. Importantly, popular sovereignty demands, as French philosopher Claude Lefort96 notes, that this place of power remain an empty one – or at least one with a revolving door – where no body at all is permitted to rule permanently. For to fill that void would allow for a part to speak on behalf of the whole. “We the People” might become, as political theorist Nadia Urbinati notes, “Me the People.”97 It would thus force homogeneity upon plural societies as leaders with controversial viewpoints purport to represent everyone as they make and implement policy. Moreover, the usurpation of this space would undermine the depersonalization of power inherent in the idea of a fictional popular sovereign and, importantly, the rule of law and not of men.98 If the place of power remains empty because all citizens contribute in some way to lawmaking, then we can credibly claim that it is law, not our politicians, who rule.

As a result, it can be no objection to agency policymaking that it usurps authority from the popular sovereign. Because if we take popular sovereignty literally, so, too, do elected representatives. They likewise cannot logically or credibly speak with the voice of the sovereign people.99 Thus, insofar as theories of non-delegation and legislative primacy rely on an organ-body theory of popular sovereignty,100 they are misplaced. Attacks against the “technocratic” power wielded by administrative officers may likewise overstate the democratic credentials of the Congressional legislation against which such power is compared – and found wanting. Indeed, it is at least possible that administrative agencies can be made consistent with the requirements of constitutional popular sovereignty.101 Namely, the question is whether and to what extent they operate according to procedures that allow citizens to understand themselves as co-equal participants in shaping agency action. Finally, that independent administration is “headless” is not, as feared by contemporary New Deal critics, fascist or totalitarian.102 It may in fact be a necessary precondition for liberal democracy. A Leviathan with a single head with a single mouth, purporting to speak for all, can be monstrous indeed.]

### OFF

#### M&A activity is high now because Biden’s executive order won’t be implemented for years.

David French and Sierra Jackson, Reuters, July 12, ‘21, Analysis: Dealmakers see M&A rush, then chills, in Biden's antitrust crackdown

Dealmakers expect a new wave of transformative U.S. mergers and acquisitions (M&A), as companies rush to complete deals before President Joe Biden's antitrust push takes shape, to be followed by a slowdown when regulators start cracking down.

Biden signed a sweeping executive order on Friday to bolster competition within the U.S. economy. This included a call for regulatory agencies to increase scrutiny of corporate tie-ups which have left major sectors such as technology and healthcare dominated by few players. read more

The order came amid an unprecedented M&A frenzy, as companies borrow cheaply and spend mountains of cash they have accumulated on transformative deals to reposition themselves for the post-pandemic world. Almost $700 billion worth of U.S. deals were announced in the second quarter, the highest on record.

The dealmaking bonanza is set to continue, as companies seek to take advantage of the time window during which regulators frame precise rules to implement Biden's order, advisers to the companies said. The M&A slowdown will come only when regulators implement the rule changes, possibly in two years or more, they added.

"The order itself will be less likely to have a chilling effect on strategic M&A than the potential chilling effect of a significant increase in the number of prolonged investigations and merger challenges brought by the agencies," said Michael Schaper, partner at law firm Debevoise & Plimpton.

Spokespeople for the White House and the two main antitrust regulators, the Federal Trade Commission (FTC) and the U.S. Department of Justice (DoJ), did not immediately respond to requests for comment.

Dealmakers were bracing for a tougher antitrust environment under Biden even before last week's executive order. Last month, the DoJ sued to stop insurance broker Aon's (AON.N) $30 billion acquisition of peer Willis Towers Watson (WTY.F). And Biden tapped Lina Khan, an antitrust researcher who has focused her work on Big Tech's immense market power, to chair the FTC.

#### Immediately expanding scope of antitrust liability brings that to a halt---undermines dynamism and global competitiveness.

Thierer 21– Adam Thierer is a senior research fellow with the Mercatus Center at George Mason University. Author of several books on antitrust law; former president of the Progress & Freedom Foundation, director of Telecommunications Studies at the Cato Institute, and a senior fellow at the Heritage Foundation.

(Adam Thierer, 2-25-2021, "Open-ended antitrust is an innovation killer," TheHill, https://thehill.com/opinion/technology/540391-open-ended-antitrust-is-an-innovation-killer)

Antitrust reform is a hot bipartisan item today, with Democrats and Republicans floating proposals to significantly expand federal control over the marketplace. Much of this activity is driven by growing concern about some of the nation’s largest digital technology companies, including Facebook, Google, Amazon and Apple.

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

Sen. Amy Klobuchar (D-Minn.) is leading one charge. Klobuchar, who chairs the Judiciary Subcommittee on Antitrust, Competition Policy and Consumer Rights, recently introduced the “Competition and Antitrust Law Enforcement Reform Act.” This sweeping measure seeks to expand the powers and budgets of antitrust regulators at the Federal Trade Commission and the Department of Justice. It also includes new filing requirements and potentially hefty civil fines.

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

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

Critics of merger and acquisition (M&A) activity by large tech firms include not only Sen. Klobuchar but also Republicans such as Sen. Josh Hawley (R-Mo.). Hawley recent offered an amendment to a budget bill that would preemptively prohibit mergers and acquisitions by dominant online firms. Klobuchar and Hawley believe that M&A skews the market in favor of today’s largest firms, entrenching their market power and discouraging innovation.

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

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

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

Those who worry about today’s largest tech giants becoming supposedly unassailable monopolies should consider how similar fears were expressed not so long ago about other tech titans, many of which we laugh about today. Just 14 years ago, headlines proclaimed that “MySpace Is a Natural Monopoly,” and asked, “Will MySpace Ever Lose Its Monopoly?” We all know how that “monopoly” ceased to exist.

At the same time, pundits insisted “Apple should pull the plug on the iPhone,” since “there is no likelihood that Apple can be successful in a business this competitive.” The smartphone market of that era was viewed as completely under the control of BlackBerry, Palm, Motorola and Nokia. A few years prior to that, critics lambasted the merger of AOL and TimeWarner as a new corporate “Big Brother” that would decimate digital diversity and online competition.

GOP divided over bills targeting tech giants

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

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

#### Internal link goes one way---large-firm dynamism is the only way to maintain tech leadership vis-à-vis China---key to competitiveness and AI.

Lee, senior lecturer at the University of Hong Kong Faculty of Business and Economics, ‘19

(David S., “Antitrust action risks holding back US tech giants in competition with China,” <https://asia.nikkei.com/Opinion/Antitrust-action-risks-holding-back-US-tech-giants-in-competition-with-China>)

But the administration should not forget the law of unintended consequences -- effective antitrust measures could stifle the ability of American tech companies to compete with their Chinese challengers. Presumably, that is the last thing the America First president wants to see.

While antitrust has been used to regulate technology companies before, perhaps most notably Microsoft two decades ago, its application against Amazon.com, Facebook, and Google seems different.

For the last half-century or so, U.S. antitrust law has been underpinned by the concept of maximizing consumer welfare, frequently measured by price to consumers. In regulating big technology companies today, however, a new paradigm has emerged, dubbed "hipster antitrust."

Hipster antitrust looks beyond traditional economic harm and includes wider effects such as wage inequality, data privacy intrusions, and sheer size as grounds to invoke the law.

But the wider the antitrust authorities reach, the more likely they are to damage the tech giants' global competitiveness. This applies especially in the key field of artificial intelligence, where the U.S. and China are world leaders.

AI is the engine powering the Fourth Industrial Revolution and the fuel for that engine is data, lots of data. Such data can only be collected at scale, which conflicts with hipster antitrust notions of size. If American antitrust measures compel large technology companies to shrink or in the extreme, to break up, then the U.S. will find itself at a disadvantage to China.

The idea of size is one of many fundamental differences separating Chinese and American technology ecosystems. Chinese government leaders have clearly grasped that scale matters for the technologies they want to dominate, such as artificial intelligence, as well as for the type of digital governance Beijing is striving to implement.

In the U.S., however, the economic value attached to scale is offset by deep-rooted concerns about privacy, bullying behavior and unfair political and social influence. Senator Elizabeth Warren of Massachusetts, a popular Democratic Party candidate for the 2020 presidential election, wrote: "Today's big tech companies have too much power -- too much power over our economy, our society and our democracy."

But in China this is not a hot-button political issue. In a recent fintech course I helped lead comprised of students from different countries, mainland Chinese students considered privacy differently than peers elsewhere. Though aspects of privacy are important to Chinese users, many readily understand there are trade-offs in operating on technology platforms.

Chinese technology platforms such as Alibaba and Meituan have developed so-called "super apps" that serve the same functions that users in the West might find by going to different applications on their devices.

Super apps are designed to be convenient to users so they can handle everything from ride hailing, shopping, food purchases, and payment, all without leaving the digital confines of a single app. This has become the dominant way Chinese citizens consume online. With the most internet users in the world, approximately 750 million, super apps also provide Chinese technology companies an incredible amount of data.

In his book, "AI Superpowers: China, Silicon Valley, and the New World Order," technology executive and investor, Kai-Fu Lee outlined four factors necessary to win the AI race: talent, computing speed, data, and government policy. Though the U.S. has an advantage in many areas, that lead is shrinking, and if China does overtake the U.S. in artificial intelligence, it will likely be a result of advantages in data and government policy.

This combination of data and government policy is perhaps best exemplified by SenseTime, widely considered the world's most valuable artificial intelligence startup. SenseTime boasts world leading facial recognition, which is enhanced because it reportedly has access to Chinese government databases, a rich source of data to further develop models.

Chinese companies like SenseTime have excelled in facial recognition, with some reports estimating that there are almost ten times as many Chinese facial recognition patents filed as American. Chinese surveillance technology is already used in the U.S., including New York City.

This widening gap will have broader implications beyond surveillance, security, and policing. Facial recognition technology will also serve as a biometric identifier for finance, retail, and health. With China moving forward aggressively both domestically and abroad in its use of such technologies, American competitors who are pursuing facial recognition, such as Amazon and Google, may not be able to close the growing competitive chasm.

So while American politicians may see antitrust investigations into large technology companies as necessary, there could be a significant impact on America's ability to compete with China.

Google's former CEO, Eric Schmidt forecast last year that China and the United States would lead the bifurcation of the internet into two spheres. Evidence of this splintering is already apparent. What remains undetermined, however, is which of those spheres will dominate.

Large Chinese technology companies, for example Alibaba Group Holding, are already setting-up far-flung outposts by partnering with and investing in local, non-Chinese technology companies around the world. This form of Chinese technological expansion allows Chinese big tech to shape user privacy norms, establish global networks, and attract more users into their ecosystems, all of which leads to increased user activity and ultimately more data.

While China aggressively expands its technological reach and hones its ability through mining evermore data, it is important that U.S. regulators understand that aggressive antitrust sanctions would risk inhibiting American companies from maintaining the scale necessary to compete with their Chinese rivals.

AI supremacy will be a defining feature of superpower status. And if future researchers one day examine how the U.S. lost the war for artificial intelligence, the hindsight of history may show that the current antitrust debate was the fatal turning point.

#### Tech innovation prevents nuclear conflict---U.S. leadership key.

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

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

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

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

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

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

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

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

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

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

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

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

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

### OFF

#### The plan forces tradeoffs in FTC enforcement efforts---they’re in a merger tsunami and barely staying afloat, but the plan drowns them.

Rose ’19 - Department Head and Charles P. Kindleberger Professor of Applied Economics in the MIT Economics Department. She served as Deputy Assistant Attorney General for Economic Analysis in the Antitrust Division of the DOJ from 2014 to 2016, and was the director of the National Bureau of Economic Research Program in Industrial Organization from 1991 to 2014.

Nancy Rose, FTC Hearing #13: Merger Retrospectives, April 12, 2019, <https://www.ftc.gov/news-events/events-calendar/ftc-hearing-14-merger-retrospectives>

So I want to start with the last question that was on the set that Dan and Bruce circulated for this panel. Should the FTC devote more resources to retrospectives, even at the cost of current enforcement? And I was delighted to see Commissioner Slaughter be so passionate in her defense of the need for more resources. This goes to what I feel is the most significant, and yet still largely invisible message, in the ongoing debate over competition policy, which is that antitrust enforcement in the United States is chronically and substantially underfunded.

For years, the appropriation requests have been modest in their increases. Oversight hearings and interactions with the Hill have too often featured the mantra, “when business picks up, our talented and hardworking staff just do more with less.” I will say I think the career staff at both the FTC and the DOJ Antitrust Division are among the most dedicated, highly-skilled, and hardest-working professionals.

It was my great privilege to work with a number of them at DOJ, and I know that colleagues who have worked at the FTC feel the same way. They deserve our greatest appreciation and applause and not just from those of us who work in antitrust policy, but from the entire American public, on whose behalf they tirelessly work.

But there is a limit to the number of hours in a day and the number of days in a week and the well below market compensation for the lawyers and economists who work in the agencies, which is another significant problem, is insufficient to demand that staff give up all rights to leave their buildings, occasionally see their families, or catch up on sleep.

So I think it’s inevitable that if we’re asking agencies to reflect on the effectiveness of their decision-making through programs like retrospective programs, it is going to come out of someplace else. And I fear that given the ongoing intensity of the merger wave, that’s going to come out of enforcement.

We are amid an ongoing sustained, what’s been called by some, tsunami of mergers. Each year there are thousands of mergers noticed to the agencies and thousands more below the HSR thresholds, that work by Thomas Wollmann at the University of Chicago suggests, skate through to consummation with practically no probability of review or action, the occasional consummated merger enforcement action notwithstanding.

The dollar volume of mergers is at historic levels and that suggests that there are a lot of mega mergers competing for enforcement resources. In addition, litigation costs continue to climb, both for challenging mergers or bringing Section actions, especially as parties with especially deep pockets escalate litigation defenses, correctly calculating that even adding some tens of millions of dollars in antitrust litigation costs would be just rounding error in their merger financing.

And, finally, I would say it’s inconceivable to me that there are not at least some counsel that are advising parties that a good time to bring marginal mergers forward is when the agencies are stretched thin by major investigations or multiple litigations.

#### Despite short resources, FTC is effectively regulating hospital mergers---the plan halts that progress.

Muris ’20 – Professor of Law at George Mason, former Chairman of FTC, Senior Counsel at Sidney Austin LLP, JD from UCLA,

Timothy Muris, “Response to Subcommittee on Antitrust, Commercial, and Administrative Law Committee on The Judiciary U. S. House of Representatives” April 17, 2020, <https://judiciary.house.gov/uploadedfiles/submission_from_tim_muris.pdf>

Finally, the Committee asks about agency resources and performance. The last section below briefly addresses the continual need for the antitrust agencies to address business practices as they evolve, as well as their own performance record. Such evaluation is necessary: ever a UCLA Bruin, I remain devoted to legendary coach John Wooden‘s maxim that “when you are through learning, you are through.” The section thus offers multiple examples of successful and bipartisan FTC efforts to improve enforcement to the benefit of consumers. In the key healthcare sector, American consumers continue to benefit from the FTC’s hard work. After losing seven consecutive hospital merger challenges before I arrived, upon my direction the FTC worked to devise a new enforcement plan by incorporating fresh economic thinking and issuing retrospective case studies showing that several hospital mergers had indeed harmed consumers. This plan resulted in a successful challenge to a consummated hospital merger that served as a template for future enforcement, leading to Obama administration victories in three separate courts of appeal endorsing the FTC’s approach. Such success did not require abandonment of the consumer welfare standard, nor a dramatic increase in agency resources. Indeed, as discussed below, my predecessor as FTC chairman, Bob Pitofsky, did much more for American consumers using the consumer welfare standard with just 1,000 staff than did the agency in the 1970s when it had far greater resources (1,800 staff by the turn of the decade), but was motivated by an antitrust policy that was, instead, at war with itself.

#### Long term per-person healthcare costs will collapse the economy from a bubble burst or terminal budget overstretch---no alt causes---restoring competition in hospital markets is key to reduce costs.

Evan Horowitz, Fivethirtyeight, January 11, 2018, The GOP Plan To Overhaul Entitlements Misses The Real Problem, <https://fivethirtyeight.com/features/to-cut-the-debt-the-gop-should-focus-on-health-care-costs/>

There is no wide-reaching entitlement funding crisis, no deep-rooted connection between runaway debts and the broad suite of pension and social welfare programs that usually get called entitlements. The problem is linked to entitlements, but it’s much narrower: If the U.S. budget collapses after hemorrhaging too much red ink, the main culprit will be rising health care costs.

Aside from health care, entitlement spending actually looks relatively manageable. Social Security will get a little more expensive over the next 30 years; welfare and anti-poverty programs will get a little cheaper. But costs for programs like Medicare and Medicaid are expected to climb from the merely unaffordable to truly catastrophic.

Part of that has to do with our aging population, but age isn’t the biggest issue. In a hypothetical world where the population of seniors citizens didn’t increase, entitlement-related health spending would still soar to unprecedented heights — thanks to the relentlessly accelerating cost of medical treatments for people of all ages.1

What’s needed, then, is something far more focused than entitlement reform: an aggressive effort to slow the growth of per-person health care costs. Or — if that’s not possible — some way to ensure that the economy grows at least as fast as the cost of health care does.

Diagnosing the debt: It’s not about demographics

America’s long-term budget problem is very real. Already, the federal government has a pile of publicly held debts amounting to around $15 trillion, or about 75 percent of the country’s entire gross domestic product. That’s the highest level since the 1940s, yet the debt burden is expected to double by 2047 and reach 150 percent of the GDP, according to the Congressional Budget Office.2

It makes sense to list entitlement spending among the culprits for the growing national debt, given that these programs have grown from costing less than 10 percent of the GDP in 2000 to a projected 18 percent in 2047. Part of this is simple demographics: As America ages, more of us become eligible for Social Security and Medicare, thus driving up expenses.3

But there’s a crack in this demographic explanation: It only makes sense for the next 10 to 15 years. That’s the period of rapid transition when graying baby boomers will boost the population of seniors from around 50 million to more than 70 million. A change like that should indeed produce a surge in entitlement spending as those millions submit their enrollment forms.

By 2030, however, this wave will start to ebb, leaving the elderly share of the population at a roughly stable 20 to 21 percent all the way through 2060, based on the size of the population following the boomers and slower-moving forces like lengthening lifespans.

But think what this should mean for entitlement spending. As the population of seniors levels out in those later years, costs should naturally stabilize — at least, if demographics were really the driving factor.

This is exactly what you see for Social Security. The CBO expects total Social Security spending to leap up over the next decade but then settle at just over 6 percent of the GDP, at which point it will cease to be a major contributor to rising entitlement spending or growing debts. Social Security is thus a minor player in our long-term budget drama; if you cut the program to the bone, shrinking future payouts so that they won’t add a penny to the deficit, the federal debt would still reach 111 percent of the GDP in 2047.4

Likewise, cuts to welfare and poverty-related entitlements like food stamps and unemployment insurance are unlikely to improve the debt forecast. In fact, spending on these entitlements has been dropping since the high-need years around the Great Recession and is expected to shrink further in the decades ahead — partly because payouts aren’t adjusted to keep up with economic growth, and partly because the birth rate has been falling and several programs are geared to families with children.5

But the scale of the problem is totally different when you turn to health care. Spending on entitlement-related health programs — including Medicare, Medicaid and subsidies required by the Affordable Care Act — will never shrink or stabilize, according to projections. The CBO predicts these costs will grow over 65 percent between now and 2047 — and then go right on growing after that, heedless of the fact that the percentage of the population that’s over 65 should no longer be increasing.

Why is health care eating the budget? Per-person costs

Demographics aren’t responsible for the projected explosion in health care costs. More important than the growing number of elderly Americans is the growing cost per patient — the rising expense of treating each individual

The CBO found that the lion’s share — 60 percent — of the projected increase in health spending comes from costs that would continue to increase even if our population weren’t getting older.

The reasons for this are many, including the rising cost of prescription drugs and the fact that hospital mergers have reduced competition. But since 2000, per capita health costs in the U.S. have, on average, grown faster than the GDP. And while these costs rose more slowly after the Great Recession and the implementation of the Affordable Care Act, analysis from the Centers for Medicare and Medicaid Services suggests this slower growth rate won’t last.

Which is bad news for these programs, because if the problem were demographic, it’d be easier to solve. By mixing the kind of program cuts Republicans generally support with targeted tax increases favored by some Democrats, you could meet the short-term challenge posed by retiring baby boomers and raise enough money to cover the larger — but stabilizing — population of eligible seniors. But with ever-rising costs, there is no stable future to prepare for. To keep these programs funded, you’d need a wholly different approach — indeed a whole new perspective on mounting federal debt and the role of entitlements.

The future is a race between rising health care costs and economic growth, a race that the economy is losing. Each time health costs outpace the GDP, it creates what the CBO calls “excess cost growth,” which feeds the federal debt. If the government could close this gap, the long-term budget outlook would be a lot rosier.

There are two ways to solve this issue: Either contain health care costs — say through price regulation or more competitive markets — or boost economic growth enough to pay for this expensive health care. Success on either front would make health care spending look more manageable over future decades and lighten the debt load.

Entitlement reform needs health care reform to work

Few of the proposals that commonly fall under the heading of entitlement reform target the health care cost problem, which limits their ability to reduce the long-term debt.

Even when they do address health care, often the result is to shift — rather than solve — the problem. Say lawmakers decide to dramatically cut Medicare. That would indeed ease the government’s debt problem. But the underlying dynamic — the race between health costs and the GDP — wouldn’t really change. Seniors would still need health care, and per-person costs would likely still grow (maybe even faster, since Medicare is a relatively efficient program).

On top of all this, there’s also a deep-seated political barrier: It’s no good if one party picks its favored solution only to watch the other party dismantle it when they next take over. You need political consensus to make changes stick, and America is notably short on consensus right now.

In the end, though, it won’t do to just throw up our hands. Absent some workable solution, spending on health care will sink the federal budget, generating levels of debt that would hold back the economy and potentially spark a global crisis of confidence in the United States’ ability to borrow.

#### Healthcare driven budgetary overstretch causes global instability

Brown, PhD, Professor of Practice and Vice Chair, Public Administration and International Affairs at Syracuse, worked as an economist at the International Monetary Fund and as Chief Economist for Eastern Europe, Africa, and the Middle East at BNP Paribas, ‘13

(Stuart S., “Global Power: Key Issues,” in *The Future of US Global Power: Delusions of Decline*, Palgrave, p. 57-58)

In the first instance, structural26 budget deficits are more likely to be symptoms of incipient overstretch then prima facie evidence of national decline. Overstretch suggests a need to realign commitments and resources, hence spending and revenues. In principle, persistently large deficits demand adjustments that need not materially impact the underlying drivers of longer-term prosperity. In contrast, if fiscal imbalances prove sufficiently chronic, they can eventually trigger growth-inhibiting alterations in microeconomic incentives. In such cases, incipient overstretch can mutate into a more primary threat to the system's underlying dynamism.

In its classical formulation, “imperial overstretch” refers to unrestrained and exorbitant foreign military campaigns. The latter can be said to redound to the detriment of great powers by crowding out more productive capital investments. Yet in contrast to widespread impression, the US fiscal challenge does not primarily reflect out-of-control defense spending and the burden of foreign entanglements. If this were the case, then the feasibility of financing an ever-expanding global power projection would be brought into question. This neither minimizes the sizable resources the US commits to military-related spending nor denies that cutbacks in such spending can help facilitate overall fiscal adjustment. Rather, the point is that an endemic failure to rein in explosive economy-wide health care costs with the latter's implications for public sector health insurance programs – the real fiscal challenge – will do more to endanger macroeconomic stability and eventually erode the material foundation of US power (see chapter 8).

By viewing (health-care driven) fiscal deficits as a necessary manifestation of overstretch is misguided for a more basic reason. The root of the US fiscal problem involves unsustainable commitments – particularly in the area of health expenditure – made by government to its citizens. It is decidedly not a question of any dearth of national resources to adequately meet the health needs of the population at large. As the richest country in the world, the US possesses more than enough resources to achieve this goal. The relevant political and social question is whether the population’s basic health requirements are best met via ever-expanding entitlements requiring increasingly higher levels of taxation.

### Adv 1

#### Best data disproves econ impact

Benjamin H. Friedman et al 13, research fellow in defense and homeland security studies; Brendan Rittenhouse Green, the Stanley Kaplan Postdoctoral Fellow in Political Science and Leadership Studies at Williams College; Justin Logan, Director of Foreign Policy Studies at the Cato Institute Fall 2013, “Correspondence: Debating American Engagement: The Future of U.S. Grand Strategy,” International Security, Vol. 38, No. 2, p. 181-199

Brooks et al. argue that the specter of U.S. power eliminates some of the most baleful consequences of anarchy, producing a more peaceful world. U.S. security guarantees deter aggressors, reassure allies, and dampen security dilemmas (p. 34). “By supplying reassurance, deterrence, and active management,” Brooks et al. write, primacy “reduces security competition and does so in a way that slows the diffusion of power away from the United States” (pp. 39–40). There are three reasons to reject this logic: security competition is declining anyway; if competition increases, primacy will have difficulty stopping it; and even if competition occurred, it would pose little threat to the United States.¶ an increasingly peaceful world. An array of research, some of which Brooks et al. cite, indicates that factors other than U.S. power are diminishing interstate war and security competition.2 These factors combine to make the costs of military aggression very high, and its benefits low.3¶ A major reason for peace is that conquest has grown more costly. Nuclear weapons make it nearly suicidal in some cases.4 Asia, the region where future great power competition is most likely, has a “geography of peace”: its maritime and mountainous regions are formidable barriers to conflict.5¶ Conquest also yields lower economic returns than in the past. Post-industrial economies that rely heavily on human capital and information are more difficult to exploit.6 Communications and transport technologies aid nationalism and other identity politics that make foreigners harder to manage. The lowering of trade barriers limits the returns from their forcible opening.7¶ Although states are slow learners, they increasingly appreciate these trends. That should not surprise structural realists. Through two world wars, the international system "selected against" hyperaggressive states and demonstrated even to victors the costs of major war. Others adapt to the changed calculus of military aggression through socialization.8¶ managing revisionist states. Brooks et al. caution against betting on these positive trends. They worry that if states behave the way offensive realism predicts, then security competition will be fierce even if its costs are high. Or, if nonsecurity preferences such as prestige, status, or glory motivate states, even secure states may become aggressive (pp. 36-37).9¶ These scenarios, however, are a bigger problem for primacy than for restraint. Offensive realist security paranoia stems from states' uncertainty about intentions; such states see alliances as temporary expedients of last resort, and U.S. military commitments are unlikely to comfort or deter them.10 Nonsecurity preferences are, by definition, resistant to the security blandishments that the United States can offer under primacy Brooks et al.'s revisionist actors are unlikely to find additional costs sufficient reason to hold back, or the threat of those costs to be particularly credible.¶ The literature that Brooks et al. cite in arguing that the United States restrains allies actually suggests that offensive realist and prestige-oriented states will be the most resistant to the restraining effects of U.S. power. These studies suggest that it is most difficult for strong states to prevent conflict between weaker allies and their rivals when the restraining state is defending nonvital interests; when potential adversaries and allies have other alignment options;11 when the stronger state struggles to mobilize power domestically12; when the stronger state perceives reputational costs for non-involvement;13 and when allies have hawkish interests and the stronger state has only moderately dovish interests.14¶ In other words, the cases where it would be most important to restrain U.S. allies are those in which Washington's efforts at restraint would be least effective. Highly motivated actors, by definition, have strong hawkish interests. Primacy puts limits on U.S. dovishness, lest its commitments lack the credibility to deter or reassure. Such credibility concerns create perceived reputational costs for restraining or not bailing out allies. The United States will be defending secondary interests, which will create domestic obstacles to mobilizing power. U.S. allies have other alliance options, especially in Asia. In short, if states are insensitive to the factors incentivizing peace, then the United States' ability to manage global security will be doubtful. Third-party security competition will likely ensue anyway.¶ costs for whom? Fortunately, foreign security competition poses little risk to the United States. Its wealth and geography create natural security. Historically, the only threats to U.S. sovereignty, territorial integrity, safety, or power position have been potential regional hegemons that could mobilize their resources to project political and military power into the Western Hemisphere. Nazi Germany and the Soviet Union arguably posed such threats. None exist today.¶ Brooks et al. argue that "China's rise puts the possibility of its attaining regional hegemony on the table, at least in the medium to long term" (p. 38). That possibility is remote, even assuming that China sustains its rapid wealth creation. Regional hegemony requires China to develop the capacity to conquer Asia's other regional powers. India lies across the Himalayas and has nuclear weapons. Japan is across a sea and has the wealth to quickly build up its military and develop nuclear weapons. A disengaged United States would have ample warning and time to form alliances or regenerate forces before China realizes such vast ambitions.

#### No impact – warming doesn’t cause extinction and various factors check.

Farquhar et al. 17 (Sebastian Farquhar; John Halstead; Owen Cotton-Barratt; Stefan Schubert; Haydn Belfield; Andrew Snyder-Beattie, Doctoral Student @ Oxford University; climate activist; Research Scholars Programme Director @ Oxford University; Post-doc @ Oxford University’s Department of Experimental Psychology; Academic Project Manager @ the Centre for the Study of Existential Risk; Director of Research @ Oxford University’s Future of Humanity Institute, "Existential Risk Diplomacy and Governance," GLOBAL PRIORITIES PROJECT 2017, 2017, https://www.fhi.ox.ac.uk/wp-content/uploads/Existential-Risks-2017-01-23.pdf, Date Accessed: 7-10-2019, SB).

1.1.2 Extreme climate change and geoengineering The most likely levels of global warming are very unlikely to cause human extinction.15 The existential risks of climate change instead stem from tail risk climate change – the low probability of extreme levels of warming – and interaction with other sources of risk. It is impossible to say with confidence at what point global warming would become severe enough to pose an existential threat. Research has suggested that warming of 11-12°C would render most of the planet uninhabitable,16 and would completely devastate agriculture.17 This would pose an extreme threat to human civilisation as we know it.18 Warming of around 7°C or more could potentially produce conflict and instability on such a scale that the indirect effects could be an existential risk, although it is extremely uncertain how likely such scenarios are.19 Moreover, the timescales over which such changes might happen could mean that humanity is able to adapt enough to avoid extinction in even very extreme scenarios. The probability of these levels of warming depends on eventual greenhouse gas concentrations. According to some experts, unless strong action is taken soon by major emitters, it is likely that we will pursue a medium-high emissions pathway.20 If we do, the chance of extreme warming is highly uncertain but appears non-negligible. Current concentrations of greenhouse gases are higher than they have been for hundreds of thousands of years,21 which means that there are significant unknown unknowns about how the climate system will respond. Particularly concerning is the risk of positive feedback loops, such as the release of vast amounts of methane from melting of the arctic permafrost, which would cause rapid and disastrous warming.22 The economists Gernot Wagner and Martin Weitzman have used IPCC figures (which do not include modelling of feedback loops such as those from melting permafrost) to estimate that if we continue to pursue a medium-high emissions pathway, the probability of eventual warming of 6°C is around 10%,23 and of 10°C is around 3%.24 These estimates are of course highly uncertain. It is likely that the world will take action against climate change once it begins to impose large costs on human society, long before there is warming of 10°C. Unfortunately, there is significant inertia in the climate system: there is a 25 to 50 year lag between CO2 emissions and eventual warming,25 and it is expected that 40% of the peak concentration of CO2 will remain in the atmosphere 1,000 years after the peak is reached.26 Consequently, it is impossible to reduce temperatures quickly by reducing CO2 emissions. If the world does start to face costly warming, the international community will therefore face strong incentives to find other ways to reduce global temperatures. The only known way to reduce global temperatures quickly and cheaply is a form of climate engineering called Solar Radiation Management (SRM), which involves cooling the Earth by reflecting sunlight back into space.27 The most researched form of SRM involves injecting aerosols into the stratosphere.28 Most of the evidence so far suggests that ideal SRM deployment programmes would reduce overall damages relative to an un-engineered greenhouse world.29

### Adv 2

#### Antitrust is a terrible instrument for addressing hold-ups---wrong remedies and fails to deter future anticompetitive conduct.

**Contreras 11** – Jorge L. Contreras is a Visiting Associate Professor at American University–Washington College of Law

Jorge Contreras, “Equity, Antitrust, and the Reemergence of the Patent Unenforceability Remedy,” October 2011, The Antitrust Source, <https://digitalcommons.wcl.american.edu/cgi/viewcontent.cgi?article=1187&context=facsch_lawrev>

Agency Enforcement and the Failure of Antitrust Remedies to Address Standards Hold-Up

Public actions to enforce the antitrust laws may be brought by the Department of Justice, the FTC, and state attorneys general. Recently, the FTC has been the most active in seeking to curb deceptive conduct and standards hold-up by means of antitrust enforcement. In Dell Computer, the FTC alleged that Dell’s deception of the Video Electronics Standards Association (VESA) constituted unfair competition affecting commerce and thus violated Section 5 of the FTC Act. In the resulting Consent Agreement, Dell was prohibited from enforcing the asserted patents against any implementer of VESA’s VL-bus standard. The breadth of this remedy flows from the FTC’s broad authority to redress market harm under Section 5. 18

The Dell decision shaped the debate regarding standards hold-up for more than a decade and may have emboldened the agency to exercise its Section 5 authority to police the standard-setting world more broadly. It did so most notably to redress the now-notorious conduct of Rambus both during and after its participation in the Joint Electron Device Engineering Council (JEDEC). As has been discussed at length in numerous books and articles, Rambus allegedly deceived JEDEC participants regarding the patenting of standards on semiconductor DRAM technology. When Rambus began to seek patent royalties from implementers of these standards, the FTC brought an action charging Rambus with violation of Section 5(b) of the FTC Act and Section 2 of the Sherman Act. In 2006 the Commission ruled against Rambus under both theories of liability and ordered, among other things, that Rambus license its patents to all implementers of the standards at specified royalty rates. 19 In 2008, however, the D.C. Circuit reversed the Commission’s ruling, holding that it failed to establish that Rambus’s deceptive conduct harmed competition for purposes of the Sherman Act (i.e., that the relevant standards would not have been adopted but for Rambus’s conduct). The court also cast doubt on the Commission’s Section 5 theory, questioning its generous reading of the vague JEDEC intellectual property policy and its conclusions regarding common practices and expectations within the standard-setting community.

Though the validity of the D.C. Circuit’s reasoning in Rambus has been widely debated, 20 a number of commentators argue that antitrust law has proven to be a suboptimal theory for addressing issues of standards hold-up. 21 The weaknesses of antitrust law arise both when it is used as a theory of liability and also when it is used to fashion remedies (two distinct but inextricably related sides of the antitrust coin). Antitrust suffers as a theory of liability because, as the D.C. Circuit reasoned, a showing of antitrust harm is necessarily tied to market-wide effects on competition, rather than effects on individual competitors. Absent proof of market harm, antitrust injury cannot exist. Indeed, the dissent in Dell made this point in 1995, taking the view that the allegations of the Commission’s complaint failed to demonstrate that Dell obtained market power as a result of its alleged misstatements to the SDO.

Antitrust law also falls short in enabling appropriate remedies for standards hold-up. Thus, while the FTC in Dell fashioned a sweeping order under Section 5 that prohibited Dell from enforcing its patents against any implementer of the VL-bus standard, 22 the Commission’s order eleven years later in Rambus exhibits a significant retreat from this early expansive posture. Perhaps influenced by public commentary and the briefs of the parties or a more refined understanding and appreciation of the market harm arising from such conduct, the FTC in Rambus required that Rambus license its patents to any implementer of the JEDEC standard but also permitted Rambus to collect a specified royalty with respect to this license (a royalty that was lower, of course, than Rambus requested, but significant nonetheless). The rationale for this seeming generosity toward a company that the Commission found to have engaged in a “deliberate course of deceptive conduct”23 can be explained by the Commission’s need to fashion a remedy calculated to address perceived market harm. Indeed, the Commission noted that imposing a requirement of royalty-free licensing on Rambus would be justified only to the extent “necessary to restore the competitive conditions that would have prevailed absent Rambus’s misconduct.”24 Instead, the Commission proceeded to construct an elaborate “reasonable royalty” analysis based on a series of assumptions about how the potential DRAM market would have looked “but for” Rambus’s deceptive conduct, and to set royalty rates for Rambus patents accordingly. While the FTC’s remedy opinion was rendered moot by the D.C. Circuit’s reversal of its liability holding, the fact that the FTC’s analysis would have resulted in the award of ongoing royalties to Rambus despite its deceptive conduct suggests that antitrust remedies may not address all of the harms that are likely to arise in the context of standards hold-up and that perhaps other remedial regimes are more likely both to penalize those engaging in standards hold-up and to deter future instances of hold-up behavior. 25

#### No cyber impact – their authors are hacks

Valeriano 15

BRANDON VALERIANO is a Senior Lecturer in Social and Political Sciences at the University of Glasgow. RYAN C. MANESS is a Visiting Fellow of Security and Resilience Studies at Northeastern University in Boston, Foreign Affairs, May 13, 2015, “The Coming Cyberpeace”, https://www.foreignaffairs.com/articles/2015-05-13/coming-cyberpeace

The era of cyberconflict is upon us; at least, experts seem to accept that cyberattacks are the new normal. In fact, however, evidence suggests that cyberconflict is not as prevalent as many believe. Likewise, the severity of individual cyber events is not increasing, even if the frequency of overall attacks has risen. And an emerging norm against the use of severe state-based cybertactics contradicts fear-mongering news reports about a coming cyberapocalypse. The few isolated incidents of successful state-based cyberattacks do not a trend make. Rather, what we are seeing is cyberespionage and probes, not cyberwarfare. Meanwhile, the international consensus has stabilized around a number of limited acceptable uses of cybertechnology—one that prohibits any dangerous use of force.

Despite fears of a boom in cyberwarfare, there have been no major or dangerous hacks between countries. The closest any states have come to such events occurred when Russia attacked Georgian news outlets and websites in 2008; when Russian forces shut down banking, government, and news websites in Estonia in 2007; when Iran attacked the Saudi Arabian oil firm Saudi Aramco with the Shamoon virus in 2012; and when the United States attempted to sabotage Iran’s nuclear power systems from 2007 to 2011 through the Stuxnet worm. The attack on Sony from North Korea is just the latest overhyped cyberattack to date, as the corporate giant has recovered its lost revenues from the attack and its networks are arguably more resilient as a result. Even these are more probes into vulnerabilities than full attacks. Russia’s aggressions show that Moscow is willing to use cyberwarfare for disruption and propaganda, but not to inflict injuries or lasting infrastructural damage. The Shamoon incident allowed Iran to punish Saudi Arabia for its alliance with the United States as Tehran faced increased sanctions; the attack destroyed files on Saudi Aramco’s computer network but failed to do any lasting damage. The Stuxnet incident also failed to create any lasting damage, as Tehran put more centrifuges online to compensate for virus-based losses and strengthened holes in their system. Further, these supposedly successful cases of cyberattacks are balanced by many more examples of unsuccessful ones. If the future of cyberconflict looks like today, the international community must reassess the severity of the threat.

Cyberattacks have demonstrated themselves to be more smoke than fire. This is not to suggest that incidents are on the decline, however. Distributed denial-of-service attacks and infiltrations increase by the minute—every major organization is probed constantly, but only for weaknesses or new infiltration methods for potential use in the future. Probes and pokes do not destabilize states or change trends within international politics. Even common cyber actions have little effect on levels of cooperation and conflict between states.

NORMCORE IS HERE TO STAY

A protocol of restraint has emerged as the volume of cyberattacks has increased. State-based cyberattacks are expected, and in some cases tolerated, as long as they do not rise to the level of total offensive operations—direct and malicious incidents that could destroy infrastructure or critical facilities. These options are apparently off the table for states, since they would lead to physical confrontation, collateral damage, and economic retaliation.

The reproducibility of cyberattacks has also led states to exercise restraint. Enemies can replicate successful cyberweapons easily if source code and programs find their way into the wild or are reverse-engineered. Cyberweapons are not simple to design, either, which makes their use limited: Stuxnet took years of work by U.S. intelligence (with help from Israel) and cost hundreds of millions of dollars—and it still failed. The risk of creating collateral damage is high, since cyberweaponry cannot provide surgical precision and can spread into other networks of possible allies of the attackers. For example, the Stuxnet worm, intended for Iran’s nuclear program’s network, showed up in Azerbaijan, India, Indonesia, and Pakistan, among other countries. As witnessed in the Russian attack on Georgia, the potential for conflict diffusion is high, as third-party allies can enter conflicts easily. Estonia sent its Computer Emergency Readiness Team experts to Georgia to keep the country’s crucial networks up and running. Poland freed up bandwidth for servers in its territory to keep Georgian government websites up and its people informed. Finally, the risk of retaliation is high, as it is in any war, especially as attribution of perpetrators is getting easier to trace with better forensic techniques. The only drawback is that exposing attribution capabilities often exposes ongoing infiltration methods.

All of these considerations have meant that, so far, cyberconflict has adhered to existing international conflict norms. That there have been no major operations resulting in death or the destruction of physical equipment (outside of the Saudi Aramco incident and Stuxnet) suggests trends toward stability and safety. Cyberoperations are increasing, but only in terms of small-scale actions that have limited utility or damage potential. The truly dangerous cyberactions that many warn against have not occurred, even in situations where observers would think them most likely: within the Ukrainian conflict or during NATO’s 2011 operations in Libya. The only demonstrable cyberactivity in the Ukraine crisis has been espionage-level attacks. There is no propaganda, denial of service, or worm or virus activity, as there was in past conflicts involving Russia and post-Soviet states.

The overall trend in cyberwarfare indicates that the international community is enjoying a period of stability. The chart below demonstrates that although cybertactics are increasingly popular, the severity of these attacks remains low. On a scale of one to five, where one is a nuisance attack (a website being defaced, for example) and five is a cyber-related death, few attacks register above a two.

DRAWING COMPARISONS

Although the public may fear cyberthreats, it remains extremely trusting of the existing digital infrastructure. People trust the Internet with their connections, private contacts, banking information, personal lives, professional careers, and even romantic interests. Such confidence may be unwarranted, but resilience, not apprehension, is key to surviving in the coming era of low-level Internet-based attacks and probes.

States must be willing to make dramatic changes to their perceptions of Internet security and governance if they are to prevent cyberattacks. Most states lack functional cooperation between government and private industry for low-level cyber infiltrations, including the United States and EU countries. In addition to greater cooperation between public and private sectors, states and companies must pursue stronger cyberhygiene regimens (providing internal training to prevent potential threats) and reform the infrastructure that supports banking, electric, and health-care systems. Finally, education initiatives would help empower citizens to understand how the Web handles their transactions. Few understand how online banking, health-care databases, and utility grids work on the Internet. Education can help people—and citizens—understand the true nature of cyberthreats.

Here, we can look to the U.S. experience with terrorism: in both instances, fear is the result of imagined consequences. Terrorism has given birth to an industry built to combat threats, and a similar process is now under way with regard to cyberattacks. The general response to terrorism has been counterproductive and damaging, lending itself to hyperbole and overreaction. It is troubling to see the same path repeated with cyberwarfare, as an industry has sprung up within the private sector and military to meet the threat. The fact that there is little evidence of severe cyberattacks should give pause.

## 2NC

### Anti-Domination K

#### Critically examining the underpinnings of neoliberalism is key to creation of effective political alternatives---anything else reifies neolib.

Guardino 18 – Associate Professor at Providence College. His research focuses on how discourse and information flows affect democracy and political power.

Matt Guardino, “Neoliberal populism as hegemony: a historical-ideological analysis of US economic policy discourse,” *Critical Discourse Studies*, 28 February 2018, [http://sci-hub.tw/https://www.tandfonline.com/doi/full/10.1080/17405904.2018.1442361](http://sci-hub.tw/https:/www.tandfonline.com/doi/full/10.1080/17405904.2018.1442361)

Concrete neoliberal tax, regulatory and social welfare policies in the USA have promoted and supported corporate prerogatives, economic inequality and, ultimately, capitalist class power (Harvey, 2005).While these policies have withdrawn or constrained the state in some contexts, and enabled and empowered the state in others, they have been publicly promoted and justified through a discursive formation generally emphasizing market individualism, personal freedom and self-interest. This distinction between policy and discursive dimensions is crucial. The neoliberal discursive formation, even in the limited US national context, is multifaceted and operates differently on different levels. Still, this formation in all its particular modes operates ideologically, in that it selectively depicts (thus, mystifies) complex policies that do not reduce to a straightforward withdrawal of the state from the market. While neoliberalism in policy and practice is not synonymous with the free market, public political actors have often justified neoliberal policies by associating them with the ‘free market.’ My central focus is a particular dimension of the neoliberal discursive formation, neoliberal populism, that has been positioned to accomplish this ideological work by cultivating consent for neoliberal policies among broad US public constituencies. Thus, neoliberalism is ‘a deeply political phenomenon’ (Venugopal, 2015, p. 174), but its political character is ideologically deflected through its discourses, including the discourse of neoliberal populism.

While it projects a stridently anti-statist and individualist public discourse, neoliberalism in practice has reserved a significant role for government coercion on behalf of corporate prerogatives and market norms that support those prerogatives. My textual analysis of Reaganite neoliberal populism tracks Peck and Tickell’s (2002) conceptualization of neoliberal policy, in which the early phase focused on a ‘rolling back’ of the state as a market regulator and social service provider, while the second phase (from the early 1990s) saw the state ‘rolled out’ to take a more explicit and active part in enforcing business imperatives. Still, because the neoliberal political-economic project in the United States has never been defined by a simple retreat of the state, I argue that the shift from ‘rolling back’ to ‘rolling out’ in the US context has marked a change in emphasis and degree, rather than a fundamental qualitative shift.

The intellectual and ideological rationale for many neoliberal policies holds strong affinities with the laissez-faire philosophy of the Republican Party from the Civil War through the 1920s. Consequently, the neoliberal project was first and more fully embraced by that party, although by the 1990s major Democratic Party figures had entered its orbit (Harvey, 2005, p. 51). At the same time, despite clear differences vis-à-vis the role of the state between neoliberal policy, on the one hand, and eighteenth-/nineteenth-century liberalism, on the other, neoliberal public discourse draws key elements from this classical liberalism associated with the American founding, whose notions of negative liberty, personal independence and suspicion of central government have long been reflected in political culture.

In the US tradition, populism may be broadly defined as an elevation of ‘ordinary people’ in opposition to oppressive political-economic elites. Populism historically has taken a wide variety of ideological forms in the United States, often with distinct or contradictory political programs (Grattan, 2016; Kazin, 1995). Populism as manifested in the USA and elsewhere has been conceived as a strategy of political mobilization, a style of leadership, a mode of governance, a series of substantive political movements, and much else (Grattan, 2016, pp. 8–9). My concern is with populism as a public discursive formation whose elements have been selectively appropriated to ideologically justify the neoliberal political-economic project.

Populist discourse entails several interrelated themes that transcend the ideological and political distinctions that have characterized US populism in its other historical manifestations (Kazin, 1995). These themes include elites vs. ordinary people, opposition to centralized authority, opposition to unfair economic arrangements, anti-intellectualism and appeals to tradition (Brewer, 2016, emphasis added). Such constructs are available to be ideologically adapted not only because they are culturally resonant, but because they are fluid, generalized and abstract. I argue that elements of this historically multivalent and multivocal populist discourse have been connected to elements of neoliberal discourse to publicly legitimize particular economic and social welfare policies.

Populism’s complex historical roots may be traced from the American Revolution through Jacksonian Democracy (Kazin, 1995, pp. 16–21), to late-nineteenth-/early-twentieth-century left-leaning agrarian/worker movements (Grattan, 2016, 47–90; Postel, 2007), to the 1960s and 1970s presidential campaigns of George Wallace (Kazin, 1995, pp. 221– 242). Even culturally exclusive and socially authoritarian variants of this tradition have often endorsed downwardly redistributive (and, sometimes, anti-corporate) economic policies. Moreover, when populism as a political movement or policy program has found a home in the US two-party system, historically it has been embraced by Democrats as much as by Republicans (Grattan, 2016, pp. 49–90).

These differing historical roots and political commitments reflect apparent ideological tensions between the embrace of national community and a collective ethos grounded in a moralized, emotionally laden construction of ‘ordinary Americans’ in populist discourse, on the one hand, and the valourization of ‘rational’ contractual relations between individual market actors, and defense of limited government in support of private property rights in neoliberal discourse, on the other. Populism and neoliberalism, then, would seem unlikely to merge into a new, culturally plausible and politically effective discourse. I argue, however, that neoliberal policy owes much of its striking political success in the USA precisely to its discursive ‘trans-coding’ (Hall, 2011, p. 711) with a form of right-leaning populism.

This trans-coding occurs through the distinctive answers neoliberal-populist discourse supplies to the two central questions posed in any form of populist politics: ‘Who are the people? And how should the people enact their power in politics?’ (Grattan, 2016, p. 10). Neoliberal-populist discourse constructs ‘the people’ as those who follow ‘traditional’ and ‘American’ norms and practices (including key market-centric norms and practices), and who demand ‘traditional’ and ‘American’ economic policies which are ideologically signified as laissez-faire. Defying conventional distinctions of economic class, these ‘people’ encompass anyone deemed ‘productive’ in the market, a category which is further associated with private, for-profit sector workers from the lowest to the highest levels of income and wealth. In neoliberal populism the people are constructed as enacting their politics primarily through conventional vehicles of representative democracy, including voting, public opinion polls and direct, individualized contacts with elected leaders. Indeed, these two elements of neoliberal-populist discourse are nearly tautological: Promoting the ‘free market’ is, by definition, following the popular will, but in order for that will to be authentically popular, it must constitute identities, affinities and behaviors consistent with market individualism.

As such, neoliberal populism constitutes an instance of ‘interdiscursivity’ (Fairclough, 2015, p. 38), where discourses with largely independent and sometimes antagonistic sources combine in novel ways to create a culturally resonant and ideologically potent fusion. Just as neoliberal discourse itself was produced by trans-coding semantic components of eighteenth-/nineteenth-century liberalism with other elements (Hall, 2011, p. 711), neoliberal-populist discourse is a trans-coding of neoliberal and populist elements, each with distinctive roots in political culture. Thus, neoliberal-populist discourse is a particular reflection of neoliberalism’s remarkable ‘intersections with extant cultures and political traditions, and … convergences with and uptakes of other discourses and developments.’ (Brown, 2015, p. 21).

Indeed, discursive fragments open to assimilation by neoliberal-populist discourse are evident in US political culture stretching back two centuries or more. Both eighteenth-/ nineteenth-century classical liberalism (Hartz, 1955), on the one hand, and the populist appeals of Jeffersonian and Jacksonian democracy, and the late nineteenth-/early twentieth-century People’s Party (Kazin, 1995, pp. 17–46), on the other, contribute discursive material that was later reformulated to support the neoliberal political-economic project. However, it was in the late 1970s and early 1980s that neoliberal populism cohered as a distinctive US political discourse. It was largely through neoliberal-populist discourse that neoliberal policies and their underlying power relations found a means of ideological legitimation that could forge the measure of public political consent necessary to support themselves. While neoliberal populism has been stronger on the right side of the political spectrum, it is also a major element in the language and imagery of the elites who have led the Democratic Party in recent decades. This is seen, for example, in President Bill Clinton’s (1996) triumphal claim that ‘the era of big government is over,’ and President Barack Obama’s (2012) skepticism of the state and defense of his education and health care policies emphasizing ‘competition’ and the ‘private market.’ Thus, neoliberal populism has constituted a discursive currency broadly deployed across the US elite.

Previous work on connections between neoliberalism and populism has primarily focused on non-US settings, and has not conceptualized neoliberal populism as a distinctive public political discourse (Bozkurt, 2013; Weyland, 2003). The little work that has analysed neoliberal populism in US political culture has been highly abstract (Konings, 2012). In contrast, I understand neoliberal populism in the United States as a materially embedded discourse that works at the micro level to mediate and construct ways of seeing the world that support political-economic power relations. Hall (1985b) identified ‘authoritarian populism’ as an ideologically laden discourse that has played an important role in the neoliberal political project (see also Hall, 2011, pp. 714–715). Similarly, political economists have focused on broad contradictions and tensions between the neoliberal regime’s ideological discourse of ‘freedom’ and its authoritarian governance mechanisms (Bruff, 2014; Harvey, 2005, pp. 66–67, 79–80). I build on this work to conceive neoliberal populism as a particular public discourse in itself that has associated neoliberal policies with images of democracy. This discourse provides a key to the historical roots of the current political-economic conjuncture, as it has been an important means through which the material implications of the neoliberal project in the USA are obscured**.**

#### The perm fails---the aff’s understanding of antitrust serves to disseminate myths that reify the hold of corporations, foreclosing effective implementation of the alt.

**Vaheesan 19** – Policy Counsel at the Open Markets Institute. Former regulations counsel at the Consumer Financial Protections Bureau

Sandeep Vaheesan, “The Profound Nonsense of Consumer Welfare Antitrust,” The Antitrust Bulletin, 2019, <https://journals.sagepub.com/doi/pdf/10.1177/0003603X19875036>

Consumer welfare antitrust is built on three profound falsehoods. First, it is based on false history. Congress, in enacting the primary antitrust statutes, had broader aims than protecting “consumer welfare.” Second, it is based on a false conception of the market. The state constructs and structures the market through legal rules: The market is not a force of nature as the law and economics ideology underpinning antitrust presumes. Third, it is based on false economics. Extensive empirical research has shown, for example, that mergers do not promote consumer welfare and that predatory pricing is real. Despite this evidence, the federal antitrust agencies and courts continue to evaluate mergers and predatory pricing claims relying on simplistic toy models of the world.

These myths have freed corporations from antitrust rules and supercharged their power over the economy, politics, and society. First, antitrust enforcers and federal judges have rewritten legislative intent to focus exclusively on one manifestation of corporate power and downplay or outright ignore other aspects of it. Second, they have naturalized corporate prerogatives and omitted their foundation in law and policy. Third, they have developed and disseminated theories that depict the enhancement and exercise of corporate power as generally beneficial to consumers. Jointly, the three myths function as a potent punch for entrenching corporate privilege.

The present state of antitrust demands fundamental reconstruction. A project to strengthen antitrust rules based on empirical economics is worthwhile but wholly inadequate. It would not address the other foundational nonsense on which contemporary antitrust is based. A coherent antitrust requires deeper change and will be built on law and realism, not myths. Going forward, antitrust should be true to congressional intent, acknowledge the legal and political construction of the market, and informed by real-world evidence. Current-day antitrust is built on a bed of nonsense—false history, false concepts, and false economics—that have been useful to powerful corporate interests and deeply damaging for everyone else.

#### A number of other warrants---the alt’s transition solves.

**Mazzucato 21** – Professor in the Economics of Innovation and Public Value at University College London (UCL), where she is Founding Director of the UCL Institute for Innovation & Public Purpose (IIPP)

Mariana Mazzucato, “MISSION ECONOMY: A Moonshot Guide to Changing Capitalism,” Penguin Publisher, 1/28/21, https://www.penguin.co.uk/books/315/315191/mission-economy/9780241419731.html

Even before the COVID-19 pandemic hit in 2020, capitalism was stuck. It had – and has – no answers to a host of problems, perhaps most crucially the environmental crisis. From global heating to biodiversity loss, human activity is eroding the conditions necessary for social and environmental stability.1 Under current mitigation policy commitments, global surface temperatures are on track to increase by over 3°C relative to pre-industrial times – a magnitude that is widely accepted to have catastrophic outcomes.2 Species extinction has increased 100 to 1,000 times the background extinction rate, leading some scientists to announce that we are witnessing the sixth mass-extinction event.3

Rather than having a sustainable growth path, capitalism has built economies that inflated speculative bubbles, enriched the already immensely wealthy 1 per cent and were destroying the planet. In many Western and Western- style capitalist economies, real earnings for all but a few have barely risen in more than a decade – in some cases, such as the USA, in several decades – exacerbating inequalities between groups and regions despite high levels of employment.4 The dynamics of inequality explain why the profits-to-wages ratio has reached record highs. Between 1995 and 2013, real median wages in Organization for Economic Co-operation and Development (OECD) countries grew at an annual average rate of 0.8 per cent versus 1.5 per cent growth in labour productivity.5 In the period 1979–2018, real wages for the 50th and 10th percentiles of the wage distribution stagnated: there was 6.1 per cent cumulative real wage change over the whole period for the 50th percentile, 1.6 per cent for 10th percentile – versus 37.6 per cent for 90th percentile. In rich countries, private wealth-to-income ratios increased from 200–300 per cent in 1970 to 400–600 per cent in 2010.6

These economies were also, after 2008, hooked on the drug of quantitative easing – central banks injecting massive amounts of liquidity into the system – although economic growth and productivity improvement remained weak.7 Personal debt was back to levels last seen in the early years of this century. By 2018, private debt to GDP reached 150 per cent in the USA, 170 per cent in the UK, 200 per cent in France and 207 per cent in China – all substantially higher than levels at the turn of the century.8

And much of business has been plagued by a dangerous combination of low investment, short-term management and high rewards to shareholders and company bosses.9 In advanced economies, business investment has barely recovered to 2008 levels.10 In the UK in the 1980s, typical CEO pay was twenty times higher than that of the average worker. By 2016, the average FTSE 100 CEO’s pay was 129 times greater than that of the average employee.11 Since 1980, UK dividend pay-out ratios have remained constant, irrespective of profitability. Share buybacks have increased in importance, consistently exceeding UK share issuance over the past decade. In the USA, total pay-outs to shareholders have come to almost $1 trillion, equalling pre- crisis peaks, increasing from around 10 per cent of internal cash flow in the 1970s to 60 per cent by 2015.12

And difficulties are also being experienced in authoritarian, state-capitalist societies. Today, China, the leading authoritarian economy, remains weighed down by inefficient and heavily indebted state industries, a banking system with huge ‘zombie’ loans, an ageing population, and the massive task of shifting the economy away from excessive export dependency and towards greater domestic consumption. To be fair, it is making progress, and has real ambition about greening its economy, with over $1.7 trillion being invested as part of its five-year plan. But a central planning model is not likely to be one that will be able to take on the bold reforms to public and private collaboration that this book envisages.

The COVID-19 crisis also revealed just how fragile capitalism really is. People working in the gig economy have no security. High levels of corporate debt – partly taken on to pay dividends, buy back companies’ own shares and indirectly boost senior executive pay – have left many companies with little to fall back on. Their strategy of relying on attenuated global supply chains to cut costs and reduce the bargaining power of their on-site workers proved to be an Achilles heel when the pandemic disrupted production globally and created fierce competition for even basic items, such as face masks. Some governments, particularly those of the UK and the USA, had outsourced so much of their capacity to the private sector and consultancies that they were not able to manage the crisis properly. This led to deadly blunders, as governments faced shortages in basic PPE and failed to set up enough testing for their populations.13 The ultimate irony was that governments long wedded to austerity abruptly switched their affections to public spending, borrowing and creating deficits on a scale that would earlier have caused ideological apoplexy, as they struggled to do ‘whatever it takes’ to keep their national economies alive. Hammered under the twin blows of a collapse in output and a collapse in demand – largely induced by the government to suppress the virus – the Thatcher–Reagan model of the economy and society has broken down, and the global economy is wrestling with an historically severe depression.

A sluggish global economy, which spells particular disaster for developing countries and the less well-off in developed countries, has exacerbated social and political tensions that have been intensifying for decades. For far too many people, life feels precarious, either because they are in debt or their savings at most cover one month of rent.14 Even in the USA, the world’s biggest economy, whose working class was once a byword for prosperity, a report found that nearly three in ten adults would need to borrow money or sell something to cover a $400 unexpected expense.15

The balance of power has shifted away from workers and towards employers – for example, the relationship between an Uber driver and Uber as a multinational corporation is deliberately designed to shift risk from company to worker – and this, along with other cost-cutting practices that have reduced labour’s negotiating power, is one of the reasons why the ratio of profits to wages has reached a record high in the last decade.16 Others live hand to mouth on zero- hour contracts. Even when they have regular work, many people still depend on welfare to make ends meet.17 Yet it is the low-paid and disregarded workers – garbage collectors, postal staff, hospital cleaners, care workers, bus drivers – upon whom society came to depend most during the COVID-19 crisis, not corporate bosses, financiers and residents of tax havens.

Long-standing political rifts have grown wider: between nationalism and internationalism, democracy and autocracy, efficient and inefficient governments. A deep sense of injustice, powerlessness and distrust of elites – especially business and political elites – has eroded faith in democratic institutions. The global, multilateral system painfully constructed after World War Two and the broadly liberal, open values it embodies are under unprecedented strain. National salvation has trumped international co-operation, much to the delight of ‘strongmen’, demagogues and authoritarian regimes who can ride a tide of populism and exploit a climate of fear. To add to all of this, governments have continued to procrastinate in properly tackling the climate emergency. We can do better. But to do better, we need to fully understand how we got into the mess we are in.

To grasp the true scale of this challenge, it is important to understand that the issues described above are the consequences of deeper forces that together have led to a dysfunctional form of capitalism. There are (at least) four key sources of the problem: (1) the short-termism of the financial sector, (2) the financialization of business, (3) the climate emergency, and (4) slow or absent governments. In each, the way that organizations are structured and how they relate to each other are part of the problem. Their restructuring must, therefore, be part of the solution.

#### Markets discourage collaboration and investment in R&D which stifles innovation and diffusion---only the alt solves.

**Bailey et al. 19** – Birmingham Business School, University House, Birmingham, UK [1]

School of Architecture and Planning, Massachusetts Institute of Technology, Cambridge, Massachusetts, USA [2]

Centre for Governance, Regulation & Industrial Strategy (CGR&IS), School of Management, and Institute for Policy Research, University of Bath, Claverton Down, Bath, UK [3]

Department of Land Economy, Silver Street, Cambridge, UK [4]

David Bailey, Amy Glasmeier, Philip R Tomlinson, Peter Tyler, “Industrial policy: new technologies and transformative innovation policies?,” Cambridge Journal of Regions, Economy, and Society, 5/17/19, https://academic.oup.com/cjres/article/12/2/169/5490915

New technologies and transformative innovation policy

Especially in the context of innovation policy, the advent of new technologies became a particular focus of Post-War industrial policy. Two related developments encourage the latest round of technology-rich industrial innovation. First, policymakers increasingly foster initiatives to enhance technologies positively. Innovative activities are expected to generate new ‘value’, a key stimulant of increasing productivity and economic growth. As such, public investment in science and technology is generally politically considered palatable. Harkening back to the recognised importance of specificity and distinction, countries are seen to embody historically specific and differential advantages: the military might of the USA unleashed a plethora of innovations related to discoveries made during World War 2.

A new model of industrial prowess emerges that is centred on the nexus of science and technologies embedded in a matrix of industry, government and higher education. Japan’s post-War reconstruction included the formation of strong central government institutions, like the Ministry of International Trade and Industry (MITI) that directed national industrial policy for decades (see Johnson, 1982). Furthermore, a new model is made essential since private investment in R&D can be sub-optimal given that, at a point in time, firms may lack the ability to appropriate the full return of their investment due to the public-goods nature of (new) knowledge (Stoneman and Vickers, 1988). Also, uncertainty and asymmetric information can hinder markets in nurturing effective collaboration between firms, universities and state agencies to enhance innovation.

Similarly, a lack of knowledge about new technologies (and their applications) can stifle market demand and technological diffusion. In each case, the state—through its various agencies—can facilitate new network connections (Block, 2011) while also validating and demonstrating new technologies to raise confidence and enhance adoption (Hauser, 2014). Beyond the private/social wedge, the state—often through international state collaboration—also plays a critical role in addressing risky and long-term societal missions such as space exploration and tackling climate change (Mazzucato, 2013).

The present day

The revived interest in industrial policy comes at a time of a new technological transformation, and the arrival of radical and disruptive technologies associated with the applications of artificial intelligence, automation and machine learning. Industry 4.0 (I4.0) and the so-called ‘Fourth Industrial Revolution’ embody technologies such as advanced robotics, increased automation, digitalisation and data exchange in manufacturing technologies supported by artificial intelligence, cyber-physical systems, platform economy innovations and cloud computing. Further development of these technologies can unleash a significant disruptive process, requiring changes in the organisation of production from within and outside the workplace, among firms, and across the manufacturing and services sectors. These new technologies rely on platforms that utilise big data analytics to identify and enable new business opportunities and facilitate more significant interaction between producers and consumers in the process of customising products (Bailey and De Propris, forthcoming). The increasing advance of such technologies poses real challenges for industrial policy and wider socioeconomic cohesion. With new capital intensive technologies capable of displacing labour, much speculation exists as to whether beneficiaries will reside in more dynamic regions exacerbating and extenuating further socioeconomic and regional divides.

#### Neolib prevents innovation---firms amass power and don’t invest.

**Sell 20** – School of Regulation and Global Governance, Australian National University, Acton, ACT Australia

Susan K. Sell, “What COVID-19 Reveals About Twenty-First Century Capitalism: Adversity and Opportunity,” National Center for Biotechnology Innovation, 2020, https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7644989/

Going beyond the broad ‘neoliberalism’ label, John Braithwaite has described capitalism as ‘variegated’; he identified two aspects that are particularly relevant to global health—‘Wall Street’ capitalism and ‘monopoly capitalism’ (Braithwaite 2019). Wall Street capitalism captures the globalization of finance and the increased economic and political power of the financial sector. Financial markets, motives, institutions and elites have come to dominate the global economy affecting everything from production, consumption, regulation and health (Epstein 2005). Monopoly capitalism, or ‘intellectual monopoly capitalism’ (Pagano 2014), captures intellectual property (e.g., patents, copyrights and trademarks) owners’ preference to avoid competition. Ownership of intellectual property (IP) gives owners the right to exclude others from using the IP, reduce competitive supply and increase prices.

The quest to be competitive in global markets has led to economic concentration, oligopolies and a reduction in competition (Azmanova 2018). Economic power has shifted from the mainstays of the real economy (commodity producers and traders) to the controllers of global value chains (GVCs) who own intangibles such as intellectual property and financial instruments. According to Medeiros and Trebat,’the “core” business of every TNC (transnational corporation), irrespective of its particular branch, is to control and capitalize on these intangible assets’ in order to maximize shareholder value and generate large rents (Medeiros and Trebat 2017: 407). Firms that are relatively immune to competitive pressure are ‘less compelled to invest’ in the real economy (Durand and Milberg 2018: 34). As Azmanova points out, ‘competition-induced productivity … does not condition growth on employment’ and has resulted in so-called ‘jobless growth’ and ‘jobless recovery’ after economic crises (Azmanova 2012: 453). Economic globalization has reduced the power of labour and has accelerated an increase in ‘labour flexibility’ that translates into precarious employment. Post-the 2007–2008 global financial crisis, austerity programs, cuts in social spending and labour market transformation have had negative effects on health outcomes and health equity (De Vogli 2014).

#### Aggregate demand – neoliberalism concentrates wealth into the hands of elites crushing the worth of the dollar and diminishing demand

Bivens 17 – Director of research at the Economic Policy Institute. He has a PhD in economics from the New School for Social Research.

Josh Bivens, “Inequality is slowing US economic growth,” *Economic Policy Institute*, 12 December 2017, pp. 3-9, https://files.epi.org/pdf/136654.pdf.

This new attention to the crisis of American pay is totally proper. The failure of wages of the vast majority of Americans to benefit from economy-wide growth in productivity (or income generated in an average hour of work) has been the root cause of the stratospheric rise in inequality and the concentration of economic growth at the very top of the income distribution. Had this upward redistribution not happened, incomes for the bottom 90 percent of Americans would be roughly 20 percent higher today. 3 In short, the rise in inequality driven by anemic wage growth has imposed an “inequality tax” on American households that has robbed them of a fifth of their potential income.

There would be huge benefits to American well-being from blocking or reversing this upward redistribution. This welfare gain stemming from blocking upward redistribution is the primary reason to champion policy measures to boost wage growth and lead to a more equal distribution of income gains. Put simply, a dollar is worth more to a family living paycheck to paycheck than it is to families comfortably in the top 1 percent of the income distribution.

Proponents of increases in the minimum wage and other measures to boost American wages have often argued that there are benefits to these policies besides the welfare gains stemming from pure redistribution. These proponents have often argued that boosting wages would even benefit aggregate economic outcomes, like growth in gross domestic product (GDP) or employment.

Recent evidence about developments in the American and global economies strongly indicate that these arguments are correct: boosting wages of the bottom 90 percent would not just raise these households’ incomes and welfare (a more-than-sufficient reason to do so), it would also boost overall growth. For the past decade (and maybe even longer), the primary constraint on American economic growth has been too-slow spending by households, businesses, and governments. In economists’ jargon, the constraint has been growth in aggregate demand lagging behind growth in the economy’s productive capacity (including growth of the labor force and the stock of productive capital, such as plants and equipment). Much research indicates that this shortfall of demand could become a chronic problem in the future, constantly pulling down growth unless macroeconomic policy changes dramatically.

Our rising inequality is being driven by the slowdown in wage growth for the bottom 90 percent

It is now well-known that incomes in America grew much less equally after 1979. Probably the most important fact about this growing inequality is that it has overwhelmingly been driven by trends in market-based income rather than in the taxes and transfers component of income. Table 1 shows the sources of income growth for the top 1 percent of households in the three decades before the Great Recession. It uses Congressional Budget Office (CBO 2016) data on comprehensive household income, which includes noncash market-based income such as employer contributions to health insurance premiums as well as non–market-based income such as government transfers. The CBO data show that inequality is increasing (the share of all income that is going to the top is rising) because the top 1 percent are getting a greater share of each type of market income and because the types of market income that are most concentrated at the top (particularly capital gains and business income) constitute a growing share of all income, whereas income from less-concentrated sources (particularly labor compensation) is falling as a share of overall income. The data in the table also indicate that the direct, arithmetic influence of taxes and transfers has been minimal, with rising inequality of market incomes explaining more than 100 percent of the rise in the after-tax income share of the top 1 percent.4

The first block of columns simply shows the top 1 percent share of overall household income and of various income types as identified in CBO (2016). A clear finding is that the top 1 percent share of every source of income except government transfers rose significantly between 1979 and 2007. The share of overall income held by the top 1 percent more than doubles (rising from 8.9 to 18.7 percent of total income) between 1979 and 2007. And even with the enormous blow to top 1 percent incomes dealt by the 40 percent loss in the stock market from 2007 to 2010, the top 1 percent share in 2012 of 17.3 percent was almost double its 1979 level. Particularly salient to this analysis is the rough doubling of both labor and total capital shares claimed by the top 1 percent from 1979 to 2007 and 2012.

The next block of columns shows each income category’s share of overall household income. The most striking finding here is the large decline in the labor compensation share of total income, falling from 70.6 percent in 1979 to 61.0 percent in 2007 and 2012. Correspondingly, the share of total capital and business income (driven by capital gains and business income) rose substantially, from 17.5 percent in 1979 to 22.1 percent in 2007. 5 Due to the stock market crash in 2007 and the hangover from that crash through 2010, capital income shares (and thus total capital and business income) remained lower in 2012 than in 2007, but still above the 1979 levels. Finally, pension payments and transfer incomes have risen steadily over time as shares of total income.

The third block of columns calculates how much growing concentration within each income category contributed to the increasing top 1 percent share of income from 1979 to 2007 and from 1979 to 2012. The growing concentration of particular income types in the top 1 percent of households contributed 7.2 percentage points to the 9.8 percentage-point increase in the top 1 percent’s income share from 1979 to 2007, accounting for essentially three quarters of the rise. The vast majority of this concentration within income sources is accounted for by labor and capital incomes. The last block of columns summarizes how much the shift from less-concentrated (labor) income to more-concentrated (capital) incomes boosted the top 1 percent share of overall household income. The sum of these shifts contributed 2.6 percentage points to the growth of the top 1 percent share from 1979 to 2007, and 0.4 percentage points from 2007 to 2012.

One way to summarize what these data tell us is that the vast majority of households (those outside the top 1 percent) are losing out in claiming their proportionate share of total income growth in two significant ways. First, workers as a group are losing out to capital owners, with the shift from labor to capital income explaining a significant portion of the rise of the top 1 percent. Second, the bottom 99 percent of income earners in America are able to claim only an ever-shrinking portion of the overall wage bill, with the highest-paid workers in the top 1 percent more than doubling their share of labor income over the last three and a half decades.

In our view, these are simply two sides of the same coin: a pronounced reduction in the collective and individual bargaining power of ordinary American workers that led to pay growth lagging productivity so badly in recent decades. If wages of the bottom 99 percent had kept pace with productivity growth for most of the past generation (the way that typical workers’ wages did in the post-WWII generation), then most of the increase in income inequality we have seen simply would not have had space to develop, as concentration within labor incomes would not have grown and the share of total output available to be claimed by capital owners would have been significantly smaller. 6

But wages for the vast majority of workers stopped keeping pace with economy-wide productivity growth in the late 1970s, and the cumulative wedge between productivity and typical workers’ pay has risen ever since, as shown below in Figure A. This figure shows growth in economy-wide productivity, defined as the amount of income and output generated in an average hour of work in the economy. While the pace of productivity growth slowed down in the late 1970s, productivity still grew steadily in the following decades. The figure also shows a measure of hourly pay (including both wages and benefits) for production and nonsupervisory workers in the U.S. economy. This nonmanagerial group includes roughly 80 percent of the private-sector workforce. After growing right in line with productivity for decades following World War II, hourly pay for these workers all but stagnated after 1979. Because productivity kept growing but pay for 80 percent of the private-sector workforce stagnated, this means that the economy continued to generate growing incomes on average each year, but pay for typical workers slowed radically. In short, the growing wedge between these lines represents the disproportionate share of economic growth claimed by those at the top after 1979.

Table 1 and Figure A together tell a clear story about the rise in American inequality: it has been made possible by the suppression of wage growth for the vast majority of American workers. Until this wage suppression ends and hourly pay for the vast majority of workers begins rising in lockstep with economy-wide productivity, there is very little reason to hope that rising inequality can be arrested. This makes focusing policy attention on boosting wage growth absolutely crucial.

“Secular stagnation,” or, the chronic shortage of aggregate demand constraining economic growth

A useful (if admittedly too-simple) way to think about an economy’s growth is as an interplay between the economy’s productive capacity and the level of aggregate demand. The economy’s productive capacity is a measure of potential that includes three major “inputs” of production: the labor force, the capital stock, and the state of technology. However, for these potential inputs to be fully utilized, aggregate demand—or spending by households, businesses, and governments—must be strong enough to mobilize them. Take the example of a hotel’s economic fortunes from 2007 to 2010. In 2007, the building and physical plant existed, the systems for taking reservations existed, and there were plenty of workers, both actual employees and potential workers willing to take jobs at the right wages. Also in that year, there were customers; rooms were likely booked to capacity and the owners may have even considered adding rooms. In 2010, this hotel still had a physical plant and reservation systems, and while their own staff was likely much smaller because of layoffs in the wake of the Great Recession, there was a huge increase in potential workers looking for jobs that could have been hired. But what kept the hotel’s hiring constrained and profits low in 2010 was lack of customers, not slow growth in the economy’s potential (or productive capacity).

Recently, a number of economists have noted that evidence over recent decades indicates that growth has been constrained more by slow growth in aggregate demand than by slow growth in the economy’s productive capacity. For example, the full business cycle between the peaks of 2001 and 2007 saw the slowest economic growth then on record. The result of this slow growth was that the unemployment rate never returned to prerecession levels, and the prime-age employment-to-population (EPOP) ratio never approached prerecession levels. (See Bivens and Irons 2008 for a full accounting of this business cycle’s place in historical comparisons.) All of this indicates that the slow growth that took hold even before the Great Recession hit was likely a function of too-slow growth in aggregate demand—or spending by households, businesses, and governments.

Before the Great Recession, most macroeconomists would have rejected the idea that economic growth could be constrained for long periods of time by too-slow demand growth relative to the economy’s productive capacity. The typical view was that growth in productive capacity was driven by long-run trends that did not change very fast, such as the aging of the population (which determines the pace of potential labor force growth), the accumulation of plants, equipment, and buildings that is the result of decades of past investment, and accelerations and decelerations of technology that were largely exogenous (unrelated to the state of the business cycle). In this view, ensuring that growth in productive capacity (or growth in potential GDP) is fully realized essentially means ensuring that aggregate demand grows quickly enough to keep resources (labor and capital) fully employed.

In past decades, policymakers considered it relatively easy to keep aggregate demand growing fast enough high enough to fully utilize the economy’s productive capacity. In fact, macroeconomic policymakers thought their most difficult task was restraining, not boosting, growth in aggregate demand. When aggregate demand for economic output outstrips the economy’s productive capacity to meet that demand, the result is inflation. So policymakers focused on controlling inflation—or ensuring that aggregate demand did not run chronically too fast. Of course, the U.S. economy underwent recessions during which demand growth lagged behind potential GDP growth, but it was thought that the demand shortfalls could be easily solved by the Federal Reserve reducing short-term interest rates to spur more spending. Because aggregate demand was thought to need policy restraint, not stimulus, this implies that overall growth was constrained by how fast the economy’s productive capacity could grow. Any worry that persistently slow growth (say lasting more than one year) in aggregate demand could be a primary constraint on economic growth over a meaningfully long time period was largely dismissed. We now know that this dismissal was premature, and that sluggish demand growth can pull down economic growth for long periods of time.

The data show we are in such a period, and likely have been for over a decade. The extraordinarily weak GDP growth between 2001 and 2007 was accompanied by decelerating wage growth, and low inflation and interest rates. These trends are strong indicators that demand was lagging growth in productive capacity. This weakness in demand was especially striking given that aggregate demand (or spending by households, businesses, and governments) was buoyed in those years initially by near-zero interest rates (set by the Federal Reserve in the early 2000s) and then by an enormous asset bubble in residential real estate that increased household wealth in the mid-2000s. The housing bubble burst, ushering in the Great Recession. The recovery from that recession was even slower than the recovery from the 2001 recession, despite extraordinarily expansionary monetary policy in the wake of the Great Recession.

#### Tech sans government support will always fail against foreign competitions – China’s firms are united while the U.S. ones squabble with each other – only sustained government investment can solve.

**Atkinson 21** – founder and president of ITIF, an independent, nonprofit, nonpartisan research and educational institute focusing on the intersection of technological innovation and public policy.

Robert Atkinson, “The Case for Legislation to Out-Compete China,” Information Technology & Innovation Foundation, 3/29/21, https://itif.org/publications/2021/03/29/case-legislation-out-compete-china

It is time for U.S. policy analysts, pundits, and policymakers to take a fresh and unbiased look at the role of the state in industry and technology advancement. An unwillingness to do so will mean, at best, the incremental development of a weak, generic form of advanced industry policy that will almost surely fail in addressing the existential China technology challenge.

The United States must jettison the prevailing economic doctrine that disparages a more active role of government in promoting industrial competitiveness and technological innovation that reflects the complex and hence public-private character of modern technologies and the industrial supply chains that deliver them.

Casting off the shadows of long defunct (and also current) economists who conceive of innovation industries as the same as commodity-based “widget” industries, and who deny the very validity of the concept of national industrial competitiveness, is a necessary first step because it opens the debate to fresh, empirically-based, pragmatic analysis, rather than the ideological edicts related to industrial strategy that now pass for expert insight from economists.

But as important as that is, this new recognition needs to be translated into concrete policy action. There are many steps Congress and the Biden administration should take—steps the Information Technology and Information Foundation (ITIF) has detailed in numerous reports.3 Near the top of the list should be passing and funding the Endless Frontiers Act, including charging (and funding) the National Institute of Standards and Technology (NIST) with expanded functions; significantly expanding the research and development tax credit; and instituting within the federal government a role for sector-by-sector industrial strategy analysis. Regardless of what path Congress takes, the country needs big, bold, and sustained action if it is to maintain its technological and advanced industry leadership.

What Is Industrial Strategy?

Ever since the concept of a national industrial strategy was first proposed in the late 1970s, it has received scorn from virtually all neoclassical economists, who advocate it be treated as the economic equivalent of chiropractors (who are looked down upon by medical doctors). But the idea is getting a new life, largely because of the growing awareness of the economic, technology, and national security threats posed by China.

Policymakers on both sides of the aisle are rejecting the dead-end, intellectual straightjacket of conventional economics. The House Republican’s China Task Force Report calls for a national industrial strategy, including doubling federal funding for basic science, expanding industry-university-federal lab partnerships, expanding funding to help spur innovation in lagging regions, and doubling the research and experimentation tax credit.4 Democrats Chris Coons (DE), Chuck Schumer (NY), Krysten Sinema (AZ), and Mark Warner (VA) and Republicans John Cornyn (TX), Tom Cotton (AR), Marco Rubio (FL), and Todd Young (IN) have all sponsored or co-sponsored key competitiveness legislation. Similar bipartisan efforts have been introduced in the House. And President Biden’s Build Back Better plan includes funding for industrial strategy programs.5

But what exactly is an industrial strategy (or as it has also been termed, industrial policy)? As Robert Reich once quipped, industrial policy “is one of those rare ideas that has moved swiftly from obscurity to meaningless without any intervening period of coherence.”6 But this lack of coherence is because, just as in other areas of policy—energy, transportation, health, defense, and others—the ideal policy not only differs depending on who is advocating for it, but evolves over time. Industrial policy is no different. Critics know that if they can define industrial policy so broadly that it includes Brazil putting tariffs on imports as well as Defense Advanced Research Projects Agency (DARPA) funding GPS and the Internet, they make the term meaningless.

The definition of an advanced industry and technology strategy (AITS) is simple: It is a set of policies and programs explicitly designed to support specific targeted industries and technologies. As figure 1 shows, the R&D tax credit would not qualify as an industrial or technology policy tool because its focus is not on any particular industry or technology, but rather on R&D generally. It is, however, an overall innovation or competitiveness strategy tool. Likewise, the CHIPS (Creating Helpful Incentives to Produce Semiconductors) Act, which was designed to spur the domestic growth of the semiconductor industry, is a component of AITS because it targets a particular industry. But it is also a component of a broader competitiveness or innovation strategy. Expanding funding for the NSF-led National Robotics Initiative would be an AITS policy because it is specifically designed to support the development of a particular technology. In contrast, any program that expands STEM (science, technology, engineering, and math) education would not be an AITS tool, but would be an innovation or competitiveness strategy tool.

Figure 1: Conceptualization of industrial strategy tools

An AITS doesn’t mean reflexively supporting every industry and technology. To the contrary, it means picking particular ones to support. There are four main criteria for such support:

The industry or technology must be one that without proactive government policy support would underperform, either in general or because of foreign competition.

The United States has some potential for success in the industry or technology because of existing assets and strengths.

Success in the industry or technology must be important to achieving key national goals, such as national defense and security, energy security and climate, a better trade balance, or faster productivity growth.

The firms in the industry should want support and be willing to invest at least some of their own resources in the efforts.

#### Governments are key actors in technological innovation because they are the ones who feel comfortable to take on risk!

**Mazzucato 21** – Professor in the Economics of Innovation and Public Value at University College London (UCL), where she is Founding Director of the UCL Institute for Innovation & Public Purpose (IIPP)

Mariana Mazzucato, “MISSION ECONOMY: A Moonshot Guide to Changing Capitalism,” Penguin Publisher, 1/28/21, https://www.penguin.co.uk/books/315/315191/mission-economy/9780241419731.html

The role of top management is to identify essential data and make sure it reaches the right people; it’s also to be constantly refocusing on the problem in a process of communication where information flows freely up and down the hierarchy and across departments. Staff in implementing agencies can consolidate project results from the portfolio to see what works best. Missions therefore need the freedom to say how resources are allocated within and between projects and to decide on progress milestones and technical goals during a project’s life.

Running a mission-oriented system of innovation requires leadership that – like NASA – encourages risk-taking and adaptation and can attract the best talent. It is important that agencies carrying out missions have sufficient autonomy to take risks without their authority being questioned. Autonomy also makes room for the organizational flexibility necessary for a mission-oriented body to respond quickly to changing conditions and the development of novel technologies. Allowing autonomy in pay helps agencies to recruit top talent with the skills to manage complex networked missions. With this combination of autonomy, flexibility and support from high levels in government, implementing agencies can empower their staff to embrace the inherent risk and push forward the projects that emerge to carry out the mission, while turning off the funding tap for those that turn out to be less promising.

Risk-taking and learning in government require working outside of the usual silos, coordinating across policy fields and finding the synergies that turn the components of cooperation into a whole that is larger than the sum of its parts. A mission can easily span ministries, departments, regional and local government bodies. But the greater the need for organizational transformation, the harder it is to accomplish. This is the ‘complexity paradox’ of modern public policy: the more complex policy issues are, the more compartmentalized policymaking becomes, fragmented into different and sometimes competing government departments and initiatives.10 On top of that, complex organizational structures with rigid, formal processes can limit the flow of information, reduce openness and constrain creativity. Breaking down silos means setting up a more horizontal relationship between departments, as Mueller did. A mission to tackle air pollution, for example, would need to work across all relevant departments, such as energy, environment, transport, health and finance. Each department retains clear responsibility for its contribution, but the synergies arise from co-ordination from the top of government, while stimulating the innovation from below, as described above. Organizational innovation is both a necessary propellant of missions and a result of them.11

NASA’s decentralization, with delegation of authority to laboratories such as the Jet Propulsion Laboratory (JPL) in Pasadena California (part of Caltech), was key to its success. So was its ability to sidestep the usual bureaucratic procedures. As discussed by Arnold Levine in his study of management inside NASA, vital for its dynamism and speed was the ability to ‘negotiate contracts up to a specified amount, to transfer funds between programs, to start new research tasks without seeking specific authorization, to shift manpower from one division to another, and so on. The strategy of senior management was to give the centers what they needed to get the job done but not so much that their work would lose its relevance to the agency’s mission.’12 Furthermore, dynamic procurement and HR practices allowed NASA to attract talent and contract to the most innovative firms. As Levine further writes:

Another element in the success of the NASA organization was flexibility: flexibility for the Administrator to appoint to excepted positions, to award major R&D contracts without competitive bidding, to reprogram within appropriation accounts and to transfer between them, to devise and administer a custom-tailored entrance examination, and the like. Examples such as these represent flexibility within the system, not a departure from it; variances from the norm were allowed by Congress, the Bureau of the Budget, and the Civil Service Commission. This flexibility allowed for that ‘free play of the joints’ without which institutional rigor mortis sets in. The use of excepted positions, for example, served not only to retain employees within the organization but also to bring in new blood and to expose NASA to outside influences.13

In 1958, the same year as NASA was founded, the US government also set up DARPA, the innovation agency of the US Department of Defense – most noted for its investment in what became ARPANET, today’s internet. Both were results of Cold War investments. And, similarly to NASA, DARPA’s key characteristics are its organizational flexibility, which includes independence from government, flat internal structures, hiring outside of standard government processes, and flexible contracts.14 The organization encourages bottom-up design, which means that design is left to people like programme managers. They allow discretion in project choice and offer active project management. And indeed, without DARPA there would be no internet to have fuelled the twenty-first- century innovations. Better understanding the organizational structures that have encouraged problem- solving, risk-taking and horizontal collaborations is thus key to understanding the wave of future radical change.

Spillovers: serendipity and collaboration

The successes of organizations that take risks and are directed at large goals are often unpredictable. Innovation itself is often characterized by unpredictable spillovers: the search for one thing leads to the discovery of another – unexpected technological benefits from R&D that can also produce wider managerial, social and economic benefits. Viagra, for example, was initially intended to treat heart problems and then was found to have another application. Innovation is fuelled best when serendipity is allowed, so that multiple paths are pursued, bringing advances in unknown areas. Embracing that uncertainty and serendipity is key for any entrepreneurial organization, whether in the public or private sphere. And as the story below illustrates, such serendipity in technological innovation can also bring great societal benefits.

#### A strong administrative state spurs innovative solutions to global issues.

**Mazzucato 21** – Professor in the Economics of Innovation and Public Value at University College London (UCL), where she is Founding Director of the UCL Institute for Innovation & Public Purpose (IIPP)

Mariana Mazzucato, “MISSION ECONOMY: A Moonshot Guide to Changing Capitalism,” Penguin Publisher, 1/28/21, https://www.penguin.co.uk/books/315/315191/mission-economy/9780241419731.html

This book encourages us to apply the same level of boldness and experimentation to the biggest problems of our time – from health challenges such as pandemics, to environmental challenges such as global warming, to educational challenges such as the divide in opportunity and achievement between students partly caused by unequal access to digital technology. These ‘wicked’ problems require not just technological, but also social, organizational and political innovations. They are huge, complex and resistant to simple solutions. We must solve them – not merely accommodate them – by focusing policymaking on outcomes. And this means getting the public and private sectors to truly collaborate on investing in solutions, having a long-run view, and governing the process to make sure it is done in the public interest.

The moon landing was a massive exercise in problem- solving, with the public sector in the driving seat and working closely with companies – small, medium and large – on hundreds of individual problems. It required collaboration between government and many different sectors, from computing and electrical equipment to nutrition and materials. Government used its purchasing power to develop procurement contracts that were short, clear and massively ambitious. When the private sector sometimes failed to deliver, NASA threw back the challenge and did not pay until the solution was right. If successful, companies could grow through serving the new markets that government purchases opened up and scale up through a purpose-driven strategy.

What integrated all these efforts and gave them direction was that they were part of a mission – a mission led by government and achieved by many. Today, a ‘mission- oriented’ approach - partnerships between the public and private sectors aimed at solving key societal problems – is desperately needed. Imagine, for example, using public- sector procurement policy to stimulate as much innovation as possible – social, organizational and technological – to solve problems as diverse as knife crime in cities or loneliness of the elderly at home.

Of course, lessons from the moon landing cannot just be cut and pasted onto any challenge. But they do highlight the need to resurrect ambition and vision in our everyday policymaking. This cannot just be about bold statements. We have to believe in the public sector and invest in its core capabilities, including the ability to interact with other value creators in society, and design contracts that work in the public interest. We must create more effective interfaces with innovations across the whole of society; rethink how policies are designed; change how intellectual property regimes are governed; and use R&D to distribute intelligence across academia, government, business and civil society. This means restoring public purpose in policies so that they are aimed at creating tangible benefits for citizens and setting goals that matter to people – driven by public-interest considerations rather than profit.5 It also means placing purpose at the core of corporate governance and considering the needs of all stakeholders, including workers and community institutions, as opposed to just shareholders (owners of stock in a company).

In this context, ‘moonshot’ thinking is about setting targets that are ambitious but also inspirational, able to catalyse innovation across multiple sectors and actors in the economy. It is about imagining a better future and organizing public and private investments to achieve that future. This, in the end, is what got a man on the moon and back.

But there is a catch.

Conventional wisdom continues to portray government as a clunky bureaucratic machine that cannot innovate: at best, its role is to fix, regulate, redistribute; it corrects markets when they go wrong. According to this view, civil servants are not as creative and risk-taking as the entrepreneurs of Silicon Valley, and government should simply level the playing field and then get out of the way – so the risk-takers in private business can play the game.

This book’s thesis is that we cannot move on from the key problems facing our economies until we abandon this narrow view. Mission thinking of the kind I outline here can help us restructure contemporary capitalism. The scale of the reinvention calls for a new narrative and new vocabulary for our political economy, using the idea of public purpose to guide policy and business activity.6 This requires ambition – making sure that the contracts, relationships and messaging result in a more sustainable and just society. And it requires a process that is as inclusive as possible, involving many value creators. Public purpose must lie at the centre of how wealth is created collectively to bring stronger alignment between value creation and value distribution. And the latter should not only be about redistribution (ex post) but also predistribution ex ante: a more symbiotic way for economic actors to relate, collaborate and share.

It is essential to link the micro properties of the system – such as how organizations are governed – to the macro patterns of the type of growth desired. By rethinking how the relationships between the public sector and private sector can be better governed around public purpose, we can create growth that is better balanced and resilient, with new capabilities and opportunities spread across the economy. But this means, at the start, replacing the fashionable, bland terminology of ‘partnership’ with clearer metrics as to what a symbiotic and mutualistic ecosystem looks like; that is, one in which risks and rewards are more equally shared. In our era, unfortunately, the relationship is often parasitic: public-health funding is structured so that publicly financed drugs are too expensive for citizens to buy.

I call this different way of doing things a mission-oriented approach. It means choosing directions for the economy and then putting the problems that need solving to get there at the centre of how we design our economic system. It means designing policies that catalyse investment, innovation and collaboration across a wide variety of actors in the economy, engaging both business and citizens. It means asking what kind of markets we want, rather than what problem in the market needs to be fixed. It means using instruments such as loans, grants and procurement to drive the most innovative solutions to tackle specific problems, whether those be getting plastic out of the ocean or narrowing the digital divide. The wrong question is: how much money is there and what can we do with it? The right question is: what needs doing and how can we structure budgets to meet those goals?

#### Neoliberalism can’t prevent climate change empirics – market manipulation and regulations have failed to make any progress for decades

**Bigger and Dempsey 18** – lecturer in the critical geographies group at Lancaster University [Patrick Bigger]

ASSOCIATE PROFESSOR | ASSOCIATE HEAD OF UNDERGRADUATE PROGRAM at the University of British Columbia [Jessica Dempsey]

Patrick Bigger and Jessica Dempsey, “Reflecting on neoliberal natures: An exchange,” Environment and Planning E: Nature and Space, 2018, https://journals.sagepub.com/doi/10.1177/2514848618776864

The lack of action on climate change in this decade is one of the most illustrative and deeply troubling trends. In the past decade, we have witnessed a series of failed, or close to failed United Nations Framework Convention on Climate Change (UNFCCC) negotiations – with the most spectacular being Conference of Parties (COP) 15 in Copenhagen, which crushed many climate activists’ hopes. Along with disappointing supranational agreements, in this decade, we decisively moved from climate change models to climate change impacts. Heat waves (Christidis et al., 2015), forest fires (Abatzoglou and Williams, 2016), aquatic mass die-offs (Hughes et al., 2017): all of it is happening. The decade saw a slew of socio-natural catastrophes, particularly super storms that impact the poor and racialized more than anyone else, from Houston to the Philippines, which experienced 5 of its 10 most deadly typhoons since 2006. Such superstorms can now, at least in part, be attributed to anthropogenic greenhouse gas (GHG) emissions (Harvey, 2018). One of the bright spots in the last decade has been the concerted effort to mainstream climate change as a moral, ethical and/or justice issue, demonstrated perhaps best by the divestment movement’s tagline: if it is wrong to wreck the climate, it is wrong to profit from it.

But even if climate change is increasingly understood in term of injustices along raced and classed lines, the outrageous, take-your-breath-away fact is that world oil production between 2006 and 2016 increased by 11%, and even more tellingly, world proven oil reserves grew by a third over the same time period (BP, 2017). Governments have been loath to impose meaningful restrictions on production, despite knowing that the vast majority of this newly exploitable oil must be kept in the ground. Instead, most states have preferred to dabble with regulations on the consumption side through mechanisms like automobile fuel efficiency standards, while trusting capital markets to regulate hydrocarbon producers through stock valuation. These valuations, according to (neo)liberal orthodoxy, should govern future capacities to extract those fuels, but stable share prices suggest capital markets foresee no impending slowdown in extraction. As Christophers (2017) demonstrates, this is emblematic of neoliberal governance strategies that rely on data disclosure and rational financial actors to achieve desired outcomes; the same logic that defines financial (self)regulation drives hydrocarbon (self)regulation. Yet when it comes to huge and necessary GHG emissions reductions, such strategies have yet to deliver, a point made over and over by critics of mechanisms ranging from disclosure to emissions markets (Carton, 2014; Kama, 2014; Klein, 2015). Zombie climate neoliberalism lurches along, with little sign of the necessary brain-crushing blow to the head (Lane and Stefan, 2014). The gap between an emphasis on disclosure of climate risks in capital markets and the felt effects of climate change on the bodies of poor people of color is appalling.

In many ways, the decade of inaction reflects the sine qua non of neoliberal natures – the shift from government to governance, or the re-placing of critical regulatory functions from the state to non/quasi-state actors, driven by policy failures (a la Copenhagen) and also by ideologies that privilege the efficiency and rationality of markets often coupled with a mistrust or outright disdain for direct state regulations. Yet, the deadlock in the governmental sphere is also yielding innovations through the typical power structures of the state, namely the courts. There are a spate of climate justice-like cases that look to make fossil fuel firms and governments accountable for knowingly causing harm from New York to India,3 reflecting the discursive shift to understanding climate change in the terms of uneven costs and benefits that can be tried in court. However, such cases flow against the grain, as governance strategies for actual mitigation of environmental issues tend not only toward self-regulation, but also by actively facilitating new financial incursions into non- human natures.

#### Private markets fail – as long as we allow free markets to control our data, companies will market it to maleficent groups to make a buck

**Dror 20** – writer and graduate student concentrating on government and technology.

Raziel Dror, “Neoliberalism – The Cause of Surveillance Capitalism?,” Exponents, 2/19/20, https://exponentsmag.org/2020/02/19/neoliberalism-the-cause-of-surveillance-capitalism/

In The Age of Surveillance Capitalism, Zuboff similarly argues that we lack sovereignty online given the “extreme asymmetries of knowledge and power” between surveillance capitalists and users. Zuboff defines surveillance capitalism as an economic system premised on mining human behavior data to determine our preferences, predict our desires, and uncover our weaknesses, so that platforms and advertisers can more persuasively “nudge, coax, tune, and herd” us into buying goods and services to maximize Big Tech profits. Zuboff argues this dynamic has become so pervasive it is eroding our rights to free will and sanctuary.

How did we get here? In the story of surveillance capitalism, the first culprits were not tech titans such as Bezos, Brin, Page, Schimdt, or Zuckerberg, but Nobel Laureate economists Milton Friedman and F.A. Hayek – the neoliberals.

The seeds of surveillance capitalism, in Zuboff’s telling, were sown in Hayek’s famous concept of the “extended order.” This idea asserts that no market participant by itself can comprehend or deploy the full body of knowledge constituting the market. Hayekians leverage this knowledge problem, in turn, to critique the ability of interventionist social planners to maximize economic efficiency and stability.

The surveillance capitalism narrative portrays Hayek’s extended order as the origin of a political philosophy that created a power vacuum incubating Big Tech. By distracting us with the “specter of totalitarian” government, the story goes, market liberalism let us become blindsided by overgrown corporate power.

According to Zuboff, Hayekian thought was bent on eliminating any legal guardrails for economic activity. She writes, “Hayek and his ideological brethren insisted on a capitalism stripped down to its raw core, unimpeded by any other force and impervious to any external authority.”

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### Section 5 CP

#### Extinction.

MIT 17

MIT Technology Review, Emerging technology: Genetic Engineering Holds the Power to Save Humanity or Kill It, 19 September 2017, <https://www.technologyreview.com/s/608903/genetic-engineering-holds-the-power-to-save-humanity-or-kill-it/>

How likely is it that humanity will destroy itself? Various scientists have studied this probability, and the basic calculation is straightforward. The key parameters are the number of people capable of destroying the planet and the likelihood that they will do so. This likelihood has been hard to measure, since it depends on the psychological stability of the commanders in charge—how likely are they to trigger a nightmare scenario? The number of these individuals has been much easier to gauge. Throughout the second half of the 20th century and the early 21st century, this number has been the American and Soviet/Russian leaders in charge of massive nuclear arsenals. The projected lifetime of a civilization (LD50) depends inversely on the number of people, or entities, capable of destroying it (E) and the probability per year that one of them will (P). So perhaps as few as two people have truly civilization-destroying power. That may not be entirely reassuring, given the nature of those individuals, but it is a bed of roses compared to the future, says John Sotos, who is affiliated with the Joint Forces Headquarters of the California National Guard. Sotos says the calculus of civilization-ending technologies is about to change dramatically, and the consequences for humanity are devastating. Back in the 20th century, people all over the world became aware of an existential threat to civilization. Indeed, this possibility became an important part of the political strategies of the world’s two superpowers, the U.S. and the Soviet Union. The threat came from the technologies behind nuclear weapons, and the nightmare scenario was called mutually assured destruction. This involved both sides letting loose their nuclear arsenals in an attempt to destroy the other. The outcome of this process was intended to be so disastrous that neither side could benefit from triggering it and would therefore never start such a war. Whether by luck or judgment, this strategy has worked—so far. But the U.S. and Russia maintain their planet-destroying capabilities, and the threat of all-out nuclear war still hangs over the planet. A similar threat comes from climate change. And again the power to control or unleash it rests with the relatively small number of individuals who run the world’s major economies. Again, an important unknown is how likely they are to rein in the destructive power of greenhouse gas emissions. But the world looks to be moving toward a planet-saving strategy, although the efficacy of this approach is unknown. Now a new technology is posing a global threat. This is the ability to engineer organisms that can kill large numbers of people—perhaps almost everyone—in a global pandemic. Until recently, the development of bioweapons has required the kind of large-scale investment that only nation states can bring to bear. That has allowed this work to be carefully monitored on an international scale. Consequently, the use of bioweapons has been largely controlled by international agreement. But the ability to engineer lethal organisms is spreading. That’s because the same technology that allows researchers to design viruses and vaccines for specific genetic targets also allows them to design organisms that can spread and kill. Sotos points to the Cancer Moonshot project, which aims to accelerate the use of immunotherapies to treat cancer. The goal is to test this technology on 20,000 cancer patients in various trials by 2020. As a result, large numbers of individuals in hospitals and research facilities all over the world will have access to a technology that has a frightening dark side. To get a sense of the numbers of people involved. Sotos has searched the PubMed database of scientific papers for authors who have worked on “genetic techniques.” This search produced over 1.5 million unique names, of which 180,000 have authored more than five papers. If only a fraction of these have, or will soon have, the capability to engineer organisms that could end civilization, that represents a very significant increase in the threat level. Given this number, how likely are they to release a civilization-ending biotechnology? Sotos thinks of it as the likelihood per year that a person with this destructive technology will use it. There is no way of knowing what this probability is for humanity, so Sotos simply puts a few probabilities into his model to see how this influences the likely lifetime of our civilization. The results are sobering. If there is a one in 100 chance that somebody with the technology will release it, and there are a few hundred individuals like this, then our civilization is doomed on a timescale of 100 years or so. If there are 100,000 individuals with this technology, then the probability of them releasing it needs to be less than one in 109 for our civilization to last 1,000 years. But people are not all equally likely to behave in this way. A frightening scenario is the case of a person for whom the probability of releasing this technology is certain when they get hold of it. If people like this exist, the end of civilization is a certainty. Of course, Sotos’s model has some shortcomings. For example, it does not account for defensive strategies, such as the development of a treatment or cure. Humanity’s ability to detect and respond to global pandemics is in its infancy and certainly well behind our ability to create and release pandemics. Nevertheless, the chances of creating a timely treatment for billions of people seems remote. Another thought-provoking point is the nature of future advances in personalized medicine. “An especially concerning scenario arises if, someday, hospitals employ people who routinely write patient-specific molecular-genetic programs and package them into replicating viruses that are therapeutically administered to patients, especially cancer patients,” says Sotos. This technology allows these same people to create and release pandemics. And if this kind of health care spreads around the world, the number of people who have access to it will explode. “If the world attained the European Union’s per capita hospital density, this could mean 200,000 hospitals employing perhaps one million people who might genetically engineer viruses every workday,” says Sotos. That’s a stark warning with broader implications. One longstanding puzzle is that the universe is filled with stars like our own, presumably with the potential to evolve intelligent life, and yet we can see no sign of these civilizations. “Where is everybody?” said Enrico Fermi, the physicist who first posed this paradox. One line of thought is that there is some kind of filtering mechanism that prevents civilizations surviving indefinitely. During the Cold War, the obvious mechanism behind this “Great Filter” was nuclear war. Could humanity avoid blowing itself up? Now the question has morphed into whether humanity can prevent a catastrophic release of a lethal pandemic. If the answer is no, then Sotos’s numbers neatly solve the Fermi Paradox. He says there are 1024 stars and planets in the visible universe and yet only one civilization—our own. If civilizations destroy themselves with biotechnology, Sotos’s numbers suggest that there is likely to be only one intelligent civilization today. “Most remarkably, the present model supplies the quantitative 24 orders-of-magnitude winnowing required of a Great Filter,” he says. So what to do? Sotos has an answer, and his voice has some influence given that, in addition to his affiliation with the California National Guard, he is chief medical officer at Intel Health and Life Sciences. “I would advise advanced technical civilizations to optimize not on megascale computation nor engineering nor energetics, but on defense from individually possessable self-replicating existential threats, such as microbes or nanomachines,” he says.

#### Maintaining an edge in synth bio is key to effective biodefense and the US setting global rules of the road for CRISPR.

Gronvall 15

Gigi Kwik Gronvall, PhD, Associate Professor of Environmental Health and Engineering-Johns Hopkins Bloomberg School of Public Health, Senior Scholar-Johns Hopkins Center for Health Security, and Senior Associate-UPMC Center for Health Security, US Competitiveness in Synthetic Biology, Health Security 13(6): 378–389, 2015, doi: 10.1089/hs.2015.0046

If the United States were to lose its competitive edge in synthetic biology and related technologies, there would be serious consequences for national security. Some negative effects would be strictly economic, resulting in a declining environment for businesses and workers to be productive in synthetic biology–related industries in the long term.20 This is important for national security because, as described in the US National Security Strategy (2015), “In addition to being a key measure of power and influence in its own right, [a strong economy] underwrites our military strength and diplomatic influence. A strong economy, combined with a prominent US presence in the global financial system, creates opportunities to advance our security.”21 Current forecasting would suggest that a loss of economic opportunities in synthetic biology could be immense: Fidelity Investments describes synthetic biology as “the defining technology of next century” for global investments.22 In 2012, the World Economic Forum ranked synthetic biology as the second key technology for the 21st century, after informatics.23 According to BCC research, a market analysis company, the synthetic biology market reached nearly $2.1 billion in 2012 and $2.7 billion in 2013. They expect the market to grow to $11.8 billion in 2018 with a compound annual growth rate of 34.4% over a 5-year period from 2013 to 2018.24

Losing competitiveness in synthetic biology could also limit specific security applications on the horizon that are essential for national defense. These include the development of medical countermeasures for responding to biological, chemical, or radiological weapons threats and new approaches to diagnostics. A US Department of Defense (DoD) report described how synthetic biology could bring major advances to the development of high-performance sensors, sensors for unusual signatures, clandestine sensing, and high-performance materials for national defense; these applications would not likely be available to DoD based on private sector funding alone.25 Synthetic biology may also offer the possibility for distributed manufacturing so that critical supply chains are less vulnerable to disruptions.

These next several years will likely be formative in setting the “rules of the road” for emerging synthetic biology research. Yet, the United States may be disadvantaged and limited in its ability to actively participate in fundamental conversations about the governance of synthetic biology if US experts are not technological leaders in synthetic biology, as the shaping of synthetic biology governance will be dominated by the nations and their experts who are at the leading edge of technology development. This is because formal regulations or standards usually lag well behind the development of new technologies. For a new technical area, regulations are often preceded by the development of standard practices in a field, as well as cultural expectations and safety measures. These expectations and agreements build on previous sets of regulations but take new technical possibilities and dangers into account. The rules are often created by those who are most intimately familiar with the technologies—often, the scientists who are performing the work at the leading edge of development.

In the biological sciences, the most well-known example of scientists calling attention to nascent dangers in their field and setting the standards for scientific practice occurred when the field of recombinant DNA biology was new. In a letter published in Science in 1974, leading scientists and Nobel laureates recommended that certain types of recombinant DNA experiments—those with toxins, oncogenic viruses, and antibiotic resistance—should be off limits until their safety could be evaluated and assessed in a conference held a year later.26 That conference, held at Asilomar, California, in February 1975 and attended by scientists, government officials, and members of the press, led to a lifting of the moratorium in 1976, as well as the creation of a new regulatory system for recombinant DNA work funded by the US government.26 Efforts of the scientists to self-govern may well have forestalled restrictive national legislation.27 Asilomar now symbolizes scientists' attention to the public's concerns, as well as the scientific community's capacity to self-govern.

A more recent example of self-governance can be found in a synthetic biology application: commercial DNA synthesis. Companies that sell DNA synthesis products now screen their orders to determine whether a customer is ordering genetic material for dangerous pathogens and to block orders if the customer is not authorized. This screening system was developed in large part through self-governance of the commercial suppliers and interested scientists, with funding from the Alfred P. Sloan Foundation, and was eventually put into formal guidance from the US Department of Health and Human Services in 2010.11,28

In the synthetic biology field, there are other applications at the leading edge of development that will require governance measures to be safely and ethically applied, and some scientists have already stepped in to propose self-governance measures to deal with them. One example is the development of gene drives, which are systems that can spread a particular gene throughout a population with non-Mendelian inheritance—that is, much faster than would occur naturally.29 These have become much easier to construct using a new gene-editing technique—clustered regularly interspaced short palindromic repeats (CRISPR/Cas9 or Cpf1)—which allows sections of DNA to be searched for and replaced in a matter roughly analogous to editing a document in Word. Some scientists have proposed using gene drives to change the DNA of mosquitoes to make them resistant to malaria. Such a project could decrease the prevalence of malaria, which currently kills more than 600,000 people—mostly children—per year. Yet, this technology could be misapplied or result in a consequential accident should the genes spread to other species or cause other unintended effects. Those scientists who have been leading the development of gene drive and gene editing technologies have also taken the lead in thinking about the safety consequences, and they have been developing a series of commonly agreed upon safeguards for laboratory research into gene drives, such as using a combination of multiple stringent confinement strategies, as any single confinement strategy could fail.29 Scientists have also put forward ideas for how to safely use them outside of the laboratory.30

Another contentious application of synthetic biology that will require careful planning and safety standards is human germline editing, wherein modifications to sperm or egg DNA would not be applied to just one person, but to all their progeny. A group of interested and involved scientists met in Napa, California, to consider the ethical and safety ramifications of this work; the meeting was convened by Jennifer Doudna, one of the molecular biologists credited with developing the CRISPR/Cas9 tool. The meeting was intended to discuss the “scientific, medical, legal, and ethical implications of these new prospects for genome biology,” and they identified steps so that this technology could be performed “safely and ethically.”31(p36) In their consensus paper, published in Science, they recommend that the practice of germ-line editing be strongly discouraged for now, that forums be held in which this application can be discussed more broadly, and that foundational research that does not cross the line into embryo modification be encouraged.31 The National Academies of Science also launched an initiative to recommend guidelines for the new genetic technology, to explore the scientific, ethical, and policy issues associated with human gene-editing research.32

Determining what the “red line” is for allowable, critical, or ethical applications of synthetic biology, as well as how much safety data are required before pressing ahead, will always be a challenging exercise, and not all scientists, experts, and observers will agree. Tension over what is acceptable to pursue has already come up for germline editing, after a Chinese research group reported that they used CRISPR techniques to modify human embryos.33 (And there are at least 4 additional research groups in China known to be pursuing gene editing in human embryos.34) While the standards or expectations set by the scientific community will be impossible to enforce in an international context, the scientific community does set boundaries; those who flout those standards have to justify their actions in the international practice of science, and those boundaries and expectations are set by the leaders in the field. In the case of germline editing, the Chinese research was rejected by top-tier scientific journals Nature and Science, in part because of ethical objections.35

Self-governance of science has its critics, who are justifiably skeptical that scientists can be trusted to govern their own research fairly and who question the effectiveness of this approach in an international context, as the embryo editing example illustrates. However, self-governance is not the sole mechanism of governance in this area, as many foundational aspects of biotechnology and laboratory practice are already tightly regulated, and also because in forming new rules there is often a complex interplay among scientists, journalists, and policymakers to bring about new guidelines. In the case of DNA synthesis guidance, while there was substantial work done by scientists and interested parties to prevent misuse of DNA synthesis and promote screening, the issue became more salient, requiring immediate action, after a journalist ordered a small segment of DNA that encoded the smallpox virus.36 Still, feasible alternatives to self-governance are limited when technologies are still in the early stages of development, particularly when the applications are of broad interest, generating funding from private companies and multiple national governments, when the work is pursued in many places internationally, and when the technologies have great potential for tangible benefits to health and medicine. In addition, the amount of technical knowledge required for understanding the implications of new research and what can be done to ameliorate negative consequences makes it challenging even for scientists in distinct disciplines to evaluate research outside their expertise, because understanding the technical details inherent in the technology are critical both for identifying problems as well as proposing solutions.

There are additional applications of synthetic biology that have already generated conversations about governance within the scientific community—such as rescuing a species on the path to extinction; or even using synthetic biology for “de-extinction,” to bring back a species that was lost because of human hunting or negligence; or brewing opiates by fermentation in a process not unlike brewing beer.37-39 These applications have already sparked scientific involvement in discussions of what is technically possible and what rules should be developed. In 5 to 10 years, the list of applications that will require expert opinion and involvement to set expectations, standards of practice, and self-governance may well be very different, just as consequential, and require technical experts to take the lead in setting norms and safety standards. If US scientists, policymakers, and institutions would like to have some say in what is decided, they will need to be at the forefront of those technologies.

#### Effective regulation solves extinction.

Rauchfleisch 17

Adrian Rauchfleisch, Ph.D., Co-founder and on the Board of Directors-Zambia Institute for Policy Analysis and Research, Careless CRISPR in China: How to regulate the unimaginable?, October 5, 2017, https://zipar.org/short-term-challenge/careless-crispr-in-china/

CRISPR (or CRISPR-Cas9) stands for Clustered Regularly Interspaced Short Palindromic Repeats which are “systems that can be programmed to target specific stretches of genetic code and to edit DNA at precise locations”.3 In short, researchers can permanently modify genes in living organisms with CRISPR. In the early 2000s scientists first started to name specific repeat regions in bacterial genomes CRISPR. Around 2010 scientists showed that together with the protein Cas9 it is possible to target specific DNA sequences and in 2012 researchers demonstrated that it is possible to delete or replace any gene in an organism’s genome.4 As happens often in the history of science, different research groups published their discoveries at the same time5. This lead to a fierce patent fight that has been decided only recently.6 7 The whole patent fight calls into question how useful such patents are. After all, the CRISPR technology is based on knowledge accumulated in various labs around the world and mainly financed through public resources.8

A CRISPR-monster born in China

While the major discoveries and the first commercialization of the technology all happened in the West, China took the CRISPR stage in 2015, a year that has been called CRISPR’s “monster” year by the MIT Technology Review.9 This is not surprising, as China has since 2013 the second largest R&D spending in the world10 and CRISPR is an explicit priority area for the Chinese Academy of Sciences.11 In the years between the initial discovery and 2015 Chinese scientists have pushed the boundaries of science. In 2015 even the Chinese public became aware or CRISPR as the data of Chinese search volumes on the Chinese Internet illustrates.12 Scientists in China have successfully modified the genes of living organisms such as monkeys, dogs, and goats.13 A group of scientists in Shanxi province, for example, successfully created a new type of goat with longer hair (more Cashmere wool) and stronger muscle growth (more meat for food consumption).14 The biggest Chinese breakthrough to date also happened in 2015, when a group of Chinese researchers managed to edit human embryos for the first time.15 This move came not without criticism. In 2015, a number of scientists called for a moratorium because “genome editing in human embryos using current technologies could have unpredictable effects on future generations”.16

The genetically edited embryos of the first Chinese experiment showed some unintended mutations. 17 Still, in 2016, CRISPR was tested for the first time in a person during a clinical trial in Chengdu.18 At the moment, externally applied gels and creams are tested in China to treat patients infected with the human papillomavirus.19 Of course, such simple applications of CRISPR could help to cure many diseases in the future. At the same time, the risk of CRISPR is great, both if the technology is used for criminal purposes as well as if benevolent applications of CRISPR yield unintended or at least undesirable outcomes.

CRISPR as existential risk

Saying that CRISPR is risky is not very controversial – assuming that new technologies are inherently risky is a common heuristic. However, labeling CRISPR as an existential risk might sound outright alarmist. But it is not: CRISPR is indeed an anthropogenic existential risk, but that does not mean that humankind is just about to be wiped out by it.

Existential risks are risks that threaten the existence of humankind. Existential risks have a maximally great scope (all humans are affected, even future generations that would have existed if not for the adverse outcome) and gravity (the risk is terminal).20 In addition, existential risks have some probability, usually above zero.

CRISPR is an existential risk both in civilian and in criminal or military applications. In the latter scenario, it is easier to understand why: Weaponized CRISPR is a potentially potent bioweapon that could do great damage whilst being very precise and accurate. A global CRISPR bioweapon war, if it ever came to that, would not produce the same levels of physical destruction as global nuclear war, but it might introduce cumulative hazards comparable to nuclear winter. The criminal and military application of CRISPR is somewhat salient in current risk analysis. For example, then U.S. director of national intelligence James Clapper declared CRISPR a global threat in February 2016, along other threats such as North Korean nuclear weapons21.

Civilian applications of CRISPR are aimed at helping people, not killing them. However, unintended consequences of premature wide-scale introductions of CRISPR products might create existential risk. Imagine a thought experiment: If some pharmaceutical company were to introduce a CRISPR anti-aging cream that really works and makes people biologically younger, that product would be in extremely high demand almost immediately. Now imagine that that cream had an unintended side-effect: Irreversible infertility. The CRISPR cream would, almost certainly, still be in extremely high demand, resulting in a precipitous drop in overall fertility. This could result in the loss of humankind’s reproductive capacity and thus in the (gradual) extinction of humankind.

The existential risk of CRISPR (and similar technologies) is typical of the dilemma of human progress: The more technologically mature humankind becomes, the greater anthropogenic human risks become

Gene editing race between China and the US

In 2017, after China had taken the CRISPR lead, it was time for the US to push the boundaries. Just recently, results of an experiment from scientists in the US were published: The scientists involved in the experiment also modified genes in human embryos, just as their Chinese counterparts did, but this time, apparently no mutations occurred.22 The technology and research race between the two nations can best be illustrated with the number of publications originating in each country. Since 2002, when Jansen et al.23 coined the term CRISPR in their paper, 6,942 scientific papers were published up to now.24 Most papers originated from US institutions (2890) followed by Chinese (919), German (413) Japanese institutions (390). Even though CRISPR research is dominated by institutions situated in the US and China, it is a technology used all over the world. One major reason is the rather low cost of the procedure.25 It is even possible to buy a “DIY Bacterial Gene Engineering CRISPR Kit” to do your own gene editing at home.26 However, this kit only allows using the most basic form of CRISPR.

How to regulate the unimaginable

It is very likely that we just got a first glimpse of what will be possible in the future. After the first experiment in China with human embryos, scientists from all around the world gathered at a global summit in Washington DC in 2015.27 Unsurprisingly, it was difficult for the participants to reach an agreement as every country regulates research differently. In the end, a statement by the organizers “stopped short of calling for a ban on editing human embryos and germ cells for basic research”.28 In cases where the work of scientists affects society as a whole, governments usually start to regulate research. In the case of the US, for example, a majority of people is worried about the idea of gene-edited babies.29 In democratic societies, citizens can influence regulations and public debates about opportunities and threats are possible. In Switzerland, we had a national vote in 2016 about genetic testing of embryos.30 The majority approved to modify the law on medically assisted reproduction. However, in authoritarian countries, such decisions are made top-down without open public debates.

Chinese researchers are currently pushing the boundaries and US-scientists are following suit. How should we cope with this situation? The summit in 2015 We mentioned above shows that science as a system cannot regulate itself. “Informal” events help to discuss possible issues and raise awareness, but they will not lead to binding decisions governing future research. National regulations also fall short as CRISPR will affect us on a global scale. Not every country has open debates and democratic processes to stop possible misuse of the technology. Therefore, in order to cope with the risks of CRISPR, we have to regulate the research and application of this technology in a supranational organization before a new scientific arms race gets out of control.

There is a precedent for this kind of supranational regulation: Research on nuclear fission technologies. After humankind witnessed the devastating detonations of two nuclear bombs in the Second World War, regulations seemed inevitable. With CRISPR, we have not yet witnessed such a catastrophic event and we still have time to regulate its use. That is precisely the whole logic of existential risk mitigation: We need to do something about existential risks before they become too great to mitigate. CRISPR will in all likelihood help to cure diseases in the future and improve human life. If we miss the current window of opportunity to define the right approach for handling CRISPR, we will miss the moment in which we are still able to mitigate the existential risk created by CRISPR effectively.

#### Section 5 is the poster child statute for Chevron deference.

**Hurwitz 14** – Assistant Professor of Law, University of Nebraska College of Law.

Justin, 2014, “Chevron and the Limits of Administrative Antitrust,” University of Pittsburgh Law Review, Vol. 76.

As a threshold matter, Section 5 is precisely the sort of statute to which Chevron deference is meant to apply.167 At a mechanical level, Chevron instructs courts to first ask whether the meaning of the statute is clear.168 Both “unfair methods of competition” and “unfair or deceptive acts or practices” are inherently ambiguous; courts need not turn to historical documents to determine whether a specific meaning was intended by Congress or whether Congress clearly intended to delegate interpretive authority to the FTC. Nearly every word of the statute is rife with ambiguity: What is unfair? Unfair to whom? What is deceptive? What is a method? An act? A practice? What is competition? As the Court has noted, the standard is “by necessity, an elusive one.”169

Absent clarifying language in the statute itself, or in some cases references outside the statute that indicate contrary congressional intent,170 the ambiguity inherent in the language of Section 5 is sufficient to trigger Chevron deference. The sole task of the courts is—or should be—to ensure that, whatever construction the FTC gives to Section 5, that construction is permissible within the boundaries of the statute.171

The argument for deference is even stronger when we consider outside references. The statutory history has consistently demonstrated a congressional intent to grant the FTC broad discretion to define the scope of Section 5 and, in particular, that the scope of Section 5 is broader than that of the antitrust laws.172 Section 5 was enacted in response to concerns that the courts had interpreted the antitrust laws too narrowly;173 it was deliberately drafted with language that had not previously been considered by the courts.174 When the Court imposed an overly narrow construction on the statute in the 1950s, Congress amended the statute to overcome that narrowing interpretation.

Section 5 is, thus, a case study in each of the four rationales for Chevron deference:176 congressional intent; agency expertise; concern about the courts’ limited political accountability as compared to Congress and its agencies; and the separation of powers—all of which urge deference to the FTC’s interpretation of Section 5. It is hard to imagine a statute better suited to Chevron deference than Section 5.

#### AND, it passes Step 1 and 2 with flying colors.

**Hurwitz 14** – Assistant Professor of Law, University of Nebraska College of Law.

Justin, 2014, “Chevron and the Limits of Administrative Antitrust,” University of Pittsburgh Law Review, Vol. 76.

That Chevron applies to FTC constructions of Section 5 does not necessarily mean that the courts will defer to agency constructions of the statute. Actual deference in any specific case will turn on the Chevron step one and two inquiries concerning whether the statute is ambiguous and, if so, whether the agency’s interpretation is a permissible construction. Given the inherently and deliberately ambiguous nature of Section 5, it seems very likely that any agency action to regulate the conduct of a firm will satisfy Chevron’s step one inquiry, provided that it is arguably related to competition.

It is more difficult to consider whether an agency construction of Section 5 would pass Chevron step-two without knowing the specific construction in question. At this stage, the question is whether the specific construction is permissible. Here too, however, it seems likely that any agency construction would be deemed permissible. As discussed previously, there is substantial debate within the antitrust literature on what constitutes anticompetitive conduct,238 and it is a near certainty that a court would deem as permissible any FTC construction of Section 5 arguably in line with non-fringe understandings of what constitutes anticompetitive conduct under the Sherman or Clayton Acts. This conclusion would likely hold even where the FTC may disagree with judicial constructions of the Sherman and Clayton Acts.

That alone would greatly expand the scope of Section 5 vis-à-vis current understandings of antitrust law, but Section 5 is not constrained by the Sherman and Clayton Acts, and there is no reason to think that FTC interpretations of “unfair” would be constrained by economic logic. While the FTC’s separate unfair acts and practices authority is expressly constrained by a consumer welfare test, its unfair method of competition authority is not. The history of the FTCA offers a sufficient basis for courts to find almost any construction of an “unfair” method of competition permissible—even if that construction is based in supremely uneconomic logic. This history, moreover, offers little, if anything to suggest that such a construction is impermissible.239 Thus, it is likely that the FTC could construe any form of conduct (i.e., a “method”) that harms anyone (i.e., “unfair”) operating in the same product market as the entity engaging in that conduct (i.e., “competition”) to be an unfair method of competition.

#### They’ll win in lower courts, SCOTUS won’t reverse, AND Chevron is resilient.

Hickman 21 --- McKnight Presidential Professor in Law, Distinguished McKnight University Professor, and Harlan Albert Rogers Professor in Law at the University of Minnesota.

(Katherine, “The Future of Chevron Deference,” 70 Duke L.J. 1015)

That view, however, is too simplistic. Even if they might sometimes do so only grudgingly,17 lower court judges regularly rely on Chevron18—and the Supreme Court rarely reverses those decisions. Chevron continues to play a significant role in the law, even if it is rarely cited by the Justices. Nor is it clear that the Supreme Court is looking to toss out Chevron altogether. In its 2019 decision in Kisor v. Wilkie, 19 a divided Court rejected a chorus of calls to overrule Chevron’s cousin, Auer v. Robbins, 20 which prescribed judicial deference when an agency interprets ambiguities in its own regulations.21 Instead, the Court merely narrowed Auer’s scope.22 The Court’s reluctance to overrule Auer, a much less important decision than Chevron, suggests that the Court may not be inclined to overrule Chevron deference outright.

#### One percent chance of it getting appealed to SCOTUS.

**Cockle Legal Briefs 14**, 2014, "Not the Long Shot You Thought," https://www.cocklelegalbriefs.com/blog/supreme-court/not-the-long-shot-you-thought/

According to statistics from the most recently completed Supreme Court term, you have more than a snowball’s chance in you-know-where of getting a petition for writ of certiorari granted.

During the Court’s 2012 Term (the 2013 Term will be completed later next month) the Court disposed of a whopping 7602 petitions and granted only 92 petitions for oral argument – a rate of 1.21%. That figure does not count GVRs – the grant of a petition for certiorari, vacation of the lower court’s judgment, and remand of the case.

#### SCOTUS will latch onto other statutes if possible. ONLY standalone Section 5 forces a ruling on Chevron’s merits.

**Kagan 21** ---Joyce Mack Professor of Law, University of Nevada, Las Vegas, William S. Boyd School of Law.

Michael, May 31st, "Chevron's Asylum: Judicial Deference in Refugee Cases," Houston Law Review, https://houstonlawreview.org/article/24480-\_chevron\_-s-asylum-judicial-deference-in-refugee-cases

The mere fact that in a single case the Court ignores Chevron or does not seem to apply it with full force does not mean much on its own. Moreover, given that Chevron deference has become a fraught topic, the Justices might be inclined to avoid it if they can find another way to decide a case.[[73]](https://houstonlawreview.org/#fn73) But that does not mean that Chevron has no relevance, in the sense that the Court might still turn to it when it really might matter. To paraphrase a line often attributed to Sigmund Freud, sometimes inconsistency is just inconsistency.[[74]](https://houstonlawreview.org/#fn74) Yet if the Court avoids relying on Chevron over and over again in a specific type of case while relying on it heavily and regularly in another type of case, then it’s not really inconsistency at all. Instead, the pattern indicates the circumstances in which the Supreme Court finds Chevron most applicable and those for which it finds it inappropriate or at least more fraught.[[75]](https://houstonlawreview.org/#fn75) Such “soft” cases allow the Supreme Court to quietly test and refine the appropriate boundaries of the doctrine, without prematurely stating a rule.

#### Means the perm results in UNILATERAL statutory interpretation. That voids Chevron.

**Hickman 19** --- Distinguished McKnight University Professor and Harlan Albert Rogers Professor in Law, University of Minnesota Law School.

Kristen E., “To Repudiate or Merely Curtail? Justice Gorsuch and Chevron Deference,” Alabama Law Review, HeinOnline.

Justice Gorsuch's hostility toward Chevron has manifested itself more subtly in other cases as well. Unlike some judges, he has not been shy about employing traditional tools of statutory interpretation to discern statutory meaning and clarity at Chevron step one, thereby avoiding deference. 47 In Hydro Resources, Inc. v. EPA,48 writing for an en banc Tenth Circuit, then-Judge Gorsuch suggested that Chevron review might be inappropriate for an Environmental Protection Agency (EPA) interpretation regarding the scope of its permitting authority under the Safe Drinking Water Act. He observed that the relevant provision was "not a statute specially involving environmental regulation, but one all and only about the geographic parameters of federal and tribal criminal prosecutorial authority," and thus outside the range of EPA core expertise. 49 Judge Gorsuch avoided resolving the question, however, by contending that the agency's failure to request deference allowed the court to review the agency's interpretation de novo. He thus, either inadvertently or deliberately, seemed to favor the anti-Chevron position in an ongoing debate over whether and under what circumstances agencies can waive Chevron deference.50 More recently, in Scenic America, Inc. v. Department of Transportation,5 ' now-Justice Gorsuch suggested the Court take up whether an agency's interpretation of an ambiguous contractual term should be Chevron-eligible and described that question in terms suggesting that he would think not

#### Agency interpretation cannot expand the scope of statutes.

Cook 95 – Judge, Illinois Appeals Court, Fourth District

Robert W. Cook, Springwood Assocs. v. Health Facilities Planning Bd., 269 Ill. App. 3d 944, Appellate Court of Illinois, Fourth District, March 1995, LexisNexis

With regard to the Board's position, we note that the regulations must control in the event of a conflict between the regulations and the application instructions. The regulations have the force and effect of law ( Union Electric, 136 Ill. 2d at 391, 556 N.E.2d at 239); the application and instructions do not. The application and instructions merely represent the Board's interpretation of the information which it needs in order to determine the need for a proposed project. While such an interpretation is entitled to some deference, it is not binding on a court. Further, an agency interpretation cannot expand or limit the scope of the relevant statute. ( Van's Material Co. v. Department of Revenue (1989), 131 Ill. 2d 196, 202-03, 545 N.E.2d 695, 699, 137 Ill. Dec. 42.) The regulation in question here required "market studies of the area indicating the characteristics of the population to be served." ( 77 Ill. Adm. Code § 1110.230(a)(1) (1992-93).) This is not the same as a memo of the facility's own internal experiences. Other interested parties cannot easily question the facility's own internal reports. The fact that many of a facility's present patients are from a given area does not necessarily predict the future population of the facility.

#### The core antitrust laws are the Sherman and Clayton Acts, the FTC Act is secondary to those core antitrust laws.

Felsenfeld 93 – Professor of Law, Fordham University School of Law

Carl Felsenfeld, “The Bank Holding Company Act: Has It Lived Its Life?,” Villanova Law Review, Vol. 38, January 1993, LexisNexis

It is well established that, despite the "extensive blanket of state and federal regulation of commercial banking, much of which is aimed at limiting competition,"480 the United States' core antitrust statutes (the Sherman and Clayton Acts) apply to banks.481 There is respectable opinion that "existing antitrust laws are fully adequate to guard against anticompetitive mergers or acquisitions, or other anticompetitive activity, in the banking industry."482 A proposal to remove the BHCA, however, is not a suggestion that only the Sherman and Clayton Acts would impose antitrust limitations on banks. The other bank laws and regulations would continue in effect.483

Whether the antitrust laws are sufficient to curb bank abuse that is otherwise dealt with by the BHCA has been disputed. One relatively early opinion suggested that illicit bank behavior is "almost impossible to detect and prove in a court of law" and, consequently, explicit legislation, like the BHCA, which foreclosed banks from other fields was desirable. 484 In contrast, a former Deputy Assistant Attorney General for Antitrust later opined that bank antitrust problems within the BHCA sphere are simply traditional antitrust issues that can be dealt with by those laws.485 He was countered by a then current Attorney General for Antitrust who believed the BHCA was essential to keep banks separate from commerce.486 Because these last two views were expressed in 1969 and 1970, one must assess current antitrust laws to analyze what view is valid today.487

There is a high degree of flexibility in the antitrust laws. One of the functions of the antitrust laws is to adapt their application to the particular industry under consideration and to the particular markets within which the industry operates.488 The general approach of the antitrust laws towards a merger or consolidation of the sort that currently requires preapproval under the BHCA is to accept the industry in its existing form as the norm and then to establish the effects of the merger or acquisition in terms of its effects on that norm. The net effect is the antitrust laws' disposition in favor of the existing structure.

The Justice Department has the power under existing law to challenge banking mergers and acquisitions for violation of the antitrust laws even when the Fed has first found the BHCA's antitrust tests satisfied.489 For example, in December 1990, the Justice Department challenged the acquisition of First Interstate of Hawaii, Inc. by First Hawaiian, Inc. under the BHCA even though the Fed had approved the transaction. The suit was settled by the agreement of the parties to a divestiture plan proposed by the Justice Department.490 In July 1991, the Justice Department challenged an acquisition by Fleet/Norstar of assets from the FDIC after the transaction was approved by the Fed under the Bank Merger Act.491 As these two cases show, the Justice Department has sufficient regulatory authority to police the antitrust aspects of bank acquisitions effectively without the BHCA statutory protections.

2. Federal Trade Commission Act

Secondary to the core antitrust laws, and of more potential than experiential significance in regulating bank holding company behavior in the absence of the BHCA, is the Federal Trade Commission Act (FTC Act). \492 In its broad scope the FTC Act is inapplicable to banks. 493 The FTC, however, may require banks to produce documentary evidence required during agency investigations. 494 The FTC Act's basic function is the prevention of precisely the type of activity that banks and their nonbank affiliates were accused of in the initial drafting of and amendments to the BHCA 495 - the perpetration of "unfair methods of competition." 496