## Minnesota 1AC

### Innovation Advantage

#### Disparagement dooms biosimilar innovation---antitrust is key.

Carrier 2020, Michael A. Carrier Rutgers Law School Distinguished Professor (Northwestern Law Review 2020 “DON’T DIE! HOW BIOSIMILAR DISPARAGEMENT VIOLATES ANTITRUST LAW” https://papers.ssrn.com/sol3/papers.cfm?abstract\_id=3595785)//ellie

In the small-molecule setting, disparagement is not a concern. Brands are not likely to falsely injure near-identical generics, which garner sales not from advertising campaigns but from state laws that allow—and in many cases require—pharmacists to substitute generic versions of brand-name prescriptions.39 In contrast, the education of stakeholders is critical to the marketing of biologics and biosimilars,40 which has tempted biologic firms to engage in disparagement. There are four related categories of statements and omissions that biologic firms have made against biosimilars, none of which is consistent with the statute. The first category is the most dramatic. A January 2019 Washington Post article quotes Philip Schneider, chairman of the Alliance for Safe Biologic Medicines’ international advisory board, as suggesting caution in a move to unbranded biologics “so we don’t end up with another thalidomide [which famously caused birth defects]” or “all the other things that happen when safety isn’t considered.”41 Offering another example in the fearmongering category, the article further quotes a patient advocate affiliated with the group, who stated that a switch from one drug to another “disrupts your continuity of care,” as “[y]ou could end up in an emergency room, or be[] hospitalized, or try[] other, less efficient treatments,” all of which “can exacerbate or flare your disease, bring[ing] it out of remission.”42 The second group of assertions claims that the biosimilar acts differently from the reference product. In an Amgen YouTube video quoted in Pfizer’s citizen petition raising awareness of this issue, the company states that the two products “can behave differently in the body.”43 Amgen also tweeted: “Biologics or biosimilars? It’s not just apples to apples. While #biosimilars may be highly similar to their #biologic reference products, there’s still a chance that patients may react differently.”44 Janssen Biotech provides a similar, albeit more subtle, example. In a patient brochure, the company states that a patient “may be asked to switch to a biosimilar that works in a similar way to REMICADE,” but that “you and your doctor did a lot of fine tuning to get where you are now,” so “if your REMICADE® treatment is still working for you, talk to your doctor about staying on it.”45 The third category is based on claims that the biosimilar is not identical to the reference product. The Amgen video mentioned above states that “no two biologic medicines are identical.”46 Similarly, Genentech’s website, again as discussed in the Pfizer citizen petition, states that “FDA requires a biosimilar to be highly similar, but not identical” to the reference product.47 The fourth group emphasizes that biosimilars do not satisfy the standard of interchangeability. In the brochure mentioned above, Janssen states that “[e]ven though infliximab biosimilars are very similar to REMICADE®, that doesn’t mean they are interchangeable with REMICADE®.” Janssen also warned (in bolded statements) that “no infliximab biosimilar has been proven to be interchangeable with REMICADE®” and that “[t]he infliximab biosimilars are not approved as interchangeable with REMICADE®.”48 Each of these four categories can constitute disparagement. The first— consisting of threatening comparisons to Thalidomide and warnings of trips to the emergency room—needs no explanation. But each of the other categories also runs afoul of the statute’s requirements. The second category—that the biosimilar acts differently—fails to mention that the FDA only approves a biosimilar when it is “highly similar” to and has “no clinically meaningful differences” from the biologic product.49 In other words, the biologic and biosimilar products are required to have the same safety and effectiveness profile.50 As the FDA explained in Draft Guidance issued in February 2020, “representations or suggestions that create an impression that a biosimilar is not highly similar to its reference product are likely to be false or misleading.”51 Evidence from Europe, which has witnessed robust biosimilar market entry, has confirmed that more than “700 million patient days of treatment” demonstrated that “clinical outcomes with biosimilars match the outcomes of the reference biologics.”52 This evidence also has revealed that “patient[s] switching from the reference biologic to the biosimilar . . . is not of concern” since more than 14,000 switches resulted in “[n]o change in clinical outcomes.”53 As discussed below,54 disparaging statements, even if not completely false, are, at a minimum, deceptive in conveying the misleading interpretation that biosimilars have “clinically meaningful differences” from their reference biologics.55 The third category—claiming that the biosimilar is not identical— focuses on an issue that is irrelevant; in fact, it is “normal and expected within the manufacturing process” for even batches of biologic products themselves to reveal “[s]light differences.”56 In the Draft Guidance mentioned above, the FDA “remind[ed] firms that a biosimilar product is not required to be identical to the reference product” but that it need only be “highly similar to the reference product notwithstanding minor differences in clinically inactive components and that there are no clinically meaningful differences . . . in terms of safety, purity, and potency.”57 Finally, for the fourth category, a biosimilar’s failure to attain interchangeability does not mean that it is less safe. For starters, this status only makes sense for biosimilars that will be dispensed at the pharmacy counter (where substitution takes place), but each of the 15 biosimilars that has entered the U.S. market is dispensed in a hospital or infusion center.58 More fundamentally, as Pfizer pointed out in its citizen petition, its biosimilar “demonstrated that a single switch does not result in different safety or efficacy.”59 As the statement from the global regulatory authorities explained, “[a] full clinical development program[] is not necessary when extensive laboratory testing has demonstrated that the biosimilar is highly similar to the originator.”60 And as Boehringer Ingelheim explained in supporting Pfizer’s petition, “an FDA interchangeability designation is irrelevant” for “the majority of biologics . . . administered to the patient by the physician who has written the prescription,” with “misinformation . . . generated” to “impl[y] that interchangeable biologics are ‘better biosimilars’ . . . rather than the same biosimilar on which additional data has been generated.”61 II. REGULATORY SETTING How should courts analyze the antitrust effects of biologic firms’ disparagement of biosimilars? This Part sets the stage for the antitrust analysis by discussing the importance of the regulatory regime, showing the regime’s ineffectiveness, and highlighting the significant barriers to entry facing biosimilars. By brief way of background, the antitrust framework that applies to a single firm acting unilaterally is monopolization. This offense requires a showing of monopoly power and exclusionary conduct.62 Monopoly power is “the power to control prices or exclude competition.”63 Biologic firms that disparage biosimilars are likely to satisfy this element because of their ability to charge and sustain supracompetitive prices in a market characterized by significant barriers to entry.64 In contrast to monopoly power, the caselaw on exclusionary conduct is less clear. Courts often distinguish between the “willful acquisition or maintenance of [monopoly] power” and “growth or development as a consequence of a superior product, business acumen, or historic accident.”65 Considering the regulatory regime can shed critical light on the issue of exclusionary conduct. A. Regulatory Regime As the Supreme Court explained in Verizon Communications v. Trinko, the starting point for antitrust analysis is the regulatory regime. The Court stated that antitrust analysis must take “careful account” of “the pervasive federal and state regulation characteristic of the industry” and “recognize and reflect the distinctive economic and legal setting of the regulated industry to which it applies.”66 The Court in Trinko considered not just the existence of a regulatory regime, but also its effectiveness. In Trinko, the regime was working: phone companies providing local service were required to “be on good behavior” and not to discriminate in providing access before entering the long-distance market.67 Firms that did not satisfy these conditions were subject to financial penalties, weekly reporting requirements, or the suspension or revocation of long-distance approval.68 In contrast, regulatory abuse has prevented the biologics regime from operating as intended. The combination of ineffective FDA regulation and high barriers to entry ensures a role for antitrust.69 B. Ineffective Regulation Biosimilar competition in the United States is far from robust. In Europe, 59 biosimilars have received approval.70 In the United States, 27 biosimilars have been approved (with more than half the approvals occurring since July 2018).71 In addition, U.S. biosimilars have offered savings of only 15% to 35% (typically on the lower end), far less than the more significant (often 70%) discounts in Europe.72 The weak U.S. biosimilar market is not the consequence of the FDA’s lack of effort. In its citizen petition, Pfizer pointed to “various initiatives” the agency had undertaken “aimed at encouraging and facilitating the development and approval of biosimilars.”73 Such activities included “the numerous biosimilar-related guidance documents FDA has issued, the Agency’s development and distribution of educational materials . . . , the Agency’s Biosimilar User Fee Act performance goals, and the . . . Biosimilars Action Plan.”74 Despite these efforts, FDA officials have expressed frustration with the lack of biosimilar competition. In 2018, Former Commissioner Scott Gottlieb “worried” that the market for biosimilars “still isn’t established” and that “[t]he ability for these products to penetrate clinical practice, and gain acceptance, is still not firm.”75 In addition, Gottlieb lamented that biosimilar competition is “anemic” and that “the real savings” from biosimilars have been “just a fraction of even the most conservative initial estimates.”76 In fact, the agency found that “if Americans had the opportunity to purchase successfully marketed, FDA-approved biosimilar prescription drugs, they could have saved more than $4.5 billion in 2017.”77 Such savings, however, will not come to fruition if biologic companies “unfairly delay or derail the entry of biosimilar competitors” through conduct (discussed in the next Part) such as patent thickets and anticompetitive contracts.78 Gottlieb expressed further concern “that the biosimilar manufacturers may pull out” if biologics “are able to lock up markets even in cases where there’s a fully interchangeable competitor.”79 Even more on point, Gottlieb “worried” that “there are either deliberate or unintentional efforts by branded companies to create confusion” about biosimilars’ safety and effectiveness.80 These messages “can potentially undermine consumer confidence in biosimilars in ways that are untrue” and “negatively impact a patient’s judgment about an otherwise safe and effective product.”81 The FDA and FTC reiterated these concerns in a joint statement in February 2020 in which they explained that they “support competitive markets for biologics” and “have serious concerns about false or misleading statements and their negative impacts on public health and competition.”82

#### False advertisement wrecks biosimilars---maintaining competition with antitrust is key.

Carrier and Tushnet 21, Michael A. Carrier Rutgers Law School Distinguished Professor, Rebecca Tushnet Harvard Law School Professor of Law (Iowa Law Review 2021 “An Antitrust Framework for False Advertising” https://papers.ssrn.com/sol3/papers.cfm?abstract\_id=3593914)//ellie

An example illustrates our framework. The pharmaceutical industry is marked by high barriers to entry. It is expensive to enter the market, and there are significant hurdles such as receiving approval from the FDA. These barriers are even higher in the biologics setting. Compared to the “small molecule” drugs that have made up the pharmaceutical market for the past several decades, biologic products are more complex and less predictable. As a result, unlike the near-identical relationship between brand and generic drugs, the connection between biologics and “follow-on biosimilars” is not as direct.171 The relevant statute, the Biologics Price Competition and Innovation Act (“BPCIA”),172 requires a biosimilar to be “highly similar to” the biologic and have “no clinically meaningful differences” in relation to “safety, purity, and potency.”173 But the uncertainty surrounding the products has resulted in biologic manufacturers stating or implying that biosimilars are unsafe, sometimes by omitting relevant information about their functional equivalence with the reference biologics.174 In a setting in which even the most minute differences between products could be enough to dissuade patients from trying new medications, the assertions at least implied dissimilarities that could have significant safety effects. For example, Genentech noted on its “Examine Biosimilars” website that “FDA requires a biosimilar to be highly similar, but not identical to the [reference product].”175 More explicitly, Amgen tweeted: “Biologics or biosimilars? It’s not just apples to apples. While #biosimilars may be highly similar to their #biologic reference products, there’s still a chance that patients may react differently.”176 Given the context of life-saving medications, it’s easy to imply dire consequences. For example, Amgen created a YouTube video asserting that a switch “carries risks, given that no two biologic medicines are identical,” which suggests that they “can behave differently in the body.”177 Amgen also cautioned that “[s]witching drugs is not a good idea if your medicine is working for you” and that “an inadvertent substitution . . . is not appropriate care.”178 Finally, some biologic manufacturers have warned that patients could face “additional risks” by taking biosimilars or even “could end up in the emergency room.”179 These claims raise several concerns. Most significant, the statements at issue imply that biosimilars create serious risks, failing to disclose that the FDA approves a biosimilar only when “there are no clinically meaningful differences [from] the biologic product.”180 To the contrary, biologic and biosimilar products are required to have the same safety and effectiveness profile.181 Evidence from Europe, which has witnessed robust biosimilar entry, has confirmed that “over 700 million patient days of treatment” demonstrated “that clinical outcomes with biosimilars match the outcomes of the reference biologics.”182 This evidence also has revealed that “patient switching from the reference biologic to the biosimilar . . . is not of concern” since the more than 14,000 switches from biologic to biosimilar resulted in “[n]o change in clinical outcomes.”183 Given significant development costs, regulatory barriers, thickets of dozens of (or even more than 100) patents,184 and exclusive contractual arrangements,185 biologic manufacturers are likely to have monopoly power.186 Taking the absence of clinically meaningful differences in FDAapproved biosimilars as a given, plaintiffs challenging false statements are likely to satisfy our presumption if they can show that, under false advertising law, the statements (or omissions) are false and material, and therefore are likely to deceive consumers and cause harm. False advertising principles establish that biologic manufacturers will not be liable unless their statements are false or mislead substantial numbers of relevant consumers. But, if falsity or misleadingness are established, they are not likely to be able to rebut the presumption of anticompetitive conduct given the significance of health risk claims to consumers. Even for attempted monopolists, as long as a plaintiff establishes falsity or misleadingness, the factors would seem to favor liability. Given the lack of biosimilar entry to date, in many cases biosimilars will be seeking to enter the market. The statements, which focus directly on risk, pose significant barriers to entry, as doctors and consumers are not likely to take a chance on drugs that have even the possibility of safety concerns. It is hard to think of examples that would more concretely affect consumers than warnings that drug products are potentially unsafe. In fact, the FTC recently issued warning letters to a number of plaintiff-side law firms for advertising that linked FDAapproved drugs with serious side effects, potentially frightening patients away from useful medications.187 In addition, a biologic manufacturer’s disparagement of a biosimilar rival may be part of a broader range of anticompetitive conduct. For example, disparagement could entrench barriers to entry that convince insurance companies to favor biologics through potentially anticompetitive exclusive dealing, bundling, and rebates.188 In short, false advertising law provides useful tools for determining if substantial numbers of relevant consumers are being misled to their detriment. And our framework would likely find that a biologic manufacturer’s proven false advertising that raises safety concerns against a biosimilar constitutes monopolization.

#### Antitrust and biosimilar competition is make or break for the future of pharma

Marmaro, 21 – Morgan, Editor-in-Chief, Colum. J.L. & Soc. Probs., 2020-2021. J.D. Candidate 2021, Columbia Law School. Molecule Size Doesn't Matter: The Case for Harmonizing Antitrust Treatment of Pay-for-Delay Agreements, 54 Colum. J.L. & Soc. Probs. 169, Winter, p. Nexis – Iowa

In contrast, the FDA only recently developed the regulations allowing it to determine that a biosimilar is "interchangeable" with a biologic. 30 As of September 2020, the FDA has yet to designate a single biosimilar or biologic drug in the U.S as "interchangeable." 31 Indeed, the FDA has been relatively slow to even approve biologic and biosimilar drugs for sale in the U.S., making biosimilar introduction relatively slow in the U.S compared to Europe. 32 While there are seventy-one biosimilar drugs approved in Europe as of January 2020, only twenty-six biosimilars had been approved in the U.S. 33 But even when the FDA actually approves a biosimilar as an "interchangeable" drug, most states do not have laws that permit or mandate the substitution of the "interchangeable" drug with the biologic. 34 The pharmaceutical industry successfully lobbied for laws requiring naming conventions for biosimilar drugs that make it difficult for pharmacists to identify similar biologic drugs. 35 [\*177] States, for their part, have generally not updated their laws to provide more substitution of biosimilars or those drugs with interchangeability designations. However, with the end of the "golden age" for small-molecule brand drugs in sight and $200 billion in brand sales subject to generic competition by 2025, companies increasingly see biologics and biosimilars as the future of the pharmaceutical market. 36 As explained infra, biologic drugs' large price tag derives, in part, from a lack of meaningful competition in the U.S. and few pricing constraints. 37 Some $67 billion of the biologic market is vulnerable to biosimilar competition as major patents are set to expire in 2020; 38 the use of patents and pay-for-delay agreements by biologics companies remains a potent threat to any real competition. A class action, In re Humira (Adalimumab) Antitrust Litigation, 46alleges that AbbVie's multiple agreements are actually market allocating agreements and settlements qualifying as reverse payments. As of this writing, the In re Humira litigation is undergoing appeal after a district court ruled in favor of AbbVie, noting that while the behaviors seem unsavory, they were legal "exploited [\*179] advantages" derived from the current regulatory system. 47The court went further astray, finding that the agreements were not anticompetitive, and in contradiction with Actavis's rejection of the scope of the patent doctrine, did so by relying upon the alleged strength of AbbVie's Humira patents. 48But neither the parties nor the Court in In re Humira questioned the basic application of Actavis to the agreements in this case. Though the In re Humira district court dismissed the case in favor of defendants, 49this Note argues that the In re Humira district court was correct to engage in an Actavis analysis but did so incorrectly. A constrictive reading of Actavis to not include biologics, despite similar economic incentives to game the system and collusively divide the markets, would undoubtedly result in the proliferation of collusive biologic settlement agreements that will increase the already staggering biologic prices. There is clear congressional intent that supports treating biologic and small molecule collusive agreements under the same standards. 50 Further, using the ongoing In re Humira litigation as a framing device, an opportunity for courts to explicitly determine whether and how to apply the Actavis framework to biologic drug settlements, this Note will demonstrate how the reasoning and analysis of Actavis applies to qualifying settlements in the biologic sphere and is consistent with precedent, congressional intent, and public policy. While differences between biologics and small molecule pharmaceutical production warrant different FDA manufacturing [\*180] procedures, 51recent and ongoing legislative proposals addressing pay-for-delay agreements apply the same legal standards to adjudication of agreements for biologic and small molecule drug manufacturers. 52Some commentators, however, have advocated a narrow interpretation of Actavis to apply only to small molecule drugs 53because the Court only discusses the relevant regulatory framework for small molecule drugs in that case. 54They argue that the Actavis result was founded and based on the language and intent of the Hatch-Waxman Act. 55Just as the courts then spent years litigating whether Actavis only implicated cash-only "payments," 56savvy pharmaceutical attorneys are likely to argue that Actavis should apply only to drugs covered by the Hatch-Waxman Act. Part II will first discuss various forms of antitrust abuses that arise in the pharmaceutical space and are often utilized as part of or together with reverse payment agreements. It goes on to explain the legal and regulatory backgrounds of small and large molecule drugs, focusing on how the biologic regulatory regime differs. Part III then discusses the consequences of lax antitrust scrutiny on pharmaceuticals, and finishes with the allegations, arguments, and findings currently on appeal in In re Humira. Lastly, Part IV proposes a two-fold solution to the problems posed by Actavis's lack of legal clarity. First, there must be regulation or precedent that clearly indicates that for antitrust purposes, biologic settlement agreements should be subject to the same antitrust scrutiny as [\*181] those concerning small molecule drugs. In re Humira provides the perfect opportunity; and as the Part IV analysis will show, applying Actavis to biologics is in the spirit of the law, aligns with public policy, and follows precedent -- despite the In re Humira district court ruling in favor of the defendants. Second, this Note suggests a need for a corresponding legislative solution. This Note's purpose is to demonstrate that the way a drug is manufactured, approved, or allowed to compete does not alter the application of antitrust law seeking to rid the market of collusive agreements between rivals.

#### Pharma innovation solves disease, bioterror, and ABR.

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As key actors in the healthcare innovation landscape, pharmaceutical and life sciences companies have been called on to develop medicines, vaccines and diagnostics for pressing public health challenges. The COVID-19 crisis is one such challenge, but there are many others. For example, MERS, SARS, Ebola, Zika and avian and swine flu are also infectious diseases that represent public health threats. Infectious agents such as anthrax, smallpox and tularemia could present threats in a bioterrorism context. The general threat to public health that is posed by antimicrobial resistance is also well-recognised as an area in need of pharmaceutical innovation. Innovating in response to these challenges does not always align well with pharmaceutical industry commercial models, shareholder expectations and competition within the industry. However, the expertise, networks and infrastructure that industry has within its reach, as well as public expectations and the moral imperative, make pharmaceutical companies and the wider life sciences sector an indispensable partner in the search for solutions that save lives. This perspective argues for the need to establish more sustainable and scalable ways of incentivising pharmaceutical innovation in response to infectious disease threats to public health. It considers both past and current examples of efforts to mobilise pharmaceutical innovation in high commercial risk areas, including in the context of current efforts to respond to the COVID-19 pandemic. In global pandemic crises like COVID-19, the urgency and scale of the crisis – as well as the spotlight placed on pharmaceutical companies – mean that contributing to the search for effective medicines, vaccines or diagnostics is essential for socially responsible companies in the sector. It is therefore unsurprising that we are seeing industry-wide efforts unfold at unprecedented scale and pace. Whereas there is always scope for more activity, industry is currently contributing in a variety of ways. Examples include pharmaceutical companies donating existing compounds to assess their utility in the fight against COVID19; screening existing compound libraries in-house or with partners to see if they can be repurposed; accelerating trials for potentially effective medicine or vaccine candidates; and in some cases rapidly accelerating in-house research and development to discover new treatments or vaccine agents and develop diagnostics tests. Pharmaceutical companies are collaborating with each other in some of these efforts and participating in global R&D partnerships (such as the Innovative Medicines Initiative effort to accelerate the development of potential therapies for COVID-19) and supporting national efforts to expand diagnosis and testing capacity and ensure affordable and ready access to potential solutions. The primary purpose of such innovation is to benefit patients and wider population health. Although there are also reputational benefits from involvement that can be realised across the industry, there are likely to be relatively few companies that are ‘commercial’ winners. Those who might gain substantial revenues will be under pressure not to be seen as profiting from the pandemic. In the United Kingdom for example, GSK has stated that it does not expect to profit from its COVID-19 related activities and that any gains will be invested in supporting research and long-term pandemic preparedness, as well as in developing products that would be affordable in the world’s poorest countries. Similarly, in the United States AbbVie has waived intellectual property rights for an existing combination product that is being tested for therapeutic potential against COVID-19, which would support affordability and allow for a supply of generics. Johnson & Johnson has stated that its potential vaccine – which is expected to begin trials – will be available on a not-for-profit basis during the pandemic. Pharma is mobilising substantial efforts to rise to the COVID-19 challenge at hand. However, we need to consider how pharmaceutical innovation for responding to emerging infectious diseases can best be enabled beyond the current crisis. Many public health threats (including those associated with other infectious diseases, bioterrorism agents and antimicrobial resistance) are urgently in need of pharmaceutical innovation, even if their impacts are not as visible to society as COVID-19 is in the immediate term. The pharmaceutical industry has responded to previous public health emergencies associated with infectious disease in recent times – for example those associated with Ebola and Zika outbreaks. However, it has done so to a lesser scale than for COVID-19 and with contributions from fewer companies. Similarly, levels of activity in response to the threat of antimicrobial resistance are still low. There are important policy questions as to whether – and how – industry could engage with such public health threats to an even greater extent under improved innovation conditions.

#### Disease causes extinction---the risk is categorically underestimated.

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A pandemic (from Greek πᾶν, pan, “all”, and δῆμος demos, “people”) is an epidemic of infectious disease that has spread through human populations across a large region; for instance several continents, or even worldwide. Here only worldwide events are included. A widespread endemic disease that is stable in terms of how many people become sick from it is not a pandemic. 260 84 Global Challenges – Twelve risks that threaten human civilisation – The case for a new category of risks 3.1 Current risks 3.1.4.1 Expected impact disaggregation 3.1.4.2 Probability Influenza subtypes266 Infectious diseases have been one of the greatest causes of mortality in history. Unlike many other global challenges pandemics have happened recently, as we can see where reasonably good data exist. Plotting historic epidemic fatalities on a log scale reveals that these tend to follow a power law with a small exponent: many plagues have been found to follow a power law with exponent 0.26.261 These kinds of power laws are heavy-tailed262 to a significant degree.263 In consequence most of the fatalities are accounted for by the top few events.264 If this law holds for future pandemics as well,265 then the majority of people who will die from epidemics will likely die from the single largest pandemic. Most epidemic fatalities follow a power law, with some extreme events – such as the Black Death and Spanish Flu – being even more deadly.267 There are other grounds for suspecting that such a highimpact epidemic will have a greater probability than usually assumed. All the features of an extremely devastating disease already exist in nature: essentially incurable (Ebola268), nearly always fatal (rabies269), extremely infectious (common cold270), and long incubation periods (HIV271). If a pathogen were to emerge that somehow combined these features (and influenza has demonstrated antigenic shift, the ability to combine features from different viruses272), its death toll would be extreme. Many relevant features of the world have changed considerably, making past comparisons problematic. The modern world has better sanitation and medical research, as well as national and supra-national institutions dedicated to combating diseases. Private insurers are also interested in modelling pandemic risks.273 Set against this is the fact that modern transport and dense human population allow infections to spread much more rapidly274, and there is the potential for urban slums to serve as breeding grounds for disease.275 Unlike events such as nuclear wars, pandemics would not damage the world’s infrastructure, and initial survivors would likely be resistant to the infection. And there would probably be survivors, if only in isolated locations. Hence the risk of a civilisation collapse would come from the ripple effect of the fatalities and the policy responses. These would include political and agricultural disruption as well as economic dislocation and damage to the world’s trade network (including the food trade). Extinction risk is only possible if the aftermath of the epidemic fragments and diminishes human society to the extent that recovery becomes impossible277 before humanity succumbs to other risks (such as climate change or further pandemics). Five important factors in estimating the probabilities and impacts of the challenge: 1. What the true probability distribution for pandemics is, especially at the tail. 2. The capacity of modern international health systems to deal with an extreme pandemic. 3. How fast medical research can proceed in an emergency. 4. How mobility of goods and people, as well as population density, will affect pandemic transmission. 5. Whether humans can develop novel and effective anti-pandemic solutions.

#### Affirmative prohibition is critical to innovation---creates a presumption of antitrust liability.

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One concern courts have raised with making false advertising the basis for an antitrust violation is that much of this behavior does not affect the market as a whole. Courts are right that even if one company engages in this conduct, and even if an individual rival is harmed as a result, that does not mean that competition in the market as a whole is affected. But there is a simple solution to this concern: focus on the defendant’s market power. Of all the actors employing false advertising, monopolists are the most likely to affect the market, with those attempting to monopolize making up the second-most-likely category. Targeting these two categories of actors recognizes that Section 2 of the Sherman Act provides the appropriate—and in fact only—framework for antitrust liability for unilateral conduct such as false advertising. Focusing attention on only monopolists and attempted monopolists dramatically narrows the universe of false advertising/antitrust claims. Such an emphasis also is consistent with the approach taken in the Areeda/Hovenkamp treatise, which recognizes that antitrust may be appropriate when “the practice makes a durable contribution to the defendant’s market power.”131 The treatise crafts a de minimis presumption because of the relative unlikelihood that any given false claim would “lead[] to or perpetuat[e] durable market power.”132 But the treatise also recognizes that “misrepresentations and organized deception by a dominant firm may have Section 2 implications when used against a nascent firm just as it is entering the market.”133 Once we understand that the treatise’s concerns about overapplication of false advertising law are addressed by requiring monopoly (or, as discussed below, attempted monopoly) status, the treatise would lend support to liability when the defendant’s monopoly power makes false advertising especially likely to affect the market as a whole and harm competition. Our focus on monopolists and attempted monopolists also is consistent with antitrust injury doctrine. As the Supreme Court famously explained in Brunswick Corp. v. Pueblo Bowl-O-Mat, Inc., plaintiffs must prove “injury of the type the antitrust laws were intended to prevent and that flows from that which makes defendants’ acts unlawful.”134 In other words, plaintiffs must challenge a harm that affects the market as a whole. Limiting our scrutiny to monopolists and attempted monopolists helps effectuate Brunswick’s objectives. We suggest a presumption that false advertising by monopolists constitutes monopolization. Crucially, the most fundamental critique against applying antitrust to false advertising—that “false advertising” does not require marketwide effects—are addressed by the defendant’s control over the market. To satisfy the first of the two elements of a monopolization case, a plaintiff must show that the defendant has monopoly power. As discussed above,135 a plaintiff can do so indirectly by showing a market share of at least 75 percent (and more likely 90 percent) along with barriers to entry that could entrench that market position. A plaintiff also can prove market power directly, such as by showing the defendant’s power to impose price increases or output reductions. Second, the plaintiff must show that the defendant engaged in false advertising. As a matter of underlying substantive law, liability for false advertising already requires findings that the defendant’s conduct was literally false or misleading, was material, actually deceived or was likely to deceive consumers, and caused or was likely to cause harm to the plaintiff.136 These elements are logically and practically linked to each other; they constitute the wrong of false advertising, just as an agreement to set prices constitutes the wrong of price fixing. In particular, deception is generally presumed from literal falsity, or is demonstrated by showing misleadingness—if consumers receive a false message from a facially ambiguous or even literally true claim, they have been deceived. Likewise, once both deception and materiality have been shown, courts generally find a likelihood of harm, as consumers have been misled about facts that are likely to affect their decisions. The false advertising foundation provides a unique advantage for antitrust law, one not available in other settings. The reason is simple. False advertising’s underlying requirements focus on the bad conduct, show its relevance, and demonstrate the harm. These elements offer on a silver platter what antitrust needs to prove monopolization. In addition, materially false advertising by a monopolist threatens multiple concerns: It makes it more difficult to compete on the merits, can easily be repurposed to harm any competitor, and is hard to credibly rebut without souring consumers on factual claims more generally. Because of these harms and the satisfaction of false advertising’s elements, a monopolist’s materially false advertising should be presumed to affect the market as a whole. A presumption that a monopolist using false advertising has engaged in illegal monopolization also is appropriate given the near certainty of anticompetitive effects. Unlike other lawbreaking by a monopolist such as tax fraud, false advertising by definition harms at least one competitor, in what is a relatively small field. That is, by definition a monopolist controls most of the market, so there will be fewer competitors to harm. False advertising may even directly harm all the other competitors if the false claim is one of general superiority, or, as in the AT&T example, is directed at keeping existing customers from switching products. And by poisoning the informational environment, false advertising inherently threatens the key mechanism by which rivals can compete: by explaining to consumers what they can offer in a way that might persuade them. False advertising is also a technique that can easily be extended to the next competitor, further justifying a presumption that its use by a monopolist caused harm to competition. Another way to frame the presumption of harm to competition centers on how we know that harm to actual entities has crossed into the legal category of “harm to competition.” When an entity that meets the standards for monopoly power engages in materially false advertising that causes damage, we know that it is a monopolist and that it harmed identified victims (such as consumers or competitors) in a way likely to push the market as a whole toward an untrusting and untrustworthy market for lemons. When a monopolist introduces a valuable innovation to the market, in contrast, that can harm competitors, but it also produces social benefit, meaning that the harm should be tolerated. So too when a monopolist truthfully and nonmisleadingly advertises a superior product. But when the ready-made template of false advertising law makes clear that a monopolist harms consumers’ ability to trust information in the market and causes consumers to pay prices or buy products they otherwise wouldn’t have chosen, at the very least the burden should be on the monopolist to show that it did no structural damage to the market.

#### American innovation solves global threat readiness---extinction from cyber, bio, chemical, and refugee-induced war.

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Indeed, the United States’ leadership in science and technology has been a historical cornerstone of its capacity for “hard power” force application and projection and economic and societal “soft power.” It buttresses the country’s economic might, enables the modern standards of living of our citizenry, and expands our global cultural and normative reach.[ii] Equally so, the power of science and technology has been decisive in the context of national security. As President Truman noted in 1945, while urging Congress to create a Department of National Defense, “no aspect of military preparedness is more important than scientific research.” [iii] Through discoveries, technological innovation, and the capacity to develop ideas into deployable weapons, systems, and concepts, the United States has arrived at its modern-day military advantage and superiority.[iv]

To that end, science and technology may be considered key elements of the United States’ comprehensive national power – fundamentals of the country’s strength vis-à-vis competitors. Yet science and technology alone cannot ensure any country’s continued security, prosperity, or hegemony; far from operating in a vacuum, science and technology are constantly evolving to address changing domestic and international circumstances and threats. To reap advantage from science and technology, especially in their national security application, a country must continually innovate to tackle contemporary developments and anticipate future ones. This poses a considerable challenge, the solution to which extends beyond advanced engineering and research.

To explore these notions, this essay, particularly interested in the application of science and technology toward national security ends, examines the United States’ recent employment of security-related technologies. From this, it explores the attributes of science and technology power and the similarities and differences between science and technology power and other forms of national power such as the economic and diplomatic. Looking at the relative importance of science and technology in the United States today and likely significance in the coming future, it lays out a series of policy recommendations that may guide policymakers as they make decisions that impact the direction of the country’s scientific and technological course.

Employment of – and Challenges Facing – National Security-Related Technology

Recognizing the vital role that technology played in winning World War Two, along with the emerging threat of Soviet technological competitiveness, the United States established in the war’s wake an extensive infrastructure to support national security science and technology efforts. This provided foundation and catalyst for the development of military capabilities and tools needed to meet the challenges of the Cold War and the modern day: the nuclear triad, intelligence-gathering and cyber infrastructure, space-based radar and communications systems, advanced precision-guided munitions, and integrated command and control, along with myriad other assets.[v]

These technologies have seen extensive use in contemporary military conflicts. The wars in the Balkans and the Gulf saw the ever-increasing use of position, navigation, and timing assets such as GPS to provide precise and reliable information to the warfighter and direct precision-guided weaponry.[vi] Targeted airstrikes and weapons such as the long-range cruise missile have allowed for far more rapid, responsive, and accurate strikes than those of the past while substantially reducing collateral damage. Combat drones and unmanned aerial vehicles, innovations emblematic of the “War on Terror,” enable the warfighter to engage adversaries and conduct reconnaissance while safely remaining away from the front lines of the battlefield. Stealth aircraft, using a range of advanced technologies that reduce reflections and emissions, have helped pilots conduct sorties while evading detection.[vii]

Technology abets the United States’ security beyond warfighting. Advanced cyber capabilities – encryption, for example – seek to defend the networks which control the country’s power, transit, and water infrastructure from malicious hacks and crippling denial of service.[viii] Technologies capable of detecting harmful biological and chemical agents guard the country against potentially devastating attack by non-state actors.[ix] Increasingly sophisticated monitoring and surveillance technology enables the government to globally track and work to counter criminal activity, terrorist organizations, and other developments which threaten the country’s safety.[x]

Crucially, though, the United States’ contemporary application of national security systems has also demonstrated the inherent challenges of innovation and the limitations of technology. Despite advanced military hardware, principally designed to fight large-scale conventional wars against Cold War-era foes, the United States military had to “catch up” and react to unconventional tactics, such as roadside bombs and sniper attacks, employed against it in the Iraq and Afghanistan wars. Though decidedly outnumbered and outgunned, enemy combatants effectively countered the United States’ asymmetric technological advantage through guerilla warfare, propaganda, and exploiting collateral damage that advanced weapons systems created – doctrines which the United States’ technology did not anticipate and was unprepared or unsuited to counter.[xi] Likewise, despite the sophistication of the United States’ homeland security technologies, the government has struggled to prevent incidents of domestic terrorism such as mass shootings, often characterized by the use of simple, off-the-shelf equipment.[xii]

Meanwhile, in reaction to the United States’ present-day technological superiority, competitive foreign powers such as Russia and China are heavily investing in hardware and capabilities in the cyber and military realms specifically designed to counter the United States’ technological strengths and exploit its demonstrated vulnerabilities. The technological capabilities underlying the United States’ comparative military advantage are now proliferating to an increasing number of state and non-state actors, including potential adversaries, leveling the military “playing field.”[xiii]

The Attributes of National Security Science and Technology Power

From this, several key attributes and characteristics of science and technology as a form of national power can be identified. Foremost is the capacity for technology and science to be a significant, occasionally decisive, enhancer of a country’s military strength against enemies. Countries which develop innovative military technologies which effectively counter an adversary’s offenses or defensives, or against which an adversary has no means to protect itself, find themselves disproportionately advantaged on the battlefield. Indeed, technologies which upend dominant “status quo” warfighting paradigms – such as, historically, the introduction of the chariot, the tank, or nuclear weapons – are poised to significantly disrupt and reorder the geopolitical and military balance of power.[xiv]

To that end, science and technology power, particularly in the national security sphere, is developed and sustained through the adaption to, and more so through the anticipation of, revolutionary changes in military affairs, doctrine, and hardware. As Lieutenant Colonel Scott Stephenson noted in the influential “The Revolution in Military Affairs,” “those slow to adapt to military revolutions… are likely to suffer painful results. When the pace of change accelerates, the militaries that anticipate and adapt are likely to gain a massive advantage over potential enemies who are less agile.”[xv] That agility is, in large part, borne from innovations in science and the development of new technologies which lead to unanticipated, and therefore difficult to counter, doctrines.

A defining characteristic of science and technology power, then, is the continual quest for states to match, counter, and out-compete the technology of their adversaries. This continuing interplay between technology and national power, characterized by the sustained technological evolution and described often as an “offset,” has been a key focus for national security-related research and development throughout the Cold War and into the present. The United States’ deployment of nuclear weapons, for example, offset the numerical advantage held by the Soviet Union’s land forces in the early Cold War. Soviet parity in nuclear weapons catalyzed the development of guided weapon and integrated command and control as a counter, focusing on accuracy of targeted weapons systems independent of range.[xvi] The United States’ capacity to offset Soviet technology through innovative developments – and the Soviet bankruptcy borne from military expenditure that came as a corollary – was an important factor in maintaining a generally peaceful stable of power along with the country’s ultimate triumph in the Cold War. In the present-day, China and Russia’s focus on countering the systems and technologies which currently provide the United States’ military asymmetry is emblematic of this “offset” approach to science and technology power.

Paradoxically, however, national security-related technology in the present day has become as great an equalizer as it has historically been a separator of actors’ strengths. Technological superiority in the present may provide the United States’ unrivaled military strength, especially against foes (historically, state actors with large conventional forces) for which its national security technologies anticipated countering. Yet as the example of the Iraq and Afghani insurgencies amply demonstrated, technological superiority coupled with innovation focused on addressing hypothetical future battlefields may not be adequate to oppose or defeat all actors or all forms of warfare, regardless of the level of their sophistication.

Indeed, advanced technologies may be entirely vulnerable to actors utilizing doctrines with simple technologies that nonetheless exploit their weaknesses, as was the case with sophisticated – and expensive – American vehicles being destroyed by crude, homemade IEDs. Technology itself also creates weaknesses; the United States’ progressing economic and social reliance upon interconnected networks, for example, makes the country more vulnerable to potentially crippling attack. Despite advanced American cybersecurity technologies and techniques, non-state actors have still proven themselves capable of infiltrating, attacking, and even denying use of American cyber capabilities; considering recent trends, this vulnerable seems likely to continue, if not worsen.[xvii]

It may be that an attribute of science and technology power, borne more from the focus and perceptions of the technologists, theorists, and military leadership that employ it than from science and technology itself, is that it obscures other factors which equally dictate important developments in military, international, and geopolitical affairs. Political upheaval, social change, and economic development can change warfare dramatically, for example – and have nothing to do with “offset” strategies or war-room predictions of possible enemies’ future high-tech military hardware. As a product of the military-industrial complex that emerged in the Cold War United States to sustain continued technological development, Americans tend to be acutely – perhaps overly – sensitive to technological innovation among competitors and potential rivals. Fears during the Cold War and contemporary discussions of the “Third Offset” paint pictures of emerging, potential, and fanciful enemy weapon systems – which military planning and technology development was and is oriented toward countering.[xviii] This fixation on solutions entailing engineering and technological complexity blinds the national security technology apparatus to external trends that could definitively impact the future course of war – such as the collapse of the Soviet Union leaving the United States with a high-tech military and warfighting doctrine unsuited for the military pressures and asymmetric nature of counterinsurgency; the rise of radical terrorism with ideological underpinnings that condone unconventional guerilla tactics such as suicide bombings, which had great effect against high-tech targets; or the continuing crisis where lone-wolf gunmen using off-the-shelf rifles can commit massacres despite the government’s highly complex and pervasive surveillance and monitoring technology.

Similarities and Differences to Other Forms of National Power

With these attributes in mind, a comparison can be drawn between science and technology power and other forms of power which constitute a country’s comprehensive strength, such as the economic and diplomatic. Regarding the economic, science and technology power is similar in that the development of science and technology is driven by the same forces as economic growth. Like new economic products, services, and methods of operation, science and technology power relies upon the ingenuity of human actors predicting and anticipating future trends, possibilities, and human behavior. Innovation, iteration, and competitiveness are fundamental catalysts for the continued evolution and growth of both. The rapid proliferation and subsequent use of innovative technologies across the world quickly equalizes both the national security advantage and the economic advantage they provided their inventor.

Economic power, like national security technology, is a key element of a country’s warfighting capability – industrial might, strength in quality production, and capable infrastructure are crucial facets of a country’s ability to mobilize and project force. A fundamental difference between economic power and science and technology power, however, is competition. While economies naturally compete, there is incentive for states to specialize in the economic product or service most suited for it – their comparative advantage. Competing economies are not actively incentivized to counter the economic specialization of their rivals. With science and technology power for national security use, however, states decidedly hope to actively and explicitly counter the relative advantage of their adversaries.

Like diplomatic power, science and technology has a “soft power” element; other states and their societies may be influenced or compelled to action by the might, prestige, or cultural and technological hegemony of a country in possession of highly advanced and capable technologies.[xix] Diplomatic power occasionally experiences the same issue of science and technology policy in being blinded to unpredicted or external trends in the social, cultural, and economic spheres. The power of diplomacy, for example, did not anticipate and struggled to deal with the cultural, social, and political circumstances that led to a breakdown of order in post-invasion Iraq; just as national security technology was unprepared for the guerilla warfare of the Iraqi insurgency. Diplomatic power and science and technology power differ, though, in the fields of innovation and evolution. Whereas the military regime is constantly evolving and occasionally being upended by revolutions in security technology and associated doctrine, the Westphalian diplomatic order has remained largely similar through centuries – even as it has grown gradually more complex and interconnected. States do not tend seek to outcompete each other in the diplomatic sphere through revolutionary new approaches to diplomacy; negotiations, sanctions, deals, bi- and multilateral agreements, and the like have remained consistent “doctrines” employed by states in their dealings with international friends and foes.

Science and Technology Power’s Present and Future Importance

To return to Vannevar Bush’s assertion over half a century ago, science and technology is crucially important for a states’ economic growth and prosperity, the wellbeing of its citizens, and national security. This remains absolutely the case today. Despite the challenges facing innovation in the face of unanticipated adversaries and the proliferation of advanced, equalizing technologies among adversarial states and non-state actors, science and technology provides the United States’ unrivaled levels of security and military hegemony.

With the appearance of significant global challenges – refugee crises, environmental degradation, the possible emergence of a bi- or multi-polar world characterized by states with rough or equal technological parity, to name a few – the future importance of science and technology power cutting across all aspects of national security will undoubtedly redouble. Science and technology and its application as an element of the United States’ national power will need to be directed to address these challenges. While the exact characteristics that will define domestic and foreign national security technologies of the future – not to mention the economic and social – remain uncertain, the United States cannot afford to permit its current technological advantage to slip. Indeed, as revision states such as China continue to develop their technologies to directly counter the United States’ capabilities, it will likely become an imperative for the country to more actively engage in and support the development of innovative new security technologies and doctrines – lest, as history would suggest, the international order again be upended.

#### Alternative regulations fail and suppress competition.

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False advertising liability alone cannot address the marketwide harms caused by deceptive behavior. This Section first addresses antitrust’s comparative advantage for marketwide harms. It then offers examples of antitrust properly targeting conduct that violates other, non-antitrust laws, demonstrating that antitrust’s treatment of false advertising is an outlier. It concludes by showing that false advertising’s remedies cannot fully protect competition on their own. 1. Antitrust’s Comparative Advantage An antitrust-based framework for false advertising claims is necessary because of the unique role that the discipline can play. When companies engaging in false advertising have monopoly power, they possess the ability to harm not only an individual competitor but also the market as a whole. The consequences can be significant, especially for nascent competitors not able to enter the market, as the deception of consumers deprives them of the opportunity to obtain lower prices, more options, or enhanced quality. One way to understand the harms of false advertising to the market as a whole is revealed by George Akerlof’s classic explanation of the market for lemons.99 As Akerlof explains, in the absence of some way to guarantee the truth of claims about products, such as a used car’s quality, consumers reasonably respond by discounting all such claims. This distrust means that producers with actually superior products cannot charge the amount consumers would pay if they believed the superiority claim, which pushes superior (but more expensive to produce) products out of the market. If truthful advertisers are not able to guarantee their claims, producers unable to compete on their product characteristics suffer. And consumers are harmed by an unattractive (and perhaps even harmful, in the case of false health or safety claims) mix of products. Meanwhile, many false advertising techniques can be readily repurposed for new uses, meaning that a false advertiser can go from success to success in the absence of false advertising liability.100 Regulation that suppresses false claims—especially where such claims are most likely to have an effect—thus does more than protect individual consumers from fraud. It allows truthful producers to compete on a level playing field. In other words, addressing false advertising protects competition, not just competitors. The Supreme Court relied on Akerlof’s insights when it endorsed the pro-competitive effects of restrictions on false advertising. In California Dental Ass’n v. FTC, the Court addressed a dental association’s attempts to restrict “false or misleading” advertising that imposed significant limits on advertising “low prices” or other general price claims.101 The Court rejected the idea that such limits were inherently anticompetitive. Especially where information is hard to evaluate, even broad restrictions with the aim of preventing false advertising can be procompetitive.102 When false advertising threatens harms to the market as a whole, antitrust liability offers advantages over false advertising law. For starters, antitrust offers a more powerful toolkit deterring this conduct. Although false advertising law allows recovery of damages (albeit not as a penalty) and disgorgement of the profits from false advertising, courts impose high barriers to disgorgement, including requiring a showing of willfulness. In addition, courts have required plaintiffs to show a robust connection to the harm suffered to receive damages or disgorgement of profits. As a result, courts have denied awards in precisely the cases of concern: where there are a small number of potential competitors and where some of the monopolist’s gains from false advertising likely came at the expense of the overall market rather than a single plaintiff, making it difficult to allocate false advertising-based damage awards.103 There are two key ways in which antitrust offers more powerful protection against monopolists’ false advertising than federal false advertising law: remedies and eligible plaintiffs. First, antitrust offers the more powerful remedies of treble damages and automatic (as opposed to the Lanham Act’s exceptional104) attorneys’ fees that promise to provide robust deterrence against companies considering this behavior. Antitrust also offers injunctive relief preventing the continuation of the conduct. While a Lanham Act false advertising injunction generally is limited to the specific false claims that have been proven, an antitrust injunction could more generally target false advertising and marketwide harm to competition.105 Antitrust offers a more expansive territorial jurisdiction.106

### Plan

#### The United States federal government should substantially increase prohibitions on false advertising by applying a presumption that monopolists engaging in false advertising violate antitrust law and are subject to Penalty Offense Authority enforcement by the Federal Trade Commission.

### FTC Advantage

#### **FTC failure to prohibit false advertising is an existential threat to the agency. Market-wide Section 5 penalty offense authority (POA) restores FTC credibility, boosts fraud deterrence, and reduces litigation**

Lee, 21 – Bethany, J.D. Candidate, University of Pennsylvania Law School. “Reviving the Power of the FTC,” The Regulatory Review, May 17, <https://www.theregreview.org/2021/03/17/lee-reviving-power-of-ftc/> -- Iowa

The Federal Trade Commission (FTC) may face an existential threat to its ability to hold corporate lawbreakers accountable. A pending U.S. Supreme Court case threatens the FTC’s ability to seek monetary relief from wrongdoers, while mounting public concerns about the adequacy of the FTC’s enforcement have led to a crisis of confidence in the agency.

The solution to this urgent crisis involves restoring a key FTC authority, according to a new paper by FTC Commissioner Rohit Chopra and his attorney advisor Samuel Levine.

After tracing the history of the FTC’s enforcement tools and explaining their current inadequacy, Chopra and Levine argue that reviving the FTC’s Penalty Offense Authority will improve the FTC’s effectiveness and regain public confidence by increasing deterrence and ensuring fairness for honest firms.

Established by the FTC Act, the FTC has a mission to “protect consumers and competition by preventing anticompetitive, deceptive, and unfair business practices.” Chopra and Levine, however, highlight the FTC’s concerning track record in fulfilling this mission.

In the 1980s, the FTC’s leadership viewed markets as self-correcting, and the agency shifted its focus from market-wide abuses to “small-scale criminal fraud.” Seeking to avoid the derisive label of a “national nanny,” the FTC began to disarm the administrative state by halving the agency’s staff, reversing rulemakings, and adopting policies restricting the agency’s own authority.

The FTC’s ideology of the 1980s had lasting consequences, according to Chopra and Levine. In the 1990s, the agency failed to challenge tobacco advertising directed at children. In the 2000s, the FTC took minimal enforcement action to prevent the mortgage meltdown, remaining largely idle as subprime lenders sold loans structured to fail. Congress responded by stripping the FTC of major authorities over the financial sector, such as rulemaking on mortgages and debt collection.

Chopra and Levine argue that the agency’s inaction over several decades has resulted in “massive harm for consumers, small businesses, and the economy.” They call for a shift toward “systematic efforts to combat widespread harms.”

A key step, say Chopra and Levine, involves resurrecting the agency’s Penalty Offense Authority. Codified in Section 5 of the FTC Act, this provision allows the FTC to correct and deter harmful practices.

Currently, the FTC largely relies on Section 13(b) of the FTC Act, which allows the agency to seek preliminary and permanent relief in federal court. But the use of Section 13(b) has been challenged in multiple cases, including in a pending U.S. Supreme Court case challenging the FTC’s authority to seek equitable monetary relief.

Even if courts uphold the use of Section 13(b), argue Chopra and Levine, this enforcement tool remains inadequate in correcting and deterring widespread harms. To seek monetary relief under Section 13(b), the FTC must approximate harms or unjust gains—a potentially difficult and costly calculation. As a result, the FTC often resorts to no-money settlements that do not adequately deter wrongdoing. In addition, corporate wrongdoers tend to be undeterred by equitable relief sought under Section 13(b) since the worst consequence merely involves returning their earnings.

Instead of overreliance on Section 13(b), Chopra and Levine advocate greater use of the Penalty Offense Authority under Section 5 of the FTC Act. Under this authority, the FTC can seek civil penalties if the agency issued a final cease-and-desist order determining that a practice is unfair or deceptive and if a party subsequently engaged in that practice, knowing that the practice was unfair or deceptive.

Chopra and Levine note that the Penalty Offense Authority provides “strong due process protections for defendants.” For example, parties cannot be held liable unless shown to have actual knowledge of the FTC’s determination. Defendants can also challenge the FTC’s prior determination that the conduct was unlawful.

Previously, the FTC deployed its Penalty Offense Authority to target whole industries, in a manner that one FTC commissioner described as “extremely effective and efficient.” Nevertheless, the agency’s use of this tool rapidly declined in the 1980s, and it was used only once in the last decade.

Calling for renewed use of the Penalty Offense Authority, Chopra and Levine outline three key benefits of such a resurrection. First, compared to equitable relief, civil penalties would more effectively punish and deter wrongdoers. Second, the use of the Penalty Offense Authority would reduce litigation risk for the FTC. Current overreliance on Section 13(b) creates uncertainty as court cases challenge the program, and seeking monetary relief under Section 13(b) requires risky and expensive attempts to quantify harm. Finally, the Penalty Offense Authority provides market-wide impact. By providing notice to firms across an industry, the FTC can correct market-wide practices—increasing compliance and reducing the need to bring similar enforcement actions repeatedly.

Chopra and Levine specifically advocate the use of the Penalty Offense Authority in areas where a harmful practice has been condemned by an FTC order but not forbidden by an agency rule. They identify five areas where the FTC could deploy the Penalty Offense Authority based on existing orders: for-profit college fraud, false earnings claims targeted at workers, online disinformation, deceptive data harvesting, and illegal targeted marketing.

Ultimately, Chopra and Levine call on the FTC to shed its “self-inflicted paralysis” by drawing on a broader set of tools to protect the public.

#### Only broad POA saves the FTC from total destruction

Chopra and Levine, 21 – Rohit Chopra was a Federal Trade Commissioner and is now head of the Consumer Financial Protection Bureau (CFPB). Samuel A.A. Levine is Acting Director of the Bureau of Consumer Protection. *The Case for Resurrecting the FTC Act’s Penalty Offense Authority*, Social Science Research Network (SSRN), Feb 16 last revised, originally published 11/3/20, [https://papers.ssrn.com/sol3/papers.cfm?abstract\_id=3721256](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3721256&download=yes) – Iowa

Deploying the Penalty Offense Authority should be part of a broader strategy to resurrect the FTC as a vigorous check against corporate malfeasance. This article has detailed how the authority can be used to notice whole industries of unlawful practices, and to seek remedies that not only reverse the effects of wrongdoing but also deter others from crossing the line. We have identified five areas where the Commission has already condemned practices that can be designated as penalty offenses. Going forward, as the Commission condemns new forms of misconduct, we believe it should include in its orders clear findings that can be served on other market participants.

In addition to increasing the agency’s ability to deter and correct wrongdoing, resurrecting the Penalty Offense **A**uthority would mitigate the ongoing gamesmanship around Section 13(b), showing the marketplace that the FTC has more than one trick up its sleeve, regardless of how the Supreme Court rules.

The Commission’s overwhelming reliance on Section 13(b) is of recent vintage. In the 1970s, following widespread dissatisfaction with “scandalously weak” no-money orders,174 Congress armed the Commission with strong tools to meaningfully deter widespread lawbreaking. These tools include rulemaking powers backed by civil penalties, the ability to seek damages under Section 19, and the Penalty Offense Authority described here. However, these powers were largely abandoned after James C. Miller III took over the FTC in 1981, as the Commission shifted its focus to halting scams using Section 13(b).

The takeover and subsequent gutting of the Federal Trade Commission by Chairman Miller is an underappreciated milestone in our nation’s economic history.175 By shifting attention and resources away from scrutinizing emerging business practices that pose harm to households and honest businesses, Miller and his lieutenants architected a new paradigm for corporate oversight. The FTC abandoned its former role and began to duplicate the role of criminal law enforcers who tackle fraud rings, but without the authority to seek any criminal sanctions. The Commission’s new emphasis on shutting down “illegitimate” businesses created the guise of an active agency, when, in reality, it became increasingly irrelevant to commercial regulation across many sectors of the economy.

Since the Miller era, the Commission had essentially ceded its role as the government’s analytical engine of emerging commercial practices. The result has too often been an agency that is disconnected from pressing market problems. In recent decades, the Commission has failed to tackle some of the worst abuses facing consumers, ranging from subprime mortgage lending to predatory for-profit colleges. By 2010, as Congress stripped key authorities from the Commission, industries actively lobbied to remain under FTC jurisdiction, 176 an effort currently being replicated by tech titans in the privacy arena.177 This does not reflect well on the agency’s credibility as a watchdog.

For the architects of this ideological project to weaken the FTC, the current judicial threats to Section 13(b) could prove to be the most striking blow yet. They have long argued that Section 13(b) should be used only in cases involving “true fraudsters,”178 and they have offered a detailed blueprint to those wishing further limit the Commission’s remedial authority.179 Should they succeed, this would represent the culmination of their decades-long project to defang this once-storied agency, conceived of by Louis Brandeis to be a strong check on corporate power.

But if the FTC is rendered toothless, this is by choice. The agency can shed its self-inflicted paralysis by using the dormant powers granted by Congress. Regardless of how the Supreme Court rules, the Commission must close the chapter on its overreliance on Section 13(b), and deploy a broader set of tools to meet its mission. By deploying these tools, the Commission can reemerge as a vigorous watchdog, detecting and deterring systemic harm instead of playing whack-a-mole against small scams. Adopting this approach is essential to regaining the public’s confidence and realizing Brandeis’s vision of an agency that protects the public from abuse and misuse of corporate power.

#### FTC non-enforcement of false ad antitrust is incoherent – applying presumption against monopolists solves

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Federal law presumes that false advertising harms competition. Federal law also presumes that false advertising is harmless or even helpful to competition. Contradiction is not unknown to the law, of course. This contradiction, though, is acute. For not only are both regimes at issue designed to protect competition, but they are both enforced by the same agency: the Federal Trade Commission, which targets "unfair competition" through antitrust and consumer protection enforcement.

Courts' treatment of false advertising in antitrust cases makes no sense. While courts have reasonably evidenced concern that not all false advertising violates antitrust law, the remedy is not to abandon the false advertising/antitrust interface. Instead, the solution is to focus on the actors most likely to harm the market: monopolists and attempted monopolists.

This Essay proposes an antitrust framework for false advertising claims. It introduces a presumption that monopolists engaging in false advertising violate antitrust law and a rebuttal if the false advertising is ineffective. The framework also applies to attempted monopolization by incorporating factors such as falsity, materiality, and harm inherent in false advertising law, along with competition-centered issues like targeting new market entrants.

Antitrust has dismissed false advertising that entrenches monopoly power for too long. This Essay seeks to resolve the contradiction in the law by showing how false advertising threatens the proper functioning of markets. Such an approach promises benefits for false advertising law, antitrust law, and consumers.

#### Section 5 is the only avenue for fraud crackdowns

Olsen & Schultze 21, Christopher Olsen is a partner in the privacy and cybersecurity practice at Wilson Sonsini and Vice Chair of the Privacy and Information Security Committee of the ABA Antitrust Law Section, and former Deputy Director of the FTC’s Bureau of Consumer Protection; Stephen Schultze is an Associate in the privacy and cybersecurity practice at Wilson Sonsini, “FTC Authority Under Siege: Monetary and Injunctive Relief at Risk in Courts as Congress Contemplates a Response,” The Antitrust Source, April 2021, ABA

It is hard to imagine a favorable outcome for the FTC after this oral argument. The Court will probably limit 13(b) relief to injunctions, requiring the Commission to resort to cumbersome administrative proceedings to get any monetary relief. That would dramatically undermine the Commission’s work over several decades to build a robust fraud program.40 It would leave Section 5 and 19 as the only avenues for monetary relief under the FTC’s general consumer protection authority. Under Section 5, the Commission may impose monetary civil penalties under some limited circumstances.41 Under Section 19, the Commission may obtain monetary consumer redress or disgorgement but only after obtaining a final cease-and-desist order through administrative litigation and only after demonstrating that “a reasonable man would have known under the circumstances [that the conduct] was dishonest or fraudulent.”42 Moreover, Section 19 includes a statute of limitations whereas Section 13(b) does not.43 Thus, the FTC has strongly favored Section 13(b) actions. At oral argument, the FTC conceded that going directly to court is “more attractive in certain instances” and that the Commission brings “far more [consumer protection] cases” in court than through its own administrative proceedings.

#### The FTC targeting scammers is make or break

Bilirakis et al. 21 (Gus Michael Bilirakis is an American lawyer and politician serving as the U.S. Representative for Florida's 12th congressional district since 2013; Hon. Noah Joshua Phillips is a Commissioner at the Federal Trade Commission; Hon. Lina Khan is the Chair of the Federal Trade Commission, “Transforming the FTC: Legislation to Modernize Consumer Protection,” *Committee on Energy and Commerce*, 6/28/21, <https://energycommerce.house.gov/committee-activity/hearings/hearing-on-transforming-the-ftc-legislation-to-modernize-consumer>)

Gus Bilirakis (3:12:44): Thank you. Our committee has worked extensively in a bipartisan manner to protect consumers from fraud and scams. Mr. Carter's Combating Pandemic Scams Act was enacted at the beginning of the year thanks to all of our leadership here. Representive Blunt Rochester's Fraud and Scam Reduction Act, as well as Representative Kelly's Protecting Seniors from Emergency Scams Act both cleared our chamber with bipartisan support this year. My bill, HR 2672, the FTC Reports Act, would require the FTC to report on fraud against our seniors. Commissioner Philips, how important is the work the FTC staff does to protect Americans from scams? Noah Josuha Phillips (3:13:33): Congressman, thank you for your question. The work we do to protect American consumers against frauds and scams, is our bread and butter as an agency. There is no work that makes me feel better as a commissioner, when we watch our ability to find bad guys, or taking money from American consumers, dipping into their life savings, and get that money back to them. So the work that you have done on the committee to provide funding, to provide tools for us to go after scam artists, is critical. And I think that needs to continue with the agency. Gus Bilirakis (3:14:05): Thank you, and Chair Khan, again, as you pursue other initiatives, when staff and resources be shifted away from the fraud program, which is so essential in preventing bad actors from harming our constituents? That's the question, please. Lina Khan (3:14:22): Sorry, could you repeat the question - when should services be shifted... Gus Bilirakis (3:14:26): Yes, of course. As you pursue other initiatives, when staff and resources be shifted away from your fraud program, which is so essential in preventing bad actors from harming our constituents? Lina Khan (3:14:40): Well, of course, we're always limited by the appropriations bills when it comes to thinking through how we're delegating resources across the agency. In certain instances, I think there are exigent needs that can arise in certain aspects. Gus Bilirakis (3:14:54): But you don't anticipate moving money from the fraud program, is that correct? Lina Khan (3:15:00): Not especially, but I mean, I think overall, we are trying to look through the prism of managerial efficiency and trying to understand how we can best use our resources, especially given some of the exigent circumstances and so we'll be continuing to make those determinations. Gus Bilirakis (3:15:15): I suggest that you not because this is such a very important program. Commissioner Wilson, can you elaborate on why the FTC Reports Act would also prove beneficial to increasing much needed transparency and the flow of information within the commission?

#### Fraud crackdowns stop major terror attacks

Michael Tierney 18, George & Mary Hylton Professor of International Relations; Director Global Research Institute (GRI), “#TerroristFinancing: An Examination of Terrorism Financing via the Internet,” International Journal of Cyber Warfare and Terrorism, vol. 8, no. 1, 01/2018, pp. 1–11

2. TERRORIST FINANCING AND THE INTERNET

As mentioned, terrorists’ use of the internet has become a major concern for security officials across the world in recent years. Like many other users, terrorists have found that the internet is an invaluable tool to share information quickly, in order to disseminate ideas and link up with likeminded individuals (Jacobson, 2010; Okolie-Osemene & Okoh, 2015). In this manner, terrorists use the internet for a variety of purposes, including recruitment, propaganda, and financing. As scholars have also noted, the internet is an attractive option for extremists due to the security and anonymity it provides (Jacobson, 2010). Yet while there have been a growing number of studies completed on the ways in which terrorist organizations use the internet to recruit and indoctrinate others, there has been relatively little focus on the methods by which terrorists finance themselves through online activities. Some researchers have attempted to fill gaps in this area by broadly studying internet aspects of terrorism financing. However, research on this particular aspect of terrorism financing still appears to be lacking, with little focus on new methods of terrorist financing via the internet or a marrying of strategies to combat online financing trends available to practitioners in the field.

For instance, Sean Paul Ashley (2012) assessed the mobile banking phenomenon, which is prevalent in regions such as the Middle East and Africa, and provides extremists with the ability to easily connect to the internet and remit funds around the world. The decentralization of this kind of banking, due to the fact that brick-and-mortar facilities are not needed to conduct transactions, has allowed terrorist financiersto more efficiently move funds while avoiding detection from authorities. Other researchers,such as MichaelJacobson (2010), have studied the waysin which terrorists engage in cyber-crime to raise and move funds. For example, Jacobson (2010) found that online credit card fraud was a fairly major source of terrorist financing. By stealing a victim’s private credit information, terrorists are able to co-opt needed funds and provide support to themselves or their counterparts. Yet as James Okolie-Osemene and Rosemary Ifeanyi Okoh (2015) note, the internet is mostly used to augment and assist activities which occur in the physical world. In this way, it would appear that the internet is far more useful as a means to move funds globally in support of terrorism, rather than simply as a method to raise funds.

#### Nuclear terror causes nuclear war---cash is key

Dr. Peter J. Hayes 18, Executive Director of the Nautilus Institute for Security and Sustainability, Ph.D. in Energy and Resources from the University of California-Berkeley, Professor of International Relations at RMIT University, “Non-State Terrorism and Inadvertent Nuclear War”, NAPSNet Special Reports, 1/18/2018, <https://nautilus.org/napsnet/napsnet-special-reports/non-state-terrorism-and-inadvertent-nuclear-war/>

The critical issue is how a nuclear terrorist attack may “catalyze” inter-state nuclear war, especially the NC3 systems that inform and partly determine how leaders respond to nuclear threat. Current conditions in Northeast Asia suggest that multiple precursory conditions for nuclear terrorism already exist or exist in nascent form. In Japan, for example, low-level, individual, terroristic violence with nuclear materials, against nuclear facilities, is real. In all countries of the region, the risk of diversion of nuclear material is real, although the risk is likely higher due to volume and laxity of security in some countries of the region than in others. In all countries, the risk of an insider “sleeper” threat is real in security and nuclear agencies, and such insiders already operated in actual terrorist organizations. Insider corruption is also observable in nuclear fuel cycle agencies in all countries of the region. The threat of extortion to induce insider cooperation is also real in all countries. The possibility of a cult attempting to build and buy nuclear weapons is real and has already occurred in the region.[15] Cyber-terrorism against nuclear reactors is real and such attacks have already taken place in South Korea (although it remains difficult to attribute the source of the attacks with certainty). The stand-off ballistic and drone threat to nuclear weapons and fuel cycle facilities is real in the region, including from non-state actors, some of whom have already adopted and used such technology almost instantly from when it becomes accessible (for example, drones).[16]

Two other broad risk factors are also present in the region. The social and political conditions for extreme ethnic and xenophobic nationalism are emerging in China, Korea, Japan, and Russia. Although there has been no risk of attack on or loss of control over nuclear weapons since their removal from Japan in 1972 and from South Korea in 1991, this risk continues to exist in North Korea, China, and Russia, and to the extent that they are deployed on aircraft and ships of these and other nuclear weapons states (including submarines) deployed in the region’s high seas, also outside their territorial borders.

The most conducive circumstance for catalysis to occur due to a nuclear terrorist attack might involve the following nexi of timing and conditions:

1. Low-level, tactical, or random individual terrorist attacks for whatever reasons, even assassination of national leaders, up to and including dirty radiological bomb attacks, that overlap with inter-state crisis dynamics in ways that affect state decisions to threaten with or to use nuclear weapons. This might be undertaken by an opportunist nuclear terrorist entity in search of rapid and high political impact.
2. Attacks on major national or international events in each country to maximize terror and to de-legitimate national leaders and whole governments. In Japan, for example, more than ten heads of state and senior ministerial international meetings are held each year. For the strategic nuclear terrorist, patiently acquiring higher level nuclear threat capabilities for such attacks and then staging them to maximum effect could accrue strategic gains.
3. Attacks or threatened attacks, including deception and disguised attacks, will have maximum leverage when nuclear-armed states are near or on the brink of war or during a national crisis (such as Fukushima), when intelligence agencies, national leaders, facility operators, surveillance and policing agencies, and first responders are already maximally committed and over-extended.

At this point, we note an important caveat to the original concept of catalytic nuclear war as it might pertain to nuclear terrorist threats or attacks. Although an attack might be disguised so that it is attributed to a nuclear-armed state, or a ruse might be undertaken to threaten such attacks by deception, in reality a catalytic strike by a nuclear weapons state in conditions of mutual vulnerability to nuclear retaliation for such a strike from other nuclear armed states would be highly irrational.

Accordingly, the effect of nuclear terrorism involving a nuclear detonation or major radiological release may not of itself be *catalytic* of *nuclear* war—at least not intentionally–because it will not lead directly to the destruction of a targeted nuclear-armed state. Rather, it may be catalytic of non-nuclear war between states, especially if the non-state actor turns out to be aligned with or sponsored by a state (in many Japanese minds, the natural candidate for the perpetrator of such an attack is the pro-North Korean General Association of Korean Residents, often called Chosen Soren, which represents many of the otherwise stateless Koreans who were born and live in Japan) and a further sequence of coincident events is necessary to drive escalation to the point of nuclear first use by a state. Also, the catalyst—the non-state actor–is almost assured of discovery and destruction either during the attack itself (if it takes the form of a nuclear suicide attack then self-immolation is assured) or as a result of a search-and-destroy campaign from the targeted state (unless the targeted government is annihilated by the initial terrorist nuclear attack).

It follows that the effects of a non-state nuclear attack may be characterized better as a *trigger* effect, bringing about a *cascade* of nuclear use decisions within NC3 systems that shift each state increasingly away from nuclear non-use and increasingly towards nuclear use by releasing negative controls and enhancing positive controls in multiple action-reaction escalation spirals (depending on how many nuclear armed states are party to an inter-state conflict that is already underway at the time of the non-state nuclear attack); and/or by inducing concatenating nuclear attacks across geographically proximate nuclear weapons forces of states already caught in the crossfire of nuclear threat or attacks of their own making before a nuclear terrorist attack.[17]

#### Strong FTC penalty authority deters cyber attacks on critical infrastructure

Holland, 21 – Mackenzie, citing Edward Felten, professor of computer science and public affairs at Princeton and former chief technologist at the FTC. "Senators want FTC to enforce a federal data security standard," SearchSecurity, <https://searchsecurity.techtarget.com/news/252507933/Senators-want-FTC-to-enforce-a-federal-data-security-standard> -- Iowa

U.S. Senators want to empower the Federal Trade Commission to become a stronger protector and enforcer of consumer data privacy and security.

During the second in a series of hearings focused on the importance of federal standards for data privacy and security, the U.S. Senate Committee on Commerce, Science and Transportation listened to experts who recommended development of a data security standard for businesses that's enforced by the FTC. The first hearing explored the creation of a federal data privacy law as well as creation of a data privacy bureau within the FTC.

The call for federal data privacy and security standards follows attacks on critical infrastructure companies, including the 2021 attack on Colonial Pipeline. That attack, which caused fuel shortages, was cited by committee chair Sen. Maria Cantwell, D-Wash., as a reason necessitating federal standards.

Cantwell and Sen. Roger Wicker, R-Miss., have introduced two separate bills that would set U.S. privacy and security standards for businesses: the Consumer Online Privacy Rights Act and the Setting an American Framework to Ensure Data Access, Transparency and Accountability (Safe Data) Act. The legislation would also give the FTC and state attorneys general the ability to enforce the standards.

"We believe that these companies don't invest enough for the fact that they have oversight of our precious data and information," Cantwell said. "We know that a stronger FTC will help, but we need to give the FTC the resources they need to do their job."

Experts make data security standard recommendations

James Lee, chief operating officer at San Diego-based nonprofit Identity Theft Resource Center, echoed Cantwell's concern that the U.S. needs a federal data security standard and to better outline national cybersecurity best practices.

Lee said a federal data security standard should require companies to address small but preventable flaws that lead to data breaches, such as unpatched software, as well as minimize consumer data that can be collected and stored by companies. Additionally, Lee said stronger enforcement measures would be necessary for companies that fail to meet the data security standard.

"Without enforceable minimal standards, there are no broad incentives beyond trying to avoid headlines or post-breach litigation to get people to actually make broad organizational changes," Lee said.

"We need better enforcement," he said. The FTC is "best equipped to be that enforcement agency."

Indeed, Jessica Rich, counsel at law firm Kelley Drye and Warren LLP and former director of the FTC Bureau of Consumer Protection, said current law fails to set clear standards for data security or provide adequate remedies.

"Most of the FTC's data security efforts are based on the FTC Act, a law that leaves wide gaps in protection and doesn't authorize penalties for first-time violations," she said. "While there are sector-specific laws with a data security component, and half the states now have their own data security laws, it's a messy and confusing patchwork."

Rich recommended a standard that's scalable to different types and sizes of companies and the volume and sensitivity of the data they collect. Otherwise the law could impose requirements ill-suited and unattainable for small business, she said. Rich also supported data minimization incentives or requirements.

Rich said to ensure accountability and deterrence, the data security standard should authorize strong remedies such as civil penalties and redress to businesses that fail to meet the data security standard.

Edward Felten, Robert E. Kahn professor of computer science and public affairs at Princeton University and former chief technologist at the FTC, said the FTC currently doesn't have the tools it needs to address today's data security enforcement challenges.

To further empower the FTC, Felten voiced support for allowing civil penalties for first-time violations of certain statutes within the FTC Act, such as Section 5, which states that unfair or deceptive practices affecting commerce are unlawful. The lack of first-time penalties makes the FTC Act a "weak deterrent," he said.

Additionally, Felten said Congress could authorize data security rulemaking so the FTC can clarify what is expected of companies, as well as funnel additional resources to the FTC for data security and technology initiatives.

"The successful FTC of the future is one that has stronger authority, increased resources and greater technological capability," Felten said.

#### **Massive attacks on critical infrastructure are underway – FTC deterrence credibility is make or break**

Pfefferkorn, 1-13-22 – Riana, research scholar at the Stanford Internet Observatory. “Why the FTC is telling companies to patch Log4j vulnerabilities,” Brookings Institute – Tech Stream, <https://www.brookings.edu/techstream/why-the-ftc-is-telling-companies-to-patch-log4j-vulnerabilities/> -- Iowa

For cybersecurity workers, 2021 ended with a bang. On Dec. 9, a severe zero-day vulnerability was publicly disclosed in Log4j, a widely used Java logging utility. Dubbed Log4Shell, the flaw allowed an attacker to remotely gain control of a vulnerable device that used the utility. Given Java’s ubiquity, this meant that hundreds of millions of devices were at risk, ranging from servers for enterprise software, cloud hosting, and web applications, to consumer devices such as smart TVs and internet-connected security cameras. What’s more, the flaw was easy to exploit, rendering it accessible to bad actors with no need for high levels of skill, sophistication, or resources. The head of the U.S. Cybersecurity and Infrastructure Security Agency (CISA), Jen Easterly, called the Log4j flaw one of the most serious vulnerabilities she’d ever seen.

As 2022 begins, the crisis shows no sign of abating. Remediation efforts continue, while attackers are probing systems looking for Log4j vulnerabilities. On Jan. 3, security experts at Microsoft wrote that they expect this issue “to have a long tail for remediation, requiring ongoing, sustainable vigilance.” The company has already observed state-backed hackers from China, Iran, and North Korea attempting to exploit the Log4j vulnerability, and Easterly foresees that attackers will keep doing so “well into the future.” The coming year is likely to see more attacks on critical infrastructure, more ransomware attacks against public and private networks—and increased risk to the security of Americans’ personal, financial, and other sensitive data. That’s because, like it or not, private-sector companies hold vast amounts of information about us, on systems whose security is beyond our control. Yet the United States doesn’t yet have a generally applicable federal law that would impose minimum data security requirements on the private sector. So how will our government defend Americans’ data security against the Log4j threat?

In the absence of broad data-security rules, several U.S. regulators are stepping up to address Log4j. CISA, for example, has mandated that the sprawling array of civilian federal computer networks be updated to address the Log4j vulnerability. The deadline to do so was Dec. 23, but the work is ongoing. The Federal Trade Commission, for its part, is engaging with the private sector by warning companies that they could be subject to legal action if they fail to remediate the Log4j vulnerability.

On Jan. 4, the FTC published a blog post reminding companies that they have a legal “duty to take reasonable steps to mitigate known software vulnerabilities.” It threatened to bring the full force of the agency’s authority against “companies that fail to take reasonable steps to protect consumer data from exposure as a result of Log4j, or similar known vulnerabilities in the future.” The warning cited the $700 million it cost Equifax to settle multiple enforcement actions stemming from a 2017 data breach that affected 147 million people due to the company’s failure to patch a known security vulnerability.

You might be wondering: why the FTC? And why Jan. 4, almost four weeks after Log4Shell’s public disclosure? CISA has been all over the Log4j vulnerabilities since at least Dec. 11. Indeed, the FTC’s post encourages companies to consult CISA’s guidance on mitigating them. What’s the use of this somewhat belated contribution to the conversation?

The reason is that the FTC has enforcement powers over private-sector wrongdoing that CISA doesn’t. By law, CISA’s remit is limited to the federal government and critical infrastructure, even though its alerts and guidance are used by others outside of those sectors too. Controversially, the young agency has little in the way of enforcement authority outside of the federal government; proposed expansions thereof still focus on critical infrastructure, not the private sector writ large. By contrast, the FTC has over 80 years of experience acting as the nation’s consumer protection watchdog. Federal law gives it the power to police and punish “unfair or deceptive acts or practices in or affecting commerce.” In recent years, the agency has relied on that authority to assume the mantle of Americans’ data-security defender. This application of its authority was challenged in court, but the agency prevailed. It’s brought multiple enforcement actions in the area of data security since then under both the “unfair” and “deceptive” prongs of the law. At this point, it’s well-established that shoddy cybersecurity is within the scope of the FTC’s enforcement powers.

In evaluating companies’ data security practices, the agency uses “reasonableness” as its touchstone. The trouble is that what’s “reasonable” or “unreasonable” is hard to pin down. Best practices change over time as both technology and threats evolve. A cybersecurity program that’s reasonable for a tiny company might be unreasonable for a huge one. And even otherwise comparable companies may not be similarly situated in a particular circumstance such as the Log4j issue: There’s a difference between companies that make the conscious decision not to patch Log4j and just accept the risk (to themselves and their customers), those that can’t patch for whatever reason, and those that don’t patch because they don’t even realize they use Log4j. The FTC’s blog post doesn’t draw these distinctions, but they should factor into any FTC analysis of whether to institute enforcement proceedings over Log4j lapses.

If a company has no way of knowing that the FTC considers a particular security practice “unreasonable,” that’s a problem for the agency. An important concept in U.S. law is that of “notice”: Everyone has the right to know, in advance, what conduct will subject them to government punishment, so they can conform their behavior accordingly. It’s not OK for the government to penalize conduct which it hadn’t put the public “on notice” was illegal.

That’s why the FTC must give notice of what business acts or practices are “unfair” under the law. It can do this by formally promulgating rules or by litigating on a case-by-case basis to establish an act or practice as “unfair.” In the cybersecurity context, companies targeted by the FTC have sometimes argued that the agency hadn’t given fair notice that their security practices were unreasonable. Sometimes the courts have rejected this argument, as in the FTC’s case against Wyndham Hotels, which had been hacked three times and had used security practices that the FTC had specifically denounced in its prior guidance and adjudications. Since the agency hasn’t batted a thousand in court, however, in the last few years it’s made an effort to improve its data security guidance to companies.

It’s this history that underlies the Jan. 4 missive, which the FTC’s chief technologist’s office posted to the “Tech@FTC” blog and disseminated on social media. I interpret this as the FTC’s attempt to put the country on notice that failure to patch the Log4j vulnerabilities risks subjecting a company to punishment. That said, as one cybersecurity law scholar observed, a blog post by the chief technologist’s office does leave something to be desired in terms of formality. That could leave the FTC open to the argument that the blog post doesn’t provide sufficient notice, unlike, say, official agency rulemaking. Nevertheless, should any company subsequently claim it didn’t know it was supposed to patch a flaw that’s typically been described in terms that “border on the apocalyptic,” the FTC can point to this warning, together with its other, formal past actions such as the Equifax proceeding, to refute that assertion.

#### Cyber attacks on critical infrastructure go nuclear and are uncontrollable

Orlov 20 [Vladimir, Founder & Director of the PIR Center, President of the Trialogue Club International, Head of the Center for Global Trends and International Organizations at the Diplomatic Academy, Ministry of Foreign Affairs of the Russian Federation, Co-Founder and Academic Supervisor of the International Dual Degree MA Program in Nonproliferation and Global Security Studies, MGIMO University, Professor at MGIMO University, author (or coauthor) of more than a dozen books and monographs and more than three hundred research papers, articles, and essays, publishes his views in Russian and foreign periodicals, “‘No Holds Barred’ and the New Vulnerability: Are We in for a Re-Run of the Cuban Missile Crisis in Cyberspace?,” SSRN Scholarly Paper, ID 3538078, Social Science Research Network, 02/14/2020, papers.ssrn.com, doi:10.2139/ssrn.3538078]

Not hundred per cent of the dialogue has been frozen, fortunately. Certain informal, mostly offthe-record, meetings of US and Russian experts on cyber agenda continue taking place, both through Track 2 and Track 1.5. One of the most intellectually stimulating meetings, with frank exchanges, took place in Vienna in December 2018. The report produced after the meeting stressed “the significant risk […] that cyber-attacks could conceivably lead to a military escalation that may further trigger a nuclear weapons exchange, a fact that became more explicit with the adoption of the current Nuclear Posture Review. This issue gets complicated given that third parties may have the capabilities to invoke a cyber conflict between Russia and the United States. Whether a country or a non-state actor, they could put the two countries on the verge of an armed conflict by attacking critical infrastructure of either of them and making it look as if the aggressor were the other one”[22]. However, one should have no illusion: such informal meetings may be fully fruitful only when their reports and policy recommendations are utilized by the governments. And for that, a warmer climate in bilateral relations is a must. So far, we see exactly the opposite: mercury falling to freezing levels.

Risk of cyber clashes growing into a chaotic global cyber war has been emphasized by the UN Secretary-General Antonio Guterres in his Agenda for Disarmament: “Malicious acts in cyberspace are contributing to diminishing trust among States… States should implement the recommendations elaborated under the auspices of the General Assembly, which aim at building international confidence and greater responsibility in the use of cyberspace.[23]” However, as the members of the US-Russian Track 1.5 working group on strategic stability recently concluded, “without a constructive dialogue on cyber issues between the United States and Russia, the world would most likely fail to agree on any norms of responsible behavior of states in cyber space”[24].

Do we really have to survive a cyber equivalent of the Cuban Missile Crisis to realize the importance of achieving some kind of agreement on cyber issues, and on the broader agenda of international information security?[25] Or is that kind of talk plain old alarmism?

I don’t want to sound a fatalist, but I am even less keen on sounding like an ostrich that’s buried its head in the sand. We cannot ignore the obvious: whether the world’s most powerful actors like it or not, the world is sliding to another major crisis like the one in 1962. The cyber war is already raging. There are no rules of engagement in that war. The uncertainty is high. The spiral of tension is getting out of control. The cyber arms race is gaining momentum. And there are no guarantees that the next crisis will be controllable, or that it will result in a catharsis as far as international information security regulation is concerned. There’s no telling what will happen once the cyber genie is out of the bottle.

#### Only robust penalty enforcement solves false ads – litigation and regulation fail

Tushnet and Carrier, 21 – Rebecca Tushnet is a Professor at Harvard Law School and former NDT Finalist. Michael Carrier is a Professor at Rutgers Law School. *An Antitrust Framework for False Advertising*, May, 106 Iowa L. Rev. 1841, p. Nexis – Iowa

The pharmaceutical industry has provided the setting for other examples of antitrust scrutiny of conduct that violates non-antitrust rules, particularly those relating to fraud. The Walker Process 121 line of cases holds that the fraudulent procurement of a patent or enforcement of a patent obtained by fraud can violate antitrust law. 122 Other cases involve the allegedly fraudulent [\*1869] listing of patents in the "Orange Book," 123 an annual compilation of drugs and their associated patents. 124 And courts have recognized antitrust liability when a brand company makes "repeated and allegedly false patent descriptions" to the FDA. 125

Despite these cases, one could conceivably argue that antitrust should not apply to actions that are also governed by a separate regulatory regime. In Verizon Communications v. Law Offices of Curtis V. Trinko, the Supreme Court indicated that where another regulatory regime is guaranteeing competition, there may not be a need for antitrust enforcement. 126 That case can only be fully understood, however, in relation to the industry in which it arose. The Court in the case was evaluating the Telecommunications Act, which provides the Federal Communications Commission ("FCC") with general - and effective - regulatory authority over the industry, including its competitive structure (e.g., restrictions on concentrated ownership and must-carry requirements). 127

Other settings require more robust antitrust enforcement. For example, the FDA has very specific authority over drugs and medical devices, but it does not pervasively regulate industry structure in the way that the FCC does. Instead, the FDA has concluded "that issues related to ensuring that marketplace actions are fair and do not block competition would be best addressed by the FTC, which is the Federal entity most expert in investigating and addressing anticompetitive business practices." 128 Much more similar to [\*1870] the FDA than FCC, false advertising regulation lacks the pervasive control and monitoring, including reporting requirements, of telecommunications law. 129

False advertising litigation cannot effectively stand in for the antitrust function. False advertising, unlike the FCC's jurisdiction, is broad rather than deep: it covers a wide variety of competitive situations, from mouthwash to specialized airline components, but only by barring falsity and deception rather than by pervasively dictating market structure. Of critical significance, moreover, false advertising law is itself underenforced. The FTC has substantial resource constraints. And consumers themselves are rarely able to sue for the harms they suffer. Consumer contracts typically contain mandatory arbitration provisions, making schemes like AT&T's market-shaping deception harder to fight. As a result, there is no "false advertising regime" that effectively fosters competition and negates the need for antitrust enforcement. 130

#### **Regs can’t address market-wide harms from false ads, only antitrust can**

Tushnet and Carrier, 21 – Rebecca Tushnet is a Professor at Harvard Law School and former NDT Finalist. Michael Carrier is a Professor at Rutgers Law School. *An Antitrust Framework for False Advertising*, May, 106 Iowa L. Rev. 1841, p. Nexis – Iowa

[\*1844] False advertising law allows consumers to receive some redress for the money they paid for "unlimited" data that wasn't, 5 but there's no obvious remedy for the damage AT&T caused to the market as a whole. Antitrust law has been kneecapped by the courts and thus is powerless to act. In short, the law's neglect of the injuries caused by false advertising threatens structural harm to competitive markets.

In this Essay, we address these problems. We do so by focusing on the actors most likely to harm the market: monopolists and attempted monopolists. These actors are a numerically small percentage of businesses (and of false advertising defendants), but they can do great harm. Our emphasis on monopolists and attempted monopolists addresses courts' concerns of overbroad enforcement, preventing false advertising from morphing automatically into an antitrust violation. And it carves out a critical role for antitrust while embracing - rather than neglecting - antitrust's partner in fighting unfair competition, false advertising law.

We begin by introducing the laws of antitrust and false advertising, explaining the regimes' objectives and methods. We then survey the antitrust caselaw, critiquing three approaches courts considering false advertising claims have taken. Finally, we introduce our antitrust framework for false advertising claims. At the heart of the framework is a presumption that monopolists engaging in false advertising violate antitrust law, with that presumption rebuttable if the defendant can show that the false advertising was ineffective. The framework also applies to cases of attempted monopolization by incorporating factors (falsity, materiality, and harm) inherent in false advertising law, along with competition-centered issues on targeting new market entrants and entrenching barriers to entry. To illustrate how our framework should work, we apply it to an important area: advertising for biosimilars, which are pharmaceutical products with a substantial and growing role in treating numerous diseases.

False advertising that exacerbates monopoly power has been dismissed by antitrust law for too long. This Essay seeks to resolve the contradiction in the law by showing how false advertising threatens the proper functioning of markets.

#### **POA against targeted industries triggers the link but doesn’t solve the aff**

TINA, 1-5-22 –Truth in Advertising, Inc. (TINA.org) is a 501(c)(3) nonprofit dedicated to empowering consumers to protect themselves and one another against false advertising and deceptive marketing. “Deceptive ad Trends to be Wary of in 2022,” <https://www.truthinadvertising.org/deceptive-ad-trends-to-be-wary-of-in-2022/> -- Iowa

Deceptive Income Claims

Throughout October 2021, the FTC used its penalty offense authority to put a number of industries on notice, informing them of certain truth-in-advertising laws and of the agency’s ability to seek big financial penalties against those who then knowingly violate those laws. Among those industries targeted was the multilevel marketing industry. Since our founding in 2012, TINA.org has catalogued thousands of examples of MLMs using deceptive income claims to promote the “business opportunity,” despite the fact that the FTC has said most people who join legitimate MLMs make little or no money (which is why MLMs should generally avoid making any income claims). Before the FTC sent notices reminding the MLM industry to stay away from exaggerated or false earnings claims in its recruitment efforts, TINA.org sent a letter to the FTC in June urging it to implement a penalty offense program directed at that very industry. We attached a list of 668 MLMs; the FTC ended up sending notices of penalty offenses to 638 of them. At as much as $43,792 per violation, if the message is not received, some MLMs could be facing some hefty financial penalties in 2022.

## 2ac

### 2ac – T prohibit

#### Counter-interpret – prohibit forbids action

People’s Law Dictionary, 2

[Gerald Hill, former Executive Director of the California Governor's Housing Commission, has drafted legislation, taught at Golden Gate University Law School, & Kathleen Hill, former Fellow in Public Affairs with the prestigious Coro Foundation, Law.com, “Prohibition”, https://dictionary.law.com/Default.aspx?selected=1636, accessed 5-30-21, AFB]

prohibition

n. forbidding an act or activity. A court order forbidding an act is a writ of prohibition, an injunction or a writ of mandate (mandamus) if against a public official.

#### It’s an order

FindLaw Legal Dictionary, no date

[“prohibition”, <https://dictionary.findlaw.com/definition/prohibition.html>, accessed 5-31-21, AFB]

Prohibition

prohibition n

1 a : an extraordinary writ issued by a higher court commanding an inferior court to keep within its proper jurisdiction (as by ceasing a prosecution)

b : an order to refrain or stop

2 a : something (as a law) that prohibits a certain act or procedure

b cap

#### Aff ground – removes the best affs with the most reasonable solvency advocates

### 2ac - T Subsets

#### Expanding’ requires bringing new areas into the domain of antitrust law

Dr. Janet McIntyre-Mills 14, Associate Professor at Flinders University, Honourary Professor at the University of South Africa and Adjunct Professor at the University of Indonesia, Systemic Ethics and Non-Anthropocentric Stewardship: Implications for Transdisciplinarity and Cosmopolitan Politics, p. 25

Giddens (2009) points out that social movements will not be sufficient to bring about change. Nation states together with international organizations will need to implement international laws to protect the environment:

Decentralisation contributes to democratic deepening if and when it expands the scope and depth of citizen participation in public decision making. Expanding the depth means incorporating previously marginalised or disadvantaged groups into public politics. Expanding the scope means bringing in a wider range of social and economic issues into the authoritative domain of politics (shifting the boundary from the market to the demos. Democratic decentralisation in other words means redistributing power (the authority to make binding decisions about the allocation of public resources) both vertically (incorporating citizens) and horizontally (expanding the domain of collective decision making). Empowered local governments deepen democracy on both counts because they foster a better alignment of decision making centres with local preferences and local sources of knowledge and infor- mation, and because it creates loci of participation that reduce the costs and unevenness of collective action (Heller 2001, p. 140).

### 2ac Cap

#### Capitalism is sustainable---recent data proves we’re entering the golden age

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**The** past 30 years have seen immense progress in improving the quality of life for much of humanity. **Extreme** poverty **— the number of people living on less than $1.90 per day —** has fallen by nearly two-thirds, from 1.9 billion to around 650 million**.** Life expectancy has risen **in most of the world,** along with literacy and access to education**,** while infant mortality has fallen**. Despite perceptions to the contrary,** the average person born today is likely to have access to more opportunities and have a better quality of life than at any other point in human history**.** Much of this increase in human wellbeing has been propelled by rapid economic growth driven largely by state-led industrial policy, particularly in poor-to-middle income countries. **However,** this growth has come at a cost**:** between 1990 and 2019**, global** emissions of CO2 increased by 56%.Historically, economic growth has been closely linked to increased energy consumption **— and increased CO2 emissions in particular — leading some to argue that a more prosperous world is one that necessarily has more impacts on our natural environment and climate. There is a lively academic debate about our ability to “absolutely decouple” emissions and growth — that is, the extent to which the adoption of clean energy technology can allow emissions to decline while economic growth continues.** Over the past 15 years, however, something has begun to change. **Rather than a 21st century dominated by coal that energy modelers foresaw,** global coal use peaked in 2013 and is now in structural decline**.** We have succeeded in making clean energy cheap, with solar power and battery storage costs falling 10-fold since 2009**. The world produced more electricity from clean energy —** solar, wind, hydro, and nuclear — than from coal over the past two years**. And, according to some major oil companies,** peak oil is upon us **— not because we have run out of cheap oil to produce, but because** demand is falling and companies expect further decline as consumers increasingly shift to electric vehicles. **The** world has long been experiencing a relative decouplingbetween economic growth and CO2 emissions**,** with the emissions per unit of GDP falling for the past 60 years**.** This is the case even in countries likeIndia and China **that** have been undergoing rapid **economic** growth. **But relative decoupling alone is inadequate in a world where global CO2 emissions need to peak and decline in the next decade to give us any chance at limiting warming to well below 2℃, in line with Paris Agreement targets. Thankfully, there is increasing evidence that** the world is on track to absolutely decouple CO2 emissions and economic growth **— with global** CO2 emissions **potentially having** peaked in 2019and unlikely to increase substantially in the coming decade**. While an emissions peak is just the first and easiest step towards eventually reaching the net-zero emissions required to stop the world from continuing to warm, it** demonstrates that linkages between emissions and economic activity are not an immutable law, but rather simply a result of our current means of energy production. **In recent years we have seen more and more examples of absolute decoupling — economic growth accompanied by falling CO2 emissions.** Since 2005,32 countries with a population of at least one million people have absolutely decoupled **emissions from economic growth, both for terrestrial emissions (those within national borders) and consumption emissions (emissions embodied in the goods consumed in a country). This includes the** U**nited** S**tates,** Japan, Mexico, Germany, U**nited** K**ingdom,** France, Spain, Poland, Romania, Netherlands, Belgium, Portugal, Sweden, Hungary, Belarus, Austria, Bulgaria, El Salvador, Singapore, Denmark, Finland, Slovakia, Norway, Ireland, New Zealand, Croatia, Jamaica, Lithuania, Slovenia, Latvia, Estonia, and Cyprus. **Figure 1, below, shows the declines in territorial emissions (blue) and increases in GDP (red). To qualify as having experienced absolute decoupling, we require countries included in this analysis to pass four separate filters: a population of at least one million (to focus the analysis on more representative cases),** declining territorial emissions over the 2005-2019 period (based on a linear regression), declining consumption emissions, and increasing real GDP (on a purchasing power parity basis, using constant 2017 international $USD). **We chose not to include 2020 in this analysis because it is not particularly representative of longer-term trends, and consumption and territorial emissions estimates are not yet available for many countries. There is a wide range of rates of economic growth between 2005-2019 among countries experiencing absolute decoupling. Somewhat counterintuitively, there is no significant relationship between the rate of economic growth and the magnitude of emissions reductions within the group.** While it is unlikely that there is not at least some linkage between the two factors, there are plenty of examples of countries (e.g., Singapore, Romania, and Ireland) experiencing both extremely rapid economic growth and large reductions in CO2 emissions. **One of the** primary criticisms of **some prior analyses of absolute** decoupling is **that they ignore** leakage**. Specifically, the offshoring of manufacturing from high-income countries over the past three decades to countries like China has led to “illusory” drops in emissions, where the emissions associated with high-income country consumption are simply shipped overseas and no longer show up in territorial emissions accounting. There is some truth in this critique, as there was a large increase in emissions embodied in imports from developing countries between 1990 and 2005. After 2005, however,** structural changes in China and a growing domestic market led to a reversal of these trends; the amount of emissions “exported” from developed countries to developing countries has actually declined over the past 15 years. **This means that, for many countries,** both territorial emissions and consumption emissions **(which include any emissions “exported” to other countries)** have jointly declined**. In fact, on average, consumption emissions have been declining slightly faster than territorial emissions since 2005 in the 32 countries we identify as experiencing absolute decoupling. Figure 2, below, shows the change in consumption emissions (teal) and GDP (red) between 2005 and 2019. There is a pretty wide variation in the extent to which these countries have reduced their territorial and consumption emissions since 2005. Some countries — such as the UK, Denmark, Finland, and Singapore – have seen territorial emissions fall faster than consumption emissions, while the US, Japan, Germany, and Spain (among others) have seen consumption emissions fall faster. Figure 3 shows reductions in consumption and territorial emissions for each country, with the size of the dot representing the size of the population in 2019.** Absolute decoupling is possible.There is no physical law requiring economic growth — and broader increases in human wellbeing — to necessarily be linked to CO2 emissions**. All of the** services that we rely on today that emit fossil fuels **— electricity, transportation, heating, food —** can **in principle** be replaced by near-zero carbon alternatives**, though these are more mature**

#### Cap is sustainable, inevitable, and key to solve the environmental crisis – alternatives fail and ensure environmental collapse

-at: timeframe, thermodynamics, rebound effects

Bosch and Schmidt 19 (Stephan, Institute of Geography, Chair for Human Geography, University of Augsburg, and Matthias, Institute of Geography, Chair for Human Geography, University of Augsburg, “Is the post-fossil era necessarily post-capitalistic? – The robustness and capabilities of green capitalism”, Ecological Economics, Vol. 161, July) DB

Concerning the second dimension of criticism, Section 4 illustrates how the rejection of green capitalism overlooks promising approaches to surmounting the environmental crisis. On the one hand, we argue that in face of the given narrow time slot as well as the prevailing political strategies, it is more realistic and pragmatic to primarily assess the efficiency of market-oriented solutions. Even though in principle we take sufficiency to have the best effectiveness regarding the solution of ecological and social problems, we still do not count on people's willingness to live in greater moderation within due time. On the other hand, we therefore presume that there are no other suitable economic frame conditions for surmounting the crisis than those offered by the capitalist social order. This perspective is based on the assumption that innovations, which above all emanate from thriving economies (Wangler, 2013), are highly relevant for overcoming the environmental crisis. As growth, innovation, and the development of new industries are to be seen as directly related to the export sector as well as the utilisation of comparative advantages (Bathelt and Glückler, 2012), we therefore also strictly object to the concept of autonomy. Moreover, we take innovation and the aspects of growth, entrepreneurship, and democratic processes of negotiation related to it (cf. Gailing et al., 2013; Walter and Gutscher, 2013; Raven et al., 2016), to be essential for the implementation of regenerative energy systems and social welfare (Iversen, 2005; Nasirov et al., 2017). Our presumption that innovations occur more likely and more frequently within a capitalist, than in alternative social orders (e.g. Harris, 2013: socialist markets), is derived from Schumpeter's notion of competitive capitalism, which he distinctly sets apart from trustified capitalism. Competitive capitalism is about fertile destructive impulses emanating from enthusiastic entrepreneurs who are ready to take risks, and act solution-oriented. These impulses may revolutionise the economic process: “This process of Creative Destruction is the essential fact about capitalism” (Schumpeter, 2009). Based on Schumpeter's ‘theory of economic development’ (cf. Herzog and Honneth, 2016; Schumpeter, 1994; Schumpeter, 2009) – which, according to Marques (2008), represents the original idea of innovation-driven capitalism – we analyse capitalism's robustness to the downfall of fossil energy; moreover, we investigate its potential contributions to ecologic sustainability. Yet we want to go beyond Schumpeter's perspective, which fixes on the entrepreneur, and take a closer look at the role of state policy in Section 5. Our argument is that creative entrepreneurs and markets alone will not suffice to specifically and quickly initiate the change of the energy system driven by innovation. We state the thesis that an active role of the state is needed which relies on political continuity when it comes to promoting environmental innovation and creates stable institutional frame conditions. In a last step, we will show that during the deployment of regenerative energy systems, social aspects have hitherto been given too little attention by actors of state and politics and that national objectives were uncoupled from local contexts. To achieve a successful low-carbon transition, these deficits need to be corrected. In principle, this seems possible, as market-economically oriented regenerative energy systems have often been the result of open-minded democratic negotiations. In Section 6, the findings of the study will be summarised. 2. The crisis of fossil energies and capitalism Energy sources are a central element of humankind's materialistic history and elementary changes in the relevance of energy carriers have always led to extensive economic and societal transformations (Bridge et al., 2013). Exemplarily, the drastic increase in productivity during industrialisation cannot be explained without the revolutionary change of the energy system towards fossil fuels (Osterhammel, 2011). Ever since, economic growth is accompanied by an increasing consumption of finite energy resources and non-energetic primary materials (Altvater, 2005). Accordingly, questions of economic development must always be regarded in the context of the energy system, as well as the circulation of energetic and non-energetic crude materials within it (Meadows et al., 2004). Altvater (2007) takes the relationship between humans and nature to be crisis-laden because a limited stock of energy resources within the Earth's thin crust forms the basis of the present economic system. This limitation implied grave consequences for the global ecology. The apparently crisis-laden interrelation of nature and economy is also highlighted in ‘Anthropocene or Capitolocene?’ edited by Moore (2016), in which the impacts of capitalism are regarded as significant enough to be marked as their own geochronological era. The main point of criticism is capitalism's orientation to industrial scaling and quantitative growth (Mathews, 2011), which likely will end abruptly once Earth's limited capacities will have been depleted by the exponential growth of population and economy (Daly, 1995). Yet not only the finiteness of energy carriers, but also the accumulation of extreme meteorological incidents, mass mortality of species, and sea level rise represent impediments of stable economic growth (McCarthy, 2015). The scenarios concerning trends of the world's condition developed by the Club of Rome illustrate that keeping a high wealth level can only be accomplished if a radical change in societal attitude concerning the valuation of growth will take effect (Meadows et al., 2004). Stopping environmental destruction while maintaining the present economic system appears to be impossible, since fossil energy carriers provide globally acting companies with the opportunity to spatially separate production and consumption as well as to externalise the manifold ecological expenses (Chisholm, 1990). Bridge (2010) rates the heated debates about Peak Oil as ecologically motivated forebodings of a new energy order in which the modern industrial nations are going to free themselves of their dependence on oil. For Neomarxist groups, the end of the age of mineral oil even represents an apocalyptic turn of eras during which nature were going to take vengeance on the ecological arrogance of capitalism. According to Bettini and Karaliotas (2013), the narration of Peak Oil thereby attains a symbolism that reaches far beyond mathematical calculations of the scarcity of fossil energy sources, being extended to a general criticism of a system that is exclusively oriented on growth. McCarthy (2015) sees the chance of a post-fossil capitalism especially in the commodification of wind, sunlight, geothermal heat, and waves. This way, nature would again be introduced into the cycle of capital. Van den Bergh (2011) presumes that this may be a practicable approach, perceiving criticism of market economy and capitalism as too radical and warns of one-sidedly problematising growth without simultaneously pointing out realisable alternative ways. He therefore prefers the ‘a-growth-concept’, which assumes a neutral position on growth, trying to create social as well as ecological sustainability by means of pricing policy, environmental agreements, and education initiatives. The commodification of nature, however, is rejected by the degrowth movement, as the comparison of the Montreal Protocol, which is based on regulations (ozone) with the Kyoto Protocol based on trade had shown a greater effectiveness of regulative measures (Kallis, 2011). Concerning the market's capabilities, North (2010) additionally speaks of the neoliberal enthusiasts' mindless faith in technology, who were mistakenly convinced that creative destruction is sufficient to face the societal challenges posed by Peak Oil and the climate crisis. Sarkar and Kern (2008) limit the possibilities of the global community's further development to the two options ‘eco socialism’ or ‘barbarism’. This rhetoric stylises capitalism as the image of the enemy: on the one hand, it represents the cause of the global ecological crisis due to the exploitation of natural resources – and for that reason alone were not to be maintained (Daly, 2005) – while on the other hand not offering a suitable social framework for mastering the crisis (Kallis et al., 2009). Hence, the development of a symbiotic economy (Garcia-Olivares and Sole, 2015) rooted beyond obsessive economic growth (Buch-Hansen, 2018) is promoted. Renewable energies were apt to meet these requirements since they can be developed through collaborative bottom-up mechanisms on a communal level, therefore enabling the decentralisation and democratisation of energy supply (Rifkin, 2013). In fact, this may be an option. However, in the following, we want to demonstrate that capitalism is not only very robust to crises, but is also able to contribute to the solution of the environmental crisis. 3. Robustness of capitalism 3.1. Space-time compression We will now show that the possibility of increasing productivity does not end with the transition to a regenerative energy system, but only needs to be embedded into new logistic-infrastructural contexts. In this, we contradict Altvater (2007), Huber (2009) and North (2010), who claim that capitalism could expand only on the basis of fossil fuels, since, due to the global transportability of oil, gas, and coal, entrepreneurial actions are no longer bound to the local availability of energy resources, but range globally. Furthermore, the usage of fossil energy carriers is not subject to daily or seasonal fluctuations. Transportability and baseload capacity hence lead to space-time compression (Harvey, 1996), as products can be generated in ever shorter intervals of time. Following this logic, the limitation of the fossil resource basis inevitably brings about the end of the capitalistic system. It remains undisputed that energy flow within a solar-based energy system is hard to control (Georgescu-Roegen, 1971). Most forms of renewable energies are intermittent sources, whose contribution to the energy mix are subject to the rhythms of sun, wind, precipitation, and tides (Fares, 2015). Adapting energy production to demand, a fundamental prerequisite of continuous economic growth, thus becomes a major challenge. What Altvater (2007), Huber (2009) and North (2010) actually do not include in their considerations, are the numerous technological innovations for the stabilisation of regenerative energy systems. After all, with biomass and geothermal power, two energy carriers capable of providing base load are at hand (Matek and Gawell, 2015), which may, in the form of regenerative combined power plants, support the weather-dependent energy sources sun and wind (Palensky and Dietrich, 2011; Ramchurn et al., 2011). The numerous energy storage technologies are also important, albeit only few of these have reached industrial maturity. In principle, mechanical, chemical, electrical, or thermal kinds of storage are being discerned (Hadjipaschalis et al., 2009). Compressed air and pumped storage power plants with efficiency levels of up to 80% are especially promising (Anagnostopoulos and Papantonis, 2008). Research is also conducted on the conversion of surplus regenerative power into methane or hydrogen (Jensen et al., 2007), by which the bidirectional operation of the power and gas network is made possible, allowing for transportability as well as baseload capacity within large spatial units. Space-time availability may also be augmented by the development and capacity expansion of high-voltage transmission lines (Walter and Bosch, 2013). Harriss-White and Harriss (2007) have pointed out at an early point, that the existent grids, having been developed following a monopolistic logic, are outdated and incapable of integrating decentrally-produced electricity with strong fluctuations. These deficits, however, are successively being corrected. E.g., Germany's South, which is poor in wind but strong in terms of industry is being provided with direct access to the big wind energy off-shore potentials in the North as well as to the storage power plants in Scandinavia (cf. Fig. 1). The possibilities of intercontinental power transport from regenerative sources have been thoroughly investigated by DLR (2006) and Grossmann et al. (2014). Both energy storage and the development of the power grid thus will successively reverse the present space-time limitations of regenerative energy systems. The two domains, however, are not isolated from one another, but are coordinated via smart grids. Solomon and Krishna (2011) emphasise that smart grids are superbly suitable for the implementation of market-based approaches, so that an innovation-driven mass market for energy efficiency technologies could be anticipated. Smart grids also provide the possibility of no longer designing the mass production of renewable energy technologies on a fossil basis, but by the usage of renewable energy. While the production of the first generation of regenerative technologies was based on fossil energy, in future, the possibilities of energy storage, the almost unlimited energy potential of a solar-based economy, and the combination of both aspects through smart grids will ensure the flexible provision of regenerative energy at every production site without limits of time. Yet in order to optimise the flows of energy and material in smart grids, concepts of closed crude material cycles are needed, which, in the sense of the cradle-to-cradle approach (cf. Section 4), allow the reintroduction of used materials (e.g. old wind power plants made of renewable resources) to the biosphere. Thus, the problem of externalisation of ecological costs can be minimised. Summing up, the increase of productivity and stable economic growth within regenerative energy systems seems possible. Still, it remains to be emphasised that large-scale energy projects also entail negative social consequences. E.g., Yenneti et al. (2016) have shown that the Charanka solar park in Gujarat, India, was erected on areas that the local population's livelihood had depended on for decades. The refuse of access to these areas, as well as the inhabitants' successive dispossession through state measures thus are direct results of the Indian economy's ecological modernisation (Levien, 2013). In this context, Baka (2013) speaks of “energy dispossessions”, a phenomenon which has also been observed with large-scale wind energy parks (Avila, 2018; Cowell, 2010). The socio-material impact of economic modernisation on the local population, whose lives strongly depend on agricultural land use, are often insufficiently respected (Yenneti et al., 2016), so that the dubious impression was given that environmental protection and economic growth based on efficient technologies, competition, and state measures could go with one another without social side effects. Remarkably, the controversial energy mega-projects especially in the global South, are not the cause of the development of new power asymmetries and conflicts, but rather reproduce and harden long-standing social disparities and injustices (Avila, 2018). According to Bradley and Hedrén (2014), a low-carbon transition hence misses its aims if it is only about modernising the energy system without likewise transforming the underlying social structures. 3.2. Crisis as an element of capitalist social order We hold the view that the occurrence of crises in capitalism is not due to it being an ailing, doomed economic order; nor is it a proof of capitalism's ineptitude for meeting ecological challenges. Instead, we deem that crisis is a fundamental element of the capitalist social order that actually provides a chance for readjusting economic processes. Harvey (2011) explains that anything blocking the circulation and accumulation of capital may pose a threat to the capitalist system and induce a fundamental crisis. The finiteness of fossil fuels is a crisis of this kind (McCarthy, 2015). Altvater (2007) is convinced that capitalism will not be able to overcome this crisis; therefore, future technologic progress had to be embedded in a non-fossil, non-capitalist framework. Kallis (2011) also emphasises that the approach to a steady state (cf. Daly, 1991, Daly, 2005) will transform the institutional preconditions of property, work, banking, and distribution to such an extent that in the end, it will be impossible to still identify them as capitalistic. With regard to Kallis' doubts concerning the institutional robustness of capitalism, Schumpeter points out that precisely the ups and downs of industrial development, which are the outcomes of successful innovations' intensifying competition, enable progress (Herzog and Honneth, 2016). As crises therefore represent an immanent part of the capitalist system, an environmental and resources-related crisis caused by the capitalistic process does not provide sufficient evidence to suggest a possible downfall

of the capitalistic social order. The crisis might even be taken as proof of an economic cycle, if it is regarded as a period of depression between the dwindling fossil and the emerging regenerative age. Böhm et al. (2012) and McCarthy (2015) confirm that capitalism is capable of overcoming even fundamental crises, actually using these as starting points of its further expansion. Concerning the environmental crisis, Harriss-White and Harriss (2007) also concede that the deployment of renewable energies holds the potential of founding a new form of capitalism that is characterised by a much lower degree of materialistic lavishness. Bettini and Karaliotas (2013) emphasise that from a neo-liberal point of view, the accusation of capitalism bringing about a resources-related and environmental crisis does not at all provoke self-doubts. Rather, it caused the profitable marketing of adequate approaches to solutions in the field of resource depletion and environmental impacts to move into economic focus. Even Altvater (2007) points out that the externalised effects of production and consumption on nature become relevant for companies once they jeopardise profitability and accumulation. In that case, environmental problems and their solutions can actually be made part of capitalist logic. Solomon and Krishna (2011) are convinced that in order to solve the environmental crisis, it were not even necessary to achieve further technologic breakthroughs, as the technologies needed for the remodeling of society towards energy efficiency were already mature and cost-efficient. Even if capitalism might be sufficiently robust, Kallis (2011) still takes the crisis as a chance to break up obstructive social and political lock-ins that have hitherto seemed unalterable and have lead into the crisis. Yet he does not regard the ability of social and political transformation to be inherent in the traits of market, but as a characteristic of a social order orientated towards degrowth. Certainly, Kallis is right in saying that the market is hard to control, making a concerted transformation towards sustainability difficult. Still his criticism only refers to that form of capitalism which Schumpeter characterised as trustified capitalism and which does lead to ecologically problematic lock-in effects. The criticism cannot, however, be applied to competitive capitalism, which generates those basic innovations giving rise to the revolutionary crises described as so fertile by Kallis (2011). Thus, an opportunity is provided for alternative social conditions to be brought about – but within the capitalist social order – and for substantiating these new conditions through further innovations. Innovations may emerge outside of competition and market economy, but will then lack the required frequency and force, as growth represents the most important incentive of innovation (Wangler, 2013). On the other hand, a continuous process of innovation again leads to growth, which may revolutionise the present social conditions, as Schumpeter states (Herzog and Honneth, 2016). Thereby, a new combination of the given means of production within new sites of production emerges, generating new goods, methods, and markets. Productive resources are applied to hitherto untested usages while being withdrawn from those usages they served before (Geels, 2011). What Kallis (2011) terms technological optimism with regard to the ecological innovative power of capitalism, is therefore technological realism in the context of Schumpeter's competitive capitalism. Without doubt, innovative boosts on the part of already established companies are also conceivable and may give rise to the possibility of maintaining trustified capitalism with its ecologically precarious structures. An example hereof is the innovation ‘Carbon Dioxide Capture and Storage’, by which the ecological impact of the emission intensive electrical conversion of coal is being reduced (Benson and Orr, 2008). Technological progress may hence stabilise the existent system of economy and policy that is accountable for the environmental crisis (Bettini and Karaliotas, 2013). In Schumpeter's view, however, the decisive economic order is competitive capitalism, which is characterised by the aggressive economic demeanour of new, innovative enterprises economically challenging the establishment (Herzog and Honneth, 2016). The start-ups of new companies, which are inseparably connected with the processes of innovation, withdraw production goods from the present capitalist system by underbidding, disturbing the former economic balance that is so destructive for nature. Competition is therefore essential for overcoming the environmental crisis. In that respect, the concept of ‘solidary economics’ and its precept of surmounting the allegedly ruthless principle of competition and emancipating oneself from the logic of the markets (Embshoff and Giegold, 2008), is counterproductive, as the renunciation of competition impedes the breakup of crusted economic structures, which thus continue to harm the environment. After all, the big energy providers' strategy was and is to hold on to the fossil-nuclear power plant pool for as long as possible, suppressing alternative concepts of energy supply (Gawel et al., 2012). A radical transformation of the energy system therefore cannot emerge from the existent structures, as Schumpeter assesses (Herzog and Honneth, 2016). Instead, innovative processes emerge outside of the old major companies until proceeding to attack the incumbent regime through the rededication of means of production (Geels, 2011). Innovative marketing strategies of small and middle scale businesses supplanting cumbersome large companies play an essential part especially in the field of renewable energies (Walsh, 2012). In this, competition is a decisive element that cannot easily be superseded. 4. Capabilities of green capitalism A competitive green capitalism develops great creativity by its high rate of innovation, which may also reinvent the relationship between humans and nature. We now want to exemplify how this might be brought about. Schumpeter holds the view that innovation is the result of the capitalistic entrepreneurial spirit, not the other way round (Herzog and Honneth, 2016). Technological and social progress hence are no independent variables materialising out of thin air, but arise from the logic of the capitalist process. Meadows et al. (2004) accept that innovations may relocate the limits of growth, making it possible to maintain the living standard by continuously reducing the consumption of crude materials and energy. However, one of the energy system's prevailing deficits is that depleted or not yet tapped resources are being (re-)obtained based on non-regenerative energy (Schwartzman, 2008), causing capitalistic production to be increasingly energetically inefficient (Murphy and Hall, 2011). Overcoming the energy crisis hence calls for the consideration of thermodynamic principles (Georgescu-Roegen, 1971, Georgescu-Roegen, 1986; Martinez-Alier, 1987). Harriss-White and Harriss (2007) see the deployment of renewable energies as a possibility of limiting the creation of entropy. Kaberger and Mansson (2001) have shown that innovative resources-saving material cycles may be possible and economical if they are based on the usage of the inexhaustible energy of irradiance. What is promising about this approach is that, due to research and development, the utilisation of solar energy becomes more and more efficient and lucrative (Schmid, 2016). Moreover, its inexhaustible potential allows for the exploitation of material resources even from deposits with extremely low crude material density. On a local level, the utilisation of solar energy may actually lead to a reduction of entropy (Ebeling et al., 1998; Kranert and Cord-Landwehr, 2010), as it is the case with the usage of waste heat of solar thermal power plants for the desalination of sea water (DLR, 2007). The integration of these capacities into smart grids and the associated remodeling of every production process to purely regenerative sources have been detailed in Section 3. We further argue that innovation surpasses conceivability. Even Harris (2010) sees a particularly high potential in unpredictable technological innovations to break through economic routine, thus encouraging further entrepreneurs in issuing their own innovations. Capitalism might thereby be provided with the chance to reduce its ecological exploitation. But innovation exceeds strictly technological aspects and may as well comprise social and institutional aspects (Arentsen and Bellekom, 2014). E.g., in the mobility sector, whose pollutant emissions have significantly contributed to the environmental crisis, innovations have led to new features of cargo and passenger transportation. This is illustrated by the example of car sharing as an innovative life style (Prettenthaler and Steininger, 1999) or bicycle-sharing schemes in urban areas (Midgley, 2011). Another representative case is the history of the ozone hole, which Meadows et al. (2004) describe as a history of civil success regarding the correction of a severe overshoot. Quite in the sense of Schumpeter, Meadows et al. (2004) name the ‘industry's creative heads’ as the crucial problem-solving determinant. Through the three innovative boosts ‘better insulation’, ‘reduced toxic substitute materials’, and ‘emission-free alternative substances’, it will be possible to rebuild the original density of the ozone layer by the mid-21st century. Remarkably, this is realised without abandoning the existent economic system. Furthermore, we argue that it is realistic to assume growth-oriented, competitive markets in the future, rather than socio-material conditions beyond them, which, as stated by Van den Bergh (2011) are completely uncertain as of now (e.g. Harris, 2013: socialist markets). We therefore hold the view that it is more pragmatic to design future mass markets in an eco-friendly way. Kallis (2011) rejects the possibility that the wonder of a dematerialised economy might occur, as improvements of efficiency were overcompensated by growing consumption. While dematerialisation may be tantamount to a wonder, researchers still do put effort into adjusting the materialised economy to ecological compatibility. One aspect is the thorough redefinition of nature protection, because nowadays, nature protection is reduced to the attempt of limiting the harmfulness of processes and products (Mulhall and Braungart, 2010). However, due to the potential creation of new mass markets for more eco-friendly and efficient processes or products, this strategy holds the danger of actually augmenting unwanted effects through rebound effects. In this regard, Alcott (2005) points to the Jevon's Paradox which says it is a great error to think that technologic innovations were going to reduce the consumption of resources. Polimeni et al. (2015) name the example of the Green Revolution: the remarkable increase of food production's area efficiency was not at all able to abate the problems of hunger and area consumption, as consequently, the population greatly increased. Likewise, a mass market of efficient and eco-friendly products would again lead to a massive amount of poison and waste, with disposed crude materials hardly being recycled. The ecological costs then would have to be externalised, which Sturm and Vogt (2011) regard as strong evidence of the failure of the market. The core problem hence lies in the fact that products are being produced exclusively for the technosphere (McDonough and Braungart, 2013). E.g., copper is almost universally applicable to and beneficial for technological systems, while in biological systems, this material is extremely poisonous. Thus, the aim must be to design products in a way that makes them equally usable in biosphere, i.e. subsequent to their technical usage. This calls for the development of a combined management of nutrients for techno- and biosphere. Human ways of living, the processes and products they are based on, may thereby be employed for the benefit of nature. The focus must therefore be put on those innovations that break up the present paradigm of environmental protection by realising products that create a useful material connection between techno- and biosphere. An example of this kind of creative destruction is the Austrian company Gugler, the first print shop worldwide that produces printing products free from harmful ingredients and exclusively with substances that can be biologically recycled (Gugler GmbH, 2018). E.g., the accruing sludge is returned to biosphere and the ash of burned printing products can be reused as a fertilizer. These conditions provide the possibility of designing economic activities to be ecologically compatible despite a high resource throughput.

### ICN CP 2ac

#### “the international competition network” is not a coherent single actor for a counterplan, it is a grouping of individual members of competition agencies and groups from around the world that do teleconferences and talk about competition law – even if it’s not a reason to reject the CP it’s a terminal solvency takeout

1NC Budzinski, 12

(Oliver, Professor of Economic Theory at Ilmenau University of Technology and Professor of Competition and Sports Economics, Markets & Competition Group, at the University of Southern Denmark, Campus Esbjerg. “International Antitrust Institutions,” Ilmenau Economics Discussion Papers, Vol. 17, No. 72 NL)

3.3. The Multilateral Strategy: International Antitrust Institutions in Trade Agreements The basic idea to fight international anticompetitive arrangements and conduct on an international level has been so straightforward to the political sphere that as far back as in 1927, the League of Nations’ World Economic Conference in Geneva put the problem of international cartels on its agenda, discussing options for a coordinated international anti-cartel policy effort (Wells 2002: 10-11). This early initiative did not have any chance of success, however, since in the 1920s a consensus that hardcore cartels are detrimental to welfare and should be combated by antitrust policy was just about to form.10 Still, less than two decades later, the next attempt to establish multilateral antitrust institutions appeared on the agenda. This time, it was driven by the desire to create a coherent and comprehensive post-war world economic order, consisting of international institutions and organizations for the governance of (i) the monetary system and international currency relations (International Monetary Fund; The World Bank Group), (ii) public cross-border restrictions to competition, i.e. trade barriers (Havana Charter and International Trade Organization; in advance established in 1947 as the General Agreement on Tariffs and Trade, GATT), and (iii) private cross-border restraints of competition (the 1948 Havana Charter; International Trade Organization). While the first two institutions were set into force while the window of opportunity due to the global catastrophe of World War II was open, the international antitrust institution-part missed out and was subsequently abandoned in 1953 due to a lack of ratification by leading members states (Wells 2002: 116-125). However, the idea of international antitrust institutions being a complement to trade liberalization rules remained virulent. The benefits of trade liberalization can only be reaped in a sustainable way if the competition-intensifying effects of opening up national markets for international competition (Budzinski 2008a: 27-32) are not counteracted by the emergence of cross-border anticompetitive arrangements and conduct, re-establishing the pre-liberalization non-competitive equilibrium. Therefore, effective means against international cartels and against international market dominance need to accompany trade liberalization. This is in line with theoretical economic thinking (inter alia, Ross 1988; Feinberg 1991; Jacquemin 1995; Cadot et al. 2000; Hamilton & Stiegert 2000; Gaudet & Kanouni 2004; Mehra 2011; rather contrasting: Hauser & Schoene 1994). Consequently, competition provisions somewhat survived on the agenda of the World Trading System and in some instances found their way into regional trade agreements, albeit predominantly in rather rudimental shape (Alvarez et al. 2005; Cernat 2005; Evenett 2005). After the establishment of the World Trade Organization (1995, comprising GATT, the General Agreement on Trade in Services GATS and the agreement on Trade-Related Intellectual Property Rights, TRIPS), international competition resurfaced on the agenda, leading to the adoption of WTO antitrust institutions in the Doha Declaration (2001). However, in the aftermath of the Cancún conflicts, centering predominantly on agricultural markets issues, the antitrust provisions were provisionally abandoned in 2004 – and since then a reappearance does not look likely. While the recurring attempts to establish multilateral competition rules can easily be motivated both by the shortcomings and limits of unilateral and bilateral approaches (see sections 4.1. and 4.2.) as well as by the complementary nature of trade liberalization and protection of competition on international markets, the likewise recurring failures to actually establish international antitrust institutions have motivated additional economic research. From a game-theoretic perspective, negotiations on international antitrust institutions among sovereign nations resemble the characteristics of a prisoners’ dilemma game. Even if adopting international antitrust institutions would represent the world welfare optimum, the players may end up in an inferior equilibrium because it is individually rational to choose strategic competition policies (beggar-my-neighbor policies) in the absence of an effective institution. Due to the incentive structure, such an institution is notoriously difficult to establish outside specific ‘windows of opportunity’ – at least in rather simplistic game-theoretical models (à la Budzinski 2003). More advanced models (building upon so-called supergames) allow for much more differentiated analyses that also display self-enforcing cooperation patterns (Cabral 2003, 2005). However, also dynamic prisoners’ dilemma games show that cooperation is possible but not necessary and may take long to be successfully established. 3.4. The Network Strategy: The ICN after 10 Years During the years where the hitherto last attempt to establish WTO competition rules failed, a new avenue towards international antitrust institutions surfaced. On its route a multilateral perspective was combined with a focus on voluntary cooperation among competition agencies and within one decade the resulting network developed to become the most important international antitrust player in the world. There have been attempts to establish voluntary multilateral cooperation before. In 1967, the Organization for Economic Cooperation and Development (OECD) created a forum for their members in order to debate international competition issues and issue consensus-based recommendations on competition policy – with the latter goal being abandoned in the 1990s (Zanettin 2002: 53-57). Furthermore, in 1980, the United Nations Conference on Trade and Development (UNCTAD) adopted a so-called Restrictive Business Practices Code with the particular aim of protecting developing countries against inbound anticompetitive arrangements and conduct by powerful multinational enterprises. It attempted to ban, inter alia, pricefixing arrangements and other hardcore cartels as well as boycotts. However, the comparatively ambitious code lacked enforceability (First 2003). At the end of the day, both initiatives failed to produce considerable effects regarding a satisfying level of protection of international competition (Wells 2002; First 2003). Based on the concept of a Global Competition Initiative developed by the International Competition Policy Advisory Committee to the U.S. Department of Justice (ICPAC 2000), 15 national competition agencies (including the European Commission) established the International Competition Network (ICN) in October 2001 (Finckenstein 2003; Janow & Rill 2011). Until today, membership of the ICN has risen to 121 competition agencies from more than 100 jurisdictions all around the world.11 Being a network of competition agencies and calling itself a virtual organization, the ICN neither is based on an international contract, nor has its own administrative staff or budget. The ICN is led by a steering group consisting of leading officials from member agencies with the board positions rotating among the members.12 Annual conferences of all member agencies with participation of different stakeholder groups represent the major ‘decision body’. The actual work is done in so-called working groups (WGs), which typically start out by reviewing and comparatively evaluating the current practices of the member agencies. They constitute themselves project-oriented and expire if the respective agenda has been finished. The general goal of the WGs is to develop best practice recommendations that are subsequently consensually adopted by the annual conference. In addition to the substantive WGs, administrative working groups address problems of internal governance. Currently, the ICN consists of five substantive and two administrative WGs, which are overviewed in figures 1-6. The voluntariness of cooperation and the non-binding character of all best practice recommendations represent a fundamental principle and an important characteristic of the ICN. Still, the eventual goal of the ICN is about improving international competition governance. By promoting multilateral cooperation among competition agencies and by creating a common competition culture, convergence of national and regional competition policies, starting with procedural issues but aiming at substantive issues as well, is on the long-run agenda (ICN 2011; Mitchell 2011: 5).13 During its first decade, the ICN has produced an impressive output of more than 10,000 pages of ‘virtual’ paper. While the dozens of comparative analyses of worldwide existing practices and institutions regarding specific competition policy fields represent a valuable stock of knowledge, inter alia, also for competition economics, law and policy researchers, the main institutional contribution of the ICN is represented by the consensually adopted best practice recommendations as well as by enforcement manuals on various topics (ICN 2011). They include, for instance, the Recommended Practices for Merger Notification and Review Procedures, the Anti-Cartel Enforcement Manual or the Market Studies Good Practices Handbook (see also fig. 1-5). The question whether purely voluntary cooperation, resting on the publication of consensual best practice recommendations, can actually be successful triggered theoretical and empirical economic research. Budzinski (2004a, 2004b) analyzed the economics of combing consensual best practice recommendations with peer pressure. Even though it remains completely voluntary whether individual competition policy regimes bring their practices and institutions in line with the published ICN best practice recommendations or not, the consensual character of the recommendations and their public availability creates peer pressure. Agencies that have agreed that a certain practice is the best one will face a loss of reputation if they stick to an inferior practice – even according to their own evaluation expressed in the consensually adopted ICN recommendation. Thus, the combination of published best practice recommendations and peer pressure sets strong incentives to actually comply with the ICN recommendations on the regime level. Furthermore, it is in line with behavioral economic thinking that a systematic and cooperative discussion of competition policy matters among the competition agencies has the potential to harmonize views on competition and antitrust issues, thus, promoting the targeted common competition culture (Budzinski 2004a). Once this ‘cognitive’ harmonization process has taken off, it can develop strong force. However, particularly in the early period considerable obstacles may impede this process altogether. Nonetheless, peer pressure through publication and transparency of superior antitrust practices, which have been consensually acknowledged as superior, should promote a widespread adoption of the ICN best practice recommendations by the member authorities. This economic theory reasoning is supported by early empirical analyses, suggesting that ICN best practice recommendations actually influence competition regime reforms and implementation processes in member jurisdictions (Rowley & Campbell 2005; Evenett & Hijzen 2006). 4. Challenges and Unsolved Problems: The Way Forward 4.1. The Success Story ICN Without any doubt, the ICN has managed many impressive achievements in its first decade – and more so than many experts were expecting. First of all, the combination of consensual best practice recommendations and peer pressure through the publication of the recommendations has been effective in the sense that many countries cited the ICN recommendations as motivation and guideline for domestic reforms of antitrust institutions. Moreover, both scientific analysis (Rowley & Campbell 2005; Evenett & Hijzen 2006) and internal assessment (ICN 2011) confirm that many member jurisdictions indeed reformed their competition rules to be more in line with the ICN recommendations. Thus, there is a harmonization effect on national competition policy regimes through the ICN membership that has potentials to reduce jurisdictional conflicts over antitrust issues as well as to decrease the volume and severity of negative externalities, albeit not to zero. Secondly, the ICN has been very successful in promoting the implementation of competition regimes in developing and transitory countries. The impressive rise in membership is partly due to the establishment of new competition policy regimes in previously antitrust-free jurisdictions and the ICN played a considerable role in this process. Furthermore, the ICN comprehensively engaged in capacity building for agencies in newly-established and also in previously defunct or ineffective competition policy regimes. This has contributed to reduce loopholes in the worldwide protection of competition, which were due to a lack of effective competition policy regimes in particular in many developing and transitory countries (Sokol 2009). And the newly-established regimes have to a large extent particularly used the ICN best practice recommendations as a role-model for their antitrust institutions. Thirdly, the ICN has published compilations of current practices in member jurisdictions (inter alia, merger review including substantive assessment and prohibition standards, anti-cartel enforcement techniques, unilateral conduct, competition advocacy, etc.). In many cases, for instance in the case of the unilateral conduct compilation, the main function of the compilations is to highlight the differences among member jurisdictions. While not directly promoting harmonization, the resulting transparency serves to improve the mutual understanding of differing and potentially incompatible case decisions and, thus, may contribute to reducing conflicts over such decisions (‘informed divergence’; Mitchell 2011: 6). Fourthly, the ICN has produced handbooks, manuals and toolkits on many downto-earth competition policy practices. They represent an important practical help for competition agency officials regarding the everyday handling of cases. Together with the curriculum project (see figure 1), they serve as materials for the training of agency staff and proved particularly useful to young agencies that lack longstanding experiences how to deal with antitrust cases. Fifthly, it is certainly a success story that the ICN managed to actually issue an impressive number of consensually adopted best practice recommendations (see figures 1-5). This achievement alone exceeds the output of former multilateral cooperation attempts. It proved to be considerably supportive for the success of cooperation that competition agencies have been driving the process and negotiated the agreements – instead of governments and government officials. Even across jurisdictions, the interests of competition agencies are significantly more homogenous and consensus-suited than the interests of governments. Eventually, a rather informal effect is often cited by participants as representing the main benefit from the ICN: mutual experience-sharing and getting-to-know each other (ICN 2011; Mitchell 2011: 3). The strong working relationship developed through the face-to-face contact on ICN seminars, workshops and conferences facilitates informal cooperation also outside the direct ICN scope. 4.2. Limits of the ICN Approach? Notwithstanding the achievements, the fifth aspect, however, already hints at some inherent limits of the ICN approach to international antitrust institutions from an economic perspective. A closer look on the best practice recommendations reveals that there are barely any recommendations on substantive issues. The recommendations that were possible in consensus among all the members are predominantly referring to procedural issues like transparency of notification requirements, fees, timetables, etc. One must not underestimate that this type of best practice recommendations represents an important progress in international antitrust both for interacting agencies and norm addressees (the companies). However, along with the lack of substantial convergence (substantive rules and standards, delineation between pro- and anticompetitive effects, theories of harm, assessment practices and policies, etc.), the potential of the ICN to internalize negative externalities from diverging and incompatible case decisions appear to be rather limited and this limited scope has effectively been reaped in the first decade. Without consensus on more ambitious best practice recommendations, diminishing returns on further ‘low controversial’ recommendations must be expected for the second decade. With respect to the problem of negative externalities, the economic analysis identifies the inbound focus of competition policy, i.e. the absence of an international welfare goal for national competition policy regimes, as a sufficient condition to create negative cross-border externalities (see section 2.1). This problem is not addressed by the ICN so far. Furthermore, it appears to be rather unlikely that an institutional arrangement like the ICN can be capable of introducing a world welfare goal for national competition policy regimes. Since it is the very nature of the ICN to rely on consensus and voluntary participation and implementation, it cannot provide any binding, contractual agreement which in case of defection may be enforced in member jurisdictions. Thus, the only way would be to issue a best practice recommendation on antitrust goals (world welfare) and hope for (i) a consensual adoption on an annual conference and (ii) voluntary compliance to the recommendation by the member jurisdictions. Since this typically refers to ‘hard’ law, the members of the ICN – competition agencies – would not be able to implement that recommendation without support from the legislative chambers (e.g. parliaments) and executive institutions (e.g. government) in their jurisdictions. This might well represent a limit to the ‘soft’ law approach of the ICN. Another problem of international competition governance – the deficiencies of multiple procedures (see section 2.2) – has been alleviated by the ICN only to a negligible extent. Due to the imperfect convergence of procedures through the adopted best practice recommendations, the costs of multijurisdictional antitrust case handling have been decreased marginally. However, since there has been no reduction of the number of antitrust procedures in conjunction with, for instance, a multijurisdictional merger, the vast majority of transaction and administration cost burdens remain unchanged. In the end, there is still nothing remotely close to a one-stop shop. Ironically, the impressive increase in active competition policy regimes around the world has actually increased the number of jurisdiction that declares themselves competent for international and particularly intercontinental competition cases. This in turn increases the deficiencies of multiple procedures and most probably more than compensates for the cost improvement due to soft and imperfect procedural harmonization. With the ICN as it is now, it is difficult to see how the second decade can bring significant improvements. The ICN does not entail direct case-related cooperation but exactly this would be necessary if considerable efficiency gains from international antitrust institutions are to be realized. Even though the ICN indirectly facilitates case-related cooperation because the member agencies and their staff know each other and know whom to call for informal exchange and cooperation over a given case (ICN 2011; Mitchell 2011), this grassroots effect – which without any doubt is highly important and helpful for everyday work – remains rather limited in the absence of an institutionalized caserelated cooperation. The loopholes in the worldwide landscape of competition regimes (see section 2.3) have been substantially reduced by the ICN’s activities. Next to the impressive increase in newly-established competition regimes, the ICN has also been very active in arming previously rather ineffective competition regimes. However, there has been virtually no change in a particularly problematic area, which is the power asymmetry when it comes to enforcing domestic competition rules against multinational companies by means of the effects doctrine (see section 3.1). If domestic markets are not sufficiently important for the business of the multinational, then the multinational remains in a position to avoid compliance by boycotting the respective country. The threat of this alone influences the decisions of smaller and less powerful regimes. Again, the regime of the uncoordinated effects doctrine can only be overcome by (i) replacing inbound competition policy goals with international welfare standards and (ii) a case-related cooperation approach. As has been argued in the preceding paragraphs, both seem to be difficult to achieve with an ICN of the current nature and structure. The fourth criterion to assess international antitrust institutions from an economic perspective (as derived in section 2) is the diversity of regimes reflecting the diversity and the provisional nature of economic thinking on competition. It refers to the dynamic and evolutionary efficiency of international antitrust institutions. The ICN highlights this by systematically reviewing the different practices in the member jurisdictions and its compilations of the differences create transparency that serves to speed up mutual learning processes. Actually, the ICN best practice recommendations represent the result of such a learning process. However, this is exactly where problems kick in: with a best practice result that leads to all member jurisdiction harmonizing their regimes according to this result the dynamic learning process comes to an end. This implies no more future learning due to a lack of experiments with new insights and new methods, theories, etc. Thus, the provisional economic knowledge of the time of the best practice recommendation becomes a persistent standard and scientific progress of the future will find it much more difficult to enter the stage.14 If learning from diversity is useful for finding today’s best practices, then learning from diversity will also be useful to detect future’s best practices. Consequently, three hazards are incorporated to the ICN’s harmonization approach. Firstly, the identification of best practices to some extent relies on and promotes academically controversial practices (like the case-by-case effects approach in merger control). Secondly, the injection of new scientific knowledge is deterred. Both hazards together may lead to a deficient harmonization. Thirdly, the ICN best practice approach implicitly assumes that there actually are one-size-fits-all benchmarks. However, best practices for old-industrialized countries’ competition regimes may differ from such for newly-industrialized or developing or transitory countries’ ones. Of course, the reasoning in this paragraph must be qualified to the extent that it becomes only relevant when the ICN is unexpectedly successful in achieving also substantive harmonization. In summary, the first decade of the ICN must be hailed for bringing the most significant progress to global competition governance of all times so far. However, from the viewpoint of global economic welfare, there are still a lot of challenges and unsolved problems, covering all the four criteria (international externalities, deficiencies from multiple procedures, loopholes, and regime diversity) that can be formulated from an economic perspective. Moreover, and even more seriously, it appears to be rather doubtful whether in its current form (purely voluntary cooperation, reliance on consensus and peer pressure), the ICN is well-suited and well-equipped to address the remaining issues. Ironically, the (unexpected) success of the ICN’s first decade may imply bad news for its second decade since the potentials have already been exploited so that from now on diminishing returns of the network strategy must be expected. 15 4.3. A Way Forward? Towards a Multilevel Lead Jurisdiction Model So, how can international antitrust institutions be designed to embrace all four criteria with their conflicting incentives toward more centralization (internalizing externalities and reducing multiple procedures; stationary efficiency) o the one hand and preservation of regime diversity (dynamic and evolutionary efficiency through decentralization) on the other hand? The economic literature offers two interesting concepts to approach this balancing act. The first concept is the idea of a lead jurisdiction model (Campbell & Trebilcock 1993, 1997; Trebilcock & Iacobucci 2004). It extends the positive comity concept (see section 3.2) by allocating competence and responsibility for multijurisdictional competition cases to one of the affected regimes that subsequently handles and decides the case with a view to avoiding anticompetitive effects in the overall geographic market (i.e. in all affected jurisdictions) and by relying on the assistance of the other involved regimes.16 The second concept is the idea of multilevel governance (Kerber 2003) in which regimes on different vertical levels (regional, national, supranational) are interconnected with each other. In such a complex multilevel system of institutions, the design of competence allocation rules, managing the interfaces of the participating regimes, becomes particularly important. Economic analysis reveals that different competence allocation rules (such as the effects doctrine, interjurisdictional commerce clauses, turnover thresholds, nondiscrimination, principle of origin doctrine, relevant markets rule or x-pus rule) are more or less appropriate when it comes to specified horizontal or vertical regime interfaces (Budzinski 2008a: 151-217). With a view to the four economic problems of international antitrust (as derived in section 2), it represents an interesting step to combine these two concepts towards a multilevel lead jurisdiction model (Budzinski 2009, 2011). The advantage of adding the vertical multilevel dimension to the lead jurisdiction concept lies in the option to introduce a referee authority, monitoring and supervising the impartiality of the assigned lead jurisdictions and providing conflict resolution if necessary. Thus, the antitrust institutions on the global level are not about materially deciding cases. Instead, they allocate lead jurisdiction according to agreed-upon criteria on a case basis17, monitor and supervise the lead jurisdiction in respect of its impartial treatment of anticompetitive effects in the overall relevant international market (irrespective where – in which jurisdiction – the effects display) and settle conflicts in case of affected jurisdictions allege that their domestic effects were disregarded by the lead jurisdiction. Consequently, ‘only’ procedural competences are assigned to the global level and all material and substantive decision competences remain on the level of the existing national and regional-supranational regimes. From an economic perspective, the charm of this concept is that it (i) replaces the inbound focus of existing competition policy regimes by a focus embracing all effects in the relevant geographic (international) market, (ii) provides a one-stop shop for the norm addressees (thus avoiding deficient transaction and administration costs of multiple procedures), (iii) closes many loopholes due to the lead jurisdiction being powerful and also providing protection of competition abroad, and (iv) maintains diversity of competition regimes because each assigned lead jurisdiction handles and decides the case according to this regime’s antitrust rules and procedures, just with the explicit inclusion of cross-border effects. On the downside, it requires an international agreement on procedural rules (in particular criteria for allocating case-specific lead jurisdiction as well as for monitoring and conflict resolution mechanisms) and willingness to accept (i) procedural decisions by the international level and (ii) material decisions by the lead jurisdiction as long as all effects are treated impartially irrespective of their jurisdictional location. This certainly represents a higher hurdle for consensus than the ICN-style network cooperation, but certainly a lower hurdle than consensus on binding global competition rules within the WTO framework. And from an economic perspective, such a multilevel lead jurisdiction model appears to be welfare-superior to these alternatives. However, the concept of a multilevel lead jurisdiction model is far from being comprehensively researched. Furthermore, an interesting exploration would be whether such a model could develop from the contemporary ICN when it seriously strives to solve the economic problems of international antitrust in its second or third decade. 5. Conclusion The global governance of competition represents an important economic problem. Economic theory clearly shows that non-coordinated competition policies of regimes that are territorially smaller than the international markets on which business companies compete violate cross-border allocative efficiency and are deficient with respect to global welfare. At the same time, some diversity of antitrust institutions and policies promotes dynamic and evolutionary efficiency so that globally binding, worldwide homogenous competition rules do not represent a first-best solution – even when neglecting obvious agreement and implementation difficulties. Since 2001, the world of international antitrust institutions has been significantly influenced by the then-established International Competition Network. This multilateral forum for voluntary cooperation among competition agencies has been a success story in its first decade – by far exceeding most experts’ expectation. The ICN has considerably contributed to alleviate the negative economic effects from the previous, virtually non-coordinated world of international antitrust. However and notwithstanding, from an economic welfare point of view, considerable challenges and problems remain on the agenda. Whether the ICN in its current structure and nature has the potential to solve the remaining problems represents a decisive question for the future of international antitrust institutions. Despite the success story of its first decade, however, economic analysis justifies skepticism whether the contemporary ICN is up to the remaining challenges. In particular, a change from inbound-, national-welfarefocused competition policies to such pursuing supranational and suprajurisdictional welfare goals as well as cooperation on concrete, specified cases are necessary from an economic perspective. However, both topics are hardly compatible with the contemporary governance principles of the ICN. A way forward can be expected from the economic concept of a multilevel lead jurisdiction model that possesses the potential to balance allocative and dynamic efficiency. It remains an open question, though, whether such a model could evolve out of the ICN during the next decade(s).

### 2AC – Con Con

#### Links to the NB

John A. **Eidsmoe 92**. 1992 Prof of Law @ Thomas Goode Jones School of Law, United States Air Force Academy Journal of Legal Studies, “A New Constitutional Convention? Critical Look at Questions Answered, and Not Answered, by Article Five of the United States Constitution”, Lexis.

It is no wonder, then, that Lawrence tribe, Professor of constitutional Law at Harvard, warns that a new constitutional convention could lead to domestic political confrontations of “nightmarish dimension” between Congress and the Convention, between Congress and the Supreme Court, and between Congress and the states-not to mention between the Supreme Court and the Convention. Tribe continues, Particularly in a period of recovery form a decade ruptured by war, political assassination, near impeachment and economic upheaval, and particularly in a time when such recovery has already been interrupted by new domestic and international crises, it is vital that the means we choose fro amending the Constitution be generally understood and, above all, widely understood as legitimate. An Article V convention, however, would today provoke controversy and debate unparalleled in recent constitutional history. For the device is shrouded in legal mysteries of the most fundamental sort, mysteries yielding to no ready mechanism of solution. Given the significance of the United States Constitution both for our nation and for others, it would not be surprising if a convention of this magnitude were to result in serious economic instability at home and abroad, as well as substantial disruption of America’s relations abroad.

#### Far right substantively and procedurally coopts the CP---extinction.

--their text fiated calling a “limited” concon, and passing the outcome – BUT did NOT fiat what happens in between, nor could they even if they wanted to – fiat does NOT answer this scenario for runaway con-con

Branko **Marcetic 18**. Staff Writer at Jacobin, holds an M.A. in History from the University of Auckland (New Zealand). 11-16-18. “Can Republicans Rewrite the Constitution?.” Jacobin. [https://jacobinmag.com/2018/11/gop-constitutional-convention-state-legislatures-balanced-budget-amendment/](about:blank)

In coverage of the midterms, we’ve heard a lot about the House, the Senate, governorships, and even ballot measures, but almost nothing about state legislatures. That may soon change, because the Democrats’ meager gains in this department will be crucial to stopping corporate America’s next strategy to further roll back the twentieth century. The weekend before election day, a little-noticed article was run by the Associated Press, detailing plans by right-wing groups to push for a constitutional convention after the midterms to alter the United States’ founding document. This itself is nothing new: the Right has spent the past few decades pushing for just such a thing. But with a historically radical GOP in power, and with the Democratic takeover of the House frustrating right-wing congressional legislation for the foreseeable future, the next couple of years could well see the Right go all in on circumventing Congress entirely by simply rewriting the Constitution. “Having a divided Congress may cause the proponents to feel even more committed to this idea,” says Michael Leachman, senior director of state fiscal research at the Center on Budget and Policy Priorities. “They might imagine that this is the only way they’re going to win the radical changes to the Constitution that they want.” There’s good news and, obviously, bad news to this. The bad news is, this is a scary prospect that would not only be a disaster for any future left-wing project — a Bernie Sanders presidency, for example — but would severely hobble efforts to mitigate rapidly intensifying environmental collapse. The good news is, it can be stopped. But first let’s back up for a second. For the last few decades, the Right has been gradually setting the table to pass a particular constitutional amendment (more on the details below). The most familiar way of doing this is to get two-thirds of both houses of Congress to approve it, before convincing three-fourths of all state legislatures — or thirty-eight of them — to ratify it. Congress actually came perilously close to doing this in 1995, when the amendment in question failed by one vote in the Senate. Now, with Democrats controlling the House and a thinning GOP majority in the Senate, this is a non-starter. But there is another way to pass an amendment: have two-thirds of all states, or thirty-four of them, adopt resolutions calling for a constitutional convention on just this issue. The proposed measure is the fabled balanced budget amendment. While its exact mechanics differ depending on who writes the language — in some versions Congress is simply barred from raising the debt ceiling, other times a supermajority is required to do so — the basic idea is to make it extremely hard, if not impossible, for the federal government to spend more than it takes in. It’s not hard to see why this measure would be disastrous. The strict spending limit would serve as a constant, ready-made pretext to slash social spending. It would debilitate any effort to forestall catastrophic climate change, such as through unprecedented, large-scale investment in infrastructure. And it would magnify the impact of economic crises by taking away the government’s ability to stabilize the economy through spending. According to a couple of different estimates, balancing the budget in the face of the Great Recession would have sent GDP plunging by 22 percentage points and doubled the unemployment rate to 18 percent. But wait, you say. Couldn’t a future Democratic president use this to jack up taxes on the rich? The answer is, not if the Right crams through any other constitutional amendments, such as an abolition of the federal income tax or a ceiling on federal spending, making brutal spending cuts the only avenue for meeting this legal standard. The Koch-funded American Legislative Exchange Council, one of the right-wing groups most aggressively engaged in this fight, included wording that would open the door to such limits in its model legislation in 2016. And that brings us to the other terrifying thing about an Article V convention, so-named after the constitutional provision that governs it: there’s a good chance it could see the entire Constitution rewritten amid an orgy of corporate spending and lobbying. This might sound like an exaggeration, but consider that the last time a constitutional convention met was in 1787. Originally called to simply amend the Articles of Confederation that then served as the country’s supreme legal document, the convention decided to rewrite the whole thing instead. Far from “the greatest document ever written,” the 1787 constitution — “the Constitution” — was the product of mess of bickering, wheeling and dealing, and bitter compromise that initially barely passed, and some of whose authors doubted would survive more than a couple of decades. Now imagine that already chaotic, rancorous process re-done, except with an army of lobbyists with bottomless wallets deployed to put their clients’ stamp on the process. Imagine every form of legalized bribery dangled in front of hapless delegates to ensure they vote in line with corporate America, from generous campaign donations to the prospect of cushy, well-paid corporate jobs just through the revolving door. “Ethics and campaign finance rules don’t apply to these delegates,” says Jay Riestenberg, who manages Common Cause’s campaign work on this issue. “I think Article V will work similar to ALEC — corporations and legislatures sitting around the table as equals.” “This would be the mother of all opportunities for powerful interests to change the country’s Constitution,” says Leachman. In such an environment, there’s no telling how many items on the Right’s long-term wishlist would be stuffed into a new founding document. One additional possibility mentioned in the AP report is a repeal of direct election of senators by voters, rather than selection by state legislatures, another anti-democratic bulwark against the GOP’s gradually fading electoral fortunes. There’s also no telling how the rules might be tilted to ensure the Right’s agenda passes. Republican dominance of the states guarantees the party would choose most of the delegates, and there’s no legal guidance as to how such a convention is supposed to work, from drafting all the way to voting. The ratification process could even be radically changed, as in 1787, when the convention straight up ignored the existing process and decided to make ratification substantially easier. But the sky would really be the limit. When 137 state legislators got together in 2016 to simulate such a convention, some of the drafted amendments required a congressional supermajority to raise taxes, empowered three-fifths of states to nullify federal laws, let congress override regulations, and limited the commerce clause of the constitution, which has been used to authorize everything from Obamacare to the Civil Rights Act. And it’s easy to imagine even more radical amendments being made: a constitutional ban on abortion, for instance, or all manner of language limiting government power at a time when large corporations, some industries in particular, are increasingly spooked about their future bottom lines.

#### Doesn’t solve---gets struck down and circumvented---federal fiat key.

**\*Consensus on amendments doesn’t matter---either it’ll be evaded completely or enforcement is inevitable---won’t set a precedent.**

**Strauss 01**, \*Gerald Ratner Distinguished Service Professor of Law and Faculty Director, Jenner & Block Supreme Court and Appellate Clinic; (David A. Strauss, "The Irrelevance of Constitutional Amendments," 114 Harvard Law Review 1457 (2001), pp.1457-1478, Available Online at <http://chicagounbound.uchicago.edu/cgi/viewcontent.cgi?article=2986&context=journal_articles>)

One cannot, however, just say simplistically that any set of political forces strong enough to bring about a constitutional amendment is strong enough to change society in some other way, because that is not always true. A supermajority might act, and adopt an amendment, even if society has not fundamentally changed. An amendment might represent a momentary high-water mark of popular sentiment on a question, or an effective effort by an interest group at the height of its power to secure its position." At a later time, many people, even a majority, might decide that the amendment was a mistake - but there it is, entrenched in the Constitution. On these occasions the formal amendment will be relatively insignificant for a different reason. When there is no lasting social consensus behind a textual amendment, the change in the text of the Constitution is unlikely to make a lasting difference - at least if it seeks to affect society in an important way - unless society changes in the way that the amendment envisions. Until that happens, the amendment is likely to be evaded, or interpreted in a way that blunts its effectiveness. This is, in a sense, the other side of the fact that a mature society has a variety of institutions, in addition to the text of the Constitution, that can affect how the society operates. Those institutions can change society without changing the Constitution; but they can also keep society basically the same - perhaps with some struggle, but still basically the same - even if the text of the Constitution changes. This was, most notoriously, the story of the Fourteenth and, especially, the Fifteenth Amendment. The Fifteenth Amendment was somewhat effective in the short run, but within a generation it had been reduced to a nullity in the South. 12 It does not follow that, owing to some kind of historical necessity, formal amendments cannot ever cause important changes. Rather the point is that the formal amendment process will be the means of significant change only in certain limited circumstances that hardly ever occur in a mature society. In particular, three conditions must be present for the amendment process to make a difference. First, a formal supermajoritarian amendment process is unlikely to be an important means of change unless the other usual means of change, such as legislation and judicial interpretation, are unavailable for some reason.' 3 If other means of change are available, they will probably have effected the change to a significant degree before a supermajority can be assembled to amend the Constitution. Second, a formal amendment process is likely to make a difference only when the supermajority that adopts the amendment is a temporary one that was assembled even though society had not fundamentally changed. Deep, enduring changes in society will find some way to establish themselves with or without a formal amendment - if not through legislation or changes in the composition of the courts, then through changes in private behavior. The formal amendment process will have its most significant effect when the supermajority sentiment does not persist. Finally, for an amendment to matter, it must be unusually difficult to evade. An amendment that specifies a precise rule, for example, is more likely to have an effect than one that establishes only a relatively vague norm. If its text is at all imprecise, an amendment that is adopted at the high-water mark of public sentiment will be prone to narrow construction or outright evasion once public sentiment recedes, as the Fourteenth and Fifteenth Amendments were. If all these circumstances occur together, a temporary supermajority's ability to adopt a formal amendment might bring about a permanent change that would not have occurred without the formal amendment. But this confluence of conditions is unlikely to happen very often. I suggest below one instance in which it might have happened - the Twenty-second Amendment, which limits presidents to two terms. Even that example is not entirely clear. But that may be the only occasion since the early days of the Republic when the formal amendment process seems to have made a substantial difference.

### 2ac States

#### Uniformity

Carrier and Tushnet 21, Michael A. Carrier Rutgers Law School Distinguished Professor, Rebecca Tushnet Harvard Law School Professor of Law (Iowa Law Review 2021 “An Antitrust Framework for False Advertising” https://papers.ssrn.com/sol3/papers.cfm?abstract\_id=3593914)//ellie

Second, unlike the federal Lanham Act, which denies consumers standing to sue despite the direct harm they suffer from false advertising, antitrust law, importantly, allows customers to challenge the harms they experience from false advertising. State consumer protection laws are limited in important ways, including state-law variation that makes multistate consumer class actions all but impossible107 and restrictions in many states that preclude businesses from bringing claims in their roles as consumers108 even though businesses are often important customers for the subset of false advertising cases involving monopolists and would-be monopolists. Thus, antitrust provides remedies that would otherwise be unavailable to plaintiffs who were themselves deceived by a monopolist or threatened monopolist’s false advertising.

### BBB

#### Won’t pass – inflation, deficits, deadlock

Cancryn, 1-27-2022, Adam, "Biden’s signature legislation expired. Recipients are wondering: WTF happened?," POLITICO, https://www.politico.com/news/2022/01/27/bidens-signature-legislation-child-tax-credit-00002560

Lawmakers are currently scrambling to try to find a way to extend the expanded child tax credit, with the Biden administration stressing that it remains a priority. But there is no indication that an agreement is coming soon, if at all. And, in the interim, those who leaned on the policy to navigate the pandemic and lift their children out of poverty are struggling to adjust both their perceptions of political leaders and the day-to-day chaos of their own lives.

Recently, Williams’ car broke down in the middle of the street and wouldn’t start up again. The repair costs ran into the thousands, leaving her with no choice but to junk the car. She fears she won’t be able to keep teaching those private dance lessons. She also worries it will complicate the first steady job offer she's gotten in months, because commuting one-way by bus would take three hours.

“When I heard about all the payments and the stuff they were trying to do for us, I was ecstatic because it meant at least they’re listening to somebody,” said Williams, as she grappled with the loss of that extra aid and the prospect it might never be restored. “But there are still so many factors they don’t understand.”

Less than a year removed from shepherding a historic expansion of the nation’s safety net that evoked comparisons to Franklin D. Roosevelt’s New Deal, Biden’s efforts to cement that legacy is at risk. Inflation fears, deficit concerns and the political realities of a 50-50 Senate have upended the White House’s hopes of passing the Build Back Better agenda and, with it, the continuation of the expanded child tax credit.

#### **PC fails**

Harris, 1-27-2022, "How Trash Talk Can Save Biden’s Presidency," No Publication, <https://www.politico.com/news/magazine/2022/01/27/joe-biden-peter-doocy-incident-00000019> -- Iowa

At the other extreme, a fiery moral summons has its own risks for Biden, who is by temperament an accommodater. When he said Republican efforts to limit voting access amount to “Jim Crow in the 21st Century,” some moderates in his own party warned he might be taking the comparison too far. When he journeyed to Capitol Hill to make closed-door remarks to Democrats to back him on the sweeping Build Back Better spending measure he failed to switch votes and the measure stalled.

How can a president lead with a voice that often fails demonstrably to persuade?

#### No PC

Roberts 12/30 [William Roberts, "Biden will struggle to steer US agenda in 2022: Analysts", 12/30/21, https://www.aljazeera.com/news/2021/12/30/biden-will-struggle-to-steer-us-agenda-in-2022-analysis]

US President Joe Biden’s first year in office was a rollercoaster, marked by legislative victories and major political setbacks – and with midterm elections set for November, next year promises to be even tougher.

When Biden was inaugurated this past January, outgoing President Donald Trump’s supporters were still angling to overturn election results, the US Capitol was cordoned off by troops, the COVID-19 pandemic was raging, and the US economy was in shambles.

Today, Biden’s approval ratings are low and his signature policy proposals bogged down, as Republicans appear set to retake control of Congress.

“Under the circumstances, Biden’s done phenomenally well, getting what he did get done,” James Thurber, a professor of government at American University in Washington, DC, who is writing a book on Biden’s first year in office, told Al Jazeera.

Democrats in Congress pushed through a $1.9 trillion COVID-19 relief and economic stimulus package in March. Bipartisan majorities in the House and Senate passed a $1.2 trillion infrastructure plan in November and a $777bn defence budget in December.

But Biden’s flagship welfare and climate legislation – the $1.75 trillion, 10-year “Build Back Better” plan – has been blocked by Democratic in-fighting and Republican opposition. The Omicron variant of COVID-19 has caused a surge in infections and prices for food and fuel have been rising.

“People will still be disappointed and he will have a rough time in 2022 because it’s an election year,” Thurber said. “It will be an ugly year of confrontation, partisanship and gridlock.”

High stakes

It would be hard to overstate the stakes of the year ahead for Biden’s presidency. At risk in the November 2022 elections is the Democratic Party’s control of Congress, which will define the political landscape for the remaining two years of Biden’s term.

Democrats hold a narrow 221 to 213 majority in the House of Representatives and a controlling tie vote in the Senate, which is evenly split between Republicans and Democrats. Democratic control of Congress could easily be lost in November when all 435 House seats and a third of the 100-seat Senate are up for election.

Historically, in US politics, the party that controls the White House loses seats in Congress in the following election, as the out-of-power party mobilises its voters.

In jeopardy are Biden’s ambitious policy proposals ranging from addressing climate change to investing in childcare, to reforming the immigration system, to protecting reproductive rights for millions of women.

“The Republicans go into this cycle with huge structural advantages,” James Henson, director of the Texas Politics Project at the University of Texas at Austin, told Al Jazeera.

Declining poll numbers

Biden enjoyed a kind of honeymoon with the American public in his first six months in office, with his approval rating hovering above 53 percent and disapproval near 43 percent. But by August, those trends had flipped.

Today, Biden’s disapproval sits at 52 percent and approval at 43 percent, putting him within range of Trump’s historically bad ratings and below every other modern president at this point in their presidencies.

“The public is increasingly judging Biden relatively negatively. His approval rating is underwater, and strong disapproval is significantly higher than strong approval,” Kyle Kondik, an analyst at the University of Virginia’s Center for Politics, told Al Jazeera.

The weight that places on Democratic candidates was highlighted in the Virginia governor’s race this past November, when Republican Glenn Youngkin, a businessman endorsed by Trump, defeated Biden-backed Democrat Terry McAuliffe.

Fall of Kabul

While Biden’s job approval was falling slowly during the middle of the year, Afghanistan was a “catalysing event”, Kondik told Al Jazeera.

The sudden and unexpected fall of Kabul to the Taliban, against whom the US had waged war for two decades, raised doubts in voters’ minds about the Biden administration’s competency. A renewed migration crisis on the US border with Mexico, supply chain disruptions and inflation added to Biden’s woes.

Meanwhile, Biden’s inability to woo holdout Democratic Senator Joe Manchin to support his Build Back Better plan amplified voters’ doubts. “Presidents don’t do well with major cleavages in their own parties,” Thurber said. “It’s going to be a messy year.”

## 1ar

#### Capitalism creates peace---economic development, similar interests, and globalization all disincentivize escalation.

Erik Gartzke 07. Erik Gartzke is Professor of Political Science and Director of the Center for Peace and Security Studies (cPASS) at the University of California, San Diego, where he has been a member of the research faculty since 2007. “The Capitalist Peace.” American Journal of Political Science , Jan., 2007, Vol. 51, No. 1 (Jan., 2007), pp. 166-191. https://www.jstor.org/stable/4122913

Capitalism as Pacifism

The security dilemma implies that insecurity is a durable facet of international affairs. War can result as each country fears for its own security, even when neither state in- tends aggression (Glaser 1997; Jervis 1978). Yet, insecurity is predicated on the expectation that at least some countries are revisionist powers. Even "pessimistic" conceptions of world affairs appear more sanguine as we relax the assumption that insecurity is ubiquitous and immutable. **The task before peace theorists, then, is to identify when and how nations are liberated from the security dilemma.** The argument here is that **capitalism resolves insecurity by creating "powerful pacifists"** (Lake 1992), countries possessing military strength ensuring that they are largely free from foreign influence or domination, but equally that they lack incentives to act aggressively abroad, at least under certain circumstances.26

Warfare results from two stages of interaction. First, states must possess the willingness and ability to compete. Second, states must be unable, or unwilling, to re-solve differences through diplomatic means.27 Capabilities constrain weak, distant states (Belize and Burundi do not fight each other), but weakness alone is often insufficient, given the relativity of power. Indeed, weakness is an attractive attribute in a target. For similar reasons, an unwillingness to fight must also be mutual. For the purposes of exposition, imagine that the motives for war are divided between zero-sum (private goods) and nonzero- sum (goods with public properties). Private goods competition involves things like attempts to conquer or control material resources (land, labor, minerals).28 Competition can also occur over efforts to influence or compel policies (norms, alignments, leaders).29 The allocation of resources is inherently conflictual; two states that claim the same territory must compromise, fight, or delay a decision. The allocation of policies may or may not generate significant friction, depending on whether, or to what ex- tent, state objectives are compatible. While it would be odd to speak of countries as having substantially compatible interests when drawing a common geographic boundary (cf. Collins and Lapierre 1997; Holbrooke 1998), it would be strange not to consider the existence (or absence) of common cause in assessing such topics as ideology, norm enforcement, terrorism, or the organization of the global or regional economy.

**At least three mechanisms associated with capital- ism are capable of addressing the security dilemma and mitigating the causes of war**. States with similar policy goals have no need to fight to establish policy since little can be gained from victory, or lost in defeat. States al- ways have dissimilar interests when it comes to resource or territorial issues, but changes in modern economies often make these differences trivial, as resources can be had more easily through commerce. There can be no basis for agreement between two passersby about who should collect a quarter lying on the sidewalk, but fighting over 25 cents makes little sense. If, however, a sack of $100 bills falls from the sky, landing on the quarter, then it is entirely possible that a fight will ensue over who can collect their bag of riches. Yet, even the sack of money need not lead to violence if the passersby can agree on how to di- vide up the wind fall. States willing and able to fight can still avoid a contest if competitors are able to foresee the likely consequences of fighting and identify appropriate bargains.

Economic Development

Conflict is inherent in the allocation of resources among two or more parties, but need not result in violence if the stakes are literally "not worth fighting over" or when bargains preempt fighting. Imagine two countries attempting to divide up a bundle of goods (resources, territory). Comparison of available allocations is zero-sum; any shift from one allocation to another benefits one country only at the expense of the other country. In this framework, **a mutual preference for peace requires that the value of winning be small relative to the cost of fighting** (Morrow 1989; Powell 1999).

Peace advocates have long championed factors thought to **make war prohibitively expensive**. Cobden, for example, claimed optimistically that "Should war break out between two great nations I have no doubt that the immense consumption of material and the rapid destruction of property would **have the effect of very soon bringing the combatants to reason or exhausting their resources**" ([1867] 1903, 355). Yet, if war is a process where competitors inflict costs on one another, making war more expensive will affect who wins, or how long fighting lasts, but not whether a contest occurs (Levy and Morgan 1984)

War costs are also endogenous; if fighting is prohibitive, countries will make themselves a "nice little war."'3 In- creasing the cost of fighting, or alternately increasing the benefits of peace-even when possible-shape what each actor will accept in lieu of fighting, but do not tell us which bargains are forged before warfare, and which after. Even the prospect of nuclear annihilation did not deter disputes during the cold war (Schelling 1960).

If, on the other hand, the value of resources in dispute is small or varies with ownership, then states can be disinclined to fight. Nations have historically used force to acquire land and resources, and subdue foreign populations. War or treaties that shifted control of territory changed the balance of resources, and power. Sovereigns, and to a lesser extent citizens, prospered as the state ex- tended its domain. Development can alter these incentives if modern production processes de-emphasize land, minerals, and rooted labor in favor of intellectual and financial capital (Brooks 1999, 2005; Rosecrance 1996). If the rents from conquest decline, even as occupation costs increase, **then states can prefer to buy goods rather than steal**

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**them.**31 As the U.S. invasion of Iraq illustrates, occupying a reluctant foreign power is extremely labor intensive. If soldiers are expensive, then nations can be better off "outsourcing occupation" to local leaders and obtaining needed goods through trade.32

At the same time that development leads states to prefer trade to theft, developed countries also retain populations with common identities, cultural affinities, and political, social, and economic ties. These states may be reluctant to conquer their neighbors, but they are equally opposed to arbitrary contractions of their borders. Residents of Gibraltar, for example, prefer British rule, even while Spain, which has fought over this lump of rock for centuries, is today unwilling to provoke a war.33 The com- bination of a lack of motive for territorial expansion and continued interest in serving and protecting a given population ensures a decline in conflict among states with developed economies, especially where developed countries are geographically clustered (Gleditsch 2003). Since most territorial disputes are between contiguous states (Vasquez 1993), I hypothesize that developed, contiguous dyads are more powerful than either developing or noncontiguous dyads.34

HI: **Development leads contiguous dyads to be less likely to experience conflict.**

While development decreases incentives for territorial aggrandizement, it greatly enhances the technological ability of states to project power. Nations with ships and aircraft can engage in distant disputes inconceivable for poor countries. Development may also lead to increased willingness to pursue policy conflicts. If development is clustered and neighbors no longer covet territory, capabilities can be devoted to pursuing the nation's secondary or tertiary interests. Distributed production networks and greater economic, social, or political integration naturally also create incentives to seek to influence the foreign policies of other countries, sometimes through force. In contrast to the blanket assertion of classical political economists, I expect that development actually leads countries to be more likely to engage in conflicts far from home.35 Iraq invaded and occupied Kuwait in August 1990, intent on securing its "nineteenth province" and wresting Kuwaiti oil wealth from local leaders. The United States and its Coalition allies also invaded Kuwait, not to conquer and keep, but to return the Emirate to its previous leaders. While Coalition objectives were couched in moralistic rhetoric, the United States was clearly concerned about who governed Kuwait, while preferring not to govern the country itself. Similarly, European colonial powers have repeatedly intervened in Africa, Asia, and elsewhere to prop up or dethrone regimes, impose settlements, or otherwise meddle in the affairs of developing countries

Similar Interests

There is a second salient difference between the two sets of motives for invading Kuwait. Suppose that Iraq had the conquest of Kuwait would have had to be divided formed an alliance, like the U.S. Coalition. Spoils from up in some manner. Each new member of an Iraqi-led alliance would dilute the spoils, diminishing each member's "slice." By going it alone, Iraq kept all of the wealth of Kuwait to itself, at least for a little while. In contrast, U.S. objectives were not much diluted by the size of its coalition. Since there was no resource "pie" to distribute, the size of the Coalition was not a hindrance in allocating benefits, though reasons for reconstituting Kuwait differed markedly among the members, another source of tension that could have led to conflict (Baker 1995).

Students of war often treat state interests as largely uniform, and largely incompatible. International com- petition forces nations-large and small--to be security seekers (Waltz 1959, 1979), or to lust after power (Mearsheimer 2001). A different conception of interests comes from utilitarianism (Bentham [1781] 2000; Mill [1861] 1998) and rational theory (Black 1948; Downs 1957; Riker 1963), one in which interests are variable and are often logical primitives. Many countries may share to a greater or lesser extent compatible worldviews or objectives (cf. Keohane and Nye 1989). **Conversely, strong policy differences can lead to conflict, and possibly to war** (Bueno de Mesquita 1981, 1985, 1989; Morrow 1985). For example, World War II and the cold war were "ideological contests" which pitted coalitions of countries with in- compatible visions of an appropriate world order against each other. Since policy interests vary, while interests over resource allocations are more nearly constant (in their fundamental incompatibility), policy conflict should also vary. The range of policy issues over which state preferences might vary is literally innumerable. This article adopts an axiomatic approach, making the broadest theoretical claim, and then using a policy interest index to operationalize interest affinity in testing.

Globalization of Capital

**While policy differences or resource competition can generate conflict, they need not produce contests if states can resolve differences diplomatically.** Liberal theory emphasizes the pacifying effect of cross-border economic linkages. Markets are arguably most relevant as mechanisms for revealing information, however, rather than for adding to the risks or costs of fighting (Gartzke and Li 2003; Gartzke, Li, and Boehmer 2001). Competition creates incentives to bluff, to exaggerate capabilities or resolve. Anarchy makes it difficult for states to compel honest answers from one another except through the threat or imposition of harm. Contests inform by being costly, forcing actors to choose between bearing the burden of competition and backing down. Of course, one can signal by "burning money," expending valuable resources autonomously, but such acts create a relative as well as absolute loss. Tactics that impart costs only as a byproduct of imposing costs on an opponent can produce relative gains, while tactics such as burning money only harm the initiator. States with economies integrated into global markets face autonomous investors with incentives to reallocate capital away from risk. A leader's threats against another state become costly when threats spark market repercussions. Participants learn from watching the reactions of leaders to the differential incentives of economic cost and political reward. **Two economically integrated states can more often avoid military violence**, since market integration combines mechanisms for revelation and coercion. **An economically integrated target can be coerced by the threat of losing valuable exchange, but a nonintegrated initiator cannot make its threats credible or informative. Conversely, a globalized initiator can signal but has little incentive to hamper its own markets when a nonintegrated target does not suffer (Gartzke 2006b).**

#### Cap puts us in space---resources don’t matter

Kovic '19 [Marko; March 2019; co--founder president of the Zurich Institute of Public Affairs Research; "The future of energy," https://osf.io/preprints/socarxiv/aswz9/download]

Ideally, the mitigation of climate risks will coincide with and contribute to the development of improved or even entirely novel sources of energy that will increase the long--term chances of humankind’s survival by means of space colonization. This is not an unrealistic expectation, given that the mitigation of climate risks consists, to a large degree, of replacing fossil fuels with other, less harmful sources of energy. However, some climate change mitigation strategies might actually harm the long--term prospects of humankind.

First, it is possible that dominant climate change mitigation strategies will actively exclude any form of nuclear energy from the repertoire of climate--friendly energy sources. Existing and experimental (molten salt) fission reactors could play a significant role in replacing carbon--heavy energy sources, but pro--environmental attitudes often overlap with anti--nuclear sentiments [65]. As a result, and in combination with other problems such as large--scale market failures of existing fission reactors (one of the reasons being that generating electricity from fossil fuels is cheaper) [66], nuclear fission does not currently have significant standing as a “cleantech” contribution to climate change mitigation. From a long--term perspective, an unfavorable view of nuclear energy in the context of climate change might mean that technological progress in the areas of nuclear fission and fusion might come to a halt (for example, due to explicit bans or implicit disincentives). If such a scenario came to be, our attempts at colonizing space would almost certainly fail: There are currently no alternatives to fission and fusion, and it is highly improbable that Solar power alone could suffice for sustaining extraterrestrial habitats.

Second, there is some probability that climate change mitigation strategies will change the social order towards a degrowth philosophy. Degrowth is a vague socio--economic concept and social movement that, in general, calls for a contraction of the global and national economies by means of lower production and consumption rates, and, to some degree, to more profound changes to the “capitalist” system of economic production [67]. Degrowth or degrowth--like approaches are being actively considered as climate risk mitigation strategies [68, 69], and degrowth would almost certainly be a highly effective measure for mitigating climate change. After all, if we were to drastically reduce or even completely eliminate the (industrial) sources of greenhouse gases, the amount of greenhouse gases that are being emitted would accordingly drastically sink. From the long--term perspective of humankind’s survival, degrowth is problematic in at least two ways. First, there is a risk that the general contraction of economic activity would also slow or eliminate progress in the domain of energy, which would, in turn, reduce the probability of successful space colonization due to an absence of suitable energy sources. Second, and more fundamental: If degrowth were to become a dominant societal paradigm, it is uncertain whether the long--term survival of humankind by means of space colonization would be regarded a desirable goal. In a literal sense, establishing extraterrestrial colonies would mean growth; the size of the total human population would grow, and the area of space--time that humans occupy would grow.

In a more philosophical sense, degrowth might even be antithetical to space colonization. Even though both degrowth and space colonization have a similar moral goal -- increasing wellbeing -- , the ends to that goal are very different. Within degrowth philosophy, the goal is, metaphorically speaking, not to “live beyond our means

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”: We should strive for “ecological balance”, and such a state should increase the average wellbeing. But the frame of reference is the status quo; Earth and humankind as we know it today. Space colonization, on the other hand, operates with a much larger frame of reference: All the future generations of humans (and other sentient beings) who could enjoy wellbeing if we succeed in colonizing space -- and who will categorically be denied that wellbeing if we fail to colonize space [70]. The goal of space colonization as a moral project is not to live beyond our means, but to actively redefine and expand what our means are through scientific and technological progress.

#### Extinction

Kovic '19 [Marko; March 2019; co--founder president of the Zurich Institute of Public Affairs Research; "The future of energy," https://osf.io/preprints/socarxiv/aswz9/download]

Existential risks **are risks that might** lead to theextinction of humankind **[1].** Natural existential risks **(**such asasteroids **that** might crash into Earth**)** are basicallyconstant**.** The risks of agiant asteroidcrashing into Earth today is the same as it was 500 years ago. Anthropogenic, man--made existential risks**, on the other hand,** are growing **in number and severity.** They are a side--effect of technological progress**:** The more we develop technologically, the greater man--made existential risks become.Nuclear weapons**, to name only one example,** are a direct consequence of scientific and technological progress**.**

There are different approaches to existential risk mitigation. One approach is to developtargeted strategiesfor specific existential risks**. If we want to reduce the existential risk posed by nuclear weapons, then we can and should develop specific** **strategies for that risk.**

Another approach is to develop and pursue what can be calledmeta--strategiesthat target all existential risksat once. One of most effectivemeta--strategies for tackling existential risks in general isspace colonization: If we manage to establish permanentandself--sustainable **human** habitats beyond Earth, then our proverbial existential eggs are not all in one basket anymore**. For example,** if disaster strikes on Earth, but there are billions of humans living on VenusandMars, humankind would continue to existeven with Earth--humans gone.

Because of existential risks, a long--term futurein which humankind still exists almost certainly has to be a future in which humankind has succeeded in colonizing space**. Today, even though we regularly venture into space, we do not yet have space colonization capabilities.** There are a number oftechnological challengesthat we need to overcomein order to become capable of space colonization**. One of those challenges is energy. There are several reasons why.**

#### No market complexity or financialization.

Hung Tran 19, nonresident senior fellow with the Atlantic Council and a former executive managing director of the Institute of International Finance, with; Jaime Caruana, former general manager at Bank for International Settlements, is a member of the board of directors at BBVA, 4/9/19, “Diversity builds financial resilience,” https://www.atlanticcouncil.org/blogs/new-atlanticist/diversity-builds-financial-resilience/

The diversity of financial institutions, with their differences in business models, liability structures, time horizons, and investment motivations could contribute greatly to financial resilience. Since the 2008 crisis, financial institutional diversity has helped sustain market liquidity while banks have curtailed their market-making activity [a readiness to buy and sell securities to accommodate their clients] due to regulatory changes and business strategies. Improving resiliency and liquidity in financial markets is critical to better finance the real economy, allocate risks properly, and support financial stability.

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Many financial institutions and practices, together with regulatory and accounting requirements, however, tend to exacerbate cyclical fluctuations in the economy by buying assets or extending credit in good times and cutting back in bad times. It is important, therefore, to promote financial diversity and foster counter-cyclical behaviors among institutions capable of doing so. This helps reduce the risk of market imbalances leading to liquidity crises and offset self-reinforcing dynamics in times of financial stress. This risk has become important to guard against as the International Monetary Fund’s just-released World Economic Outlook finds the global economy entering a synchronized slowing phase.

The idea is to exploit the natural differences in the balance sheet structures of financial institutions like banks and investment funds on the one hand, and insurance companies and pension funds on the other, and develop regulatory and accounting regimes that encourage diversity of behaviors.

Banks and investment funds have a positive duration gap in their balance sheets—meaning the average duration of their assets tends to be longer than that of their liabilities. Consequently, banks and investment funds tend to act in a pro-cyclical manner. When asset quality deteriorates, prices fall, and interest rates rise, the value of banks’ assets declines by more than that of their liabilities. Regulatory capital and liquidity requirements increase under those circumstances, pressuring banks to liquidate falling assets.

Investment funds can sell into falling markets to meet redemption demand, according to research by the Bank for International Settlements. Funds can also buy and sell at the same time if they use similar investment strategies, sharing economic and market views.

The pro-cyclical practices described above can be ameliorated to some extent by regulations requiring higher capital and liquidity ratios for banks as well as heightened liquidity risk management. Better capitalized banks with sufficient liquidity can arguably contribute less, but more reliable, market liquidity—compared with the very liquid pre-crisis market conditions driven by high leverage, which turned out to be illusionary. Funds can also maintain adequate cash positions to meet possible redemption demand. In any event, pro-cyclicality remains a natural tendency for those institutions and needs to be managed.

By contrast, insurance companies and pension funds have a negative duration gap in their balance sheets and, under some circumstances, could play a stabilizing role in mitigating selling pressure. As their average asset duration is much shorter than that of their liabilities, when rates rise, the value of their assets fall by less than that of their liabilities. This strengthens their solvency, allowing them to acquire assets having fallen in prices. They thus can act in a counter-cyclical manner. However, some research indicates that this counter-cyclical behavior may need to be further supported. The International Monetary Fund’s Global Financial Stability Report observed that life insurance companies—but not property and casualty insurers—and pension funds act counter-cyclically in liquidity crises, but pro-cyclically in solvency crises.

More recent empirical research, using recently available granular data on security-by-security holdings by EU institutional investors, shows that their behavior is more nuanced. Overall, insurers and pension funds behaved in a counter-cyclical manner, but the intensity of such effect has weakened since the pre-crisis period. Other preliminary research notes that the counter-cyclical behavior of insurers and pension funds can be observed for safe assets whose value can be discounted by the same risk-free rate used for liabilities. However, these institutions tend to pro-cyclically reduce holding of risk assets, including equities and corporate bonds, as their values tend to fall by more than liabilities in a market correction.

Regulators should encourage insurers and pension funds to make more use of the counter-cyclical measures provided in the EU insurance regulatory regime Solvency II—as highlighted by the European Insurance and Occupational Pension Authority. While interventions by government authorities are necessary to stabilize severe financial turmoil, more counter-cyclical behaviors by insurers and pension funds, many of which likely stay resilient in a crisis, can help reduce the frequency and severity of financial crises. Remember: during the Great Depression in the United States and its aftermath, some 7,000 banks failed but most of the insurers remained financially healthy.

#### Cap is sustainable and can overcome resource and mineral shortage

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Intensifying many human activities — particularly farming, energy extraction, forestry, and settlement — so that they use less land and interfere less with the natural world is the key to decoupling human development from environmental impacts. These socioeconomic and technological processes are central to economic modernization and environmental protection. Together they allow people to mitigate climate change, to spare nature, and to alleviate global poverty. Although we have to date written separately, our views are increasingly discussed as a whole. We call ourselves ecopragmatists and ecomodernists. We offer this statement to affirm and to clarify our views and to describe our vision for putting humankind’s extraordinary powers in the service of creating a good Anthropocene. 1. Humanity has flourished over the past two centuries. Average life expectancy has increased from 30 to 70 years, resulting in a large and growing population able to live in many different environments. Humanity has made extraordinary progress in reducing the incidence and impacts of infectious diseases, and it has become more resilient to extreme weather and other natural disasters. Violence in all forms has declined significantly and is probably at the lowest per capita level ever experienced by the human species, the horrors of the 20th century and present-day terrorism notwithstanding. Globally, human beings have moved from autocratic government toward liberal democracy characterized by the rule of law and increased freedom. Personal, economic, and political liberties have spread worldwide and are today largely accepted as universal values. Modernization liberates women from traditional gender roles, increasing their control of their fertility. Historically large numbers of humans — both in percentage and in absolute terms — are free from insecurity, penury, and servitude. At the same time, human flourishing has taken a serious toll on natural, nonhuman environments and wildlife. Humans use about half of the planet’s ice-free land, mostly for pasture, crops, and production forestry. Of the land once covered by forests, 20 percent has been converted to human use. Populations of many mammals, amphibians, and birds have declined by more than 50 percent in the past 40 years alone. More than 100 species from those groups went extinct in the 20th century, and about 785 since 1500. As we write, only four northern white rhinos are confirmed to exist. Given that humans are completely dependent on the living biosphere, how is it possible that people are doing so much damage to natural systems without doing more harm to themselves? The role that technology plays in reducing humanity’s dependence on nature explains this paradox. Human technologies, from those that first enabled agriculture to replace hunting and gathering, to those that drive today’s globalized economy, have made humans less reliant upon the many ecosystems that once provided their only sustenance, even as those same ecosystems have often been left deeply damaged. Despite frequent assertions starting in the 1970s of fundamental “limits to growth,” there is still remarkably little evidence that human population and economic expansion will outstrip the capacity to grow food or procure critical material resources in the foreseeable future. To the degree to which there are fixed physical boundaries to human consumption, they are so theoretical as to be functionally irrelevant. The amount of solar radiation that hits the Earth, for instance, is ultimately finite but represents no meaningful constraint upon human endeavors. Human civilization can flourish for centuries and millennia on energy delivered from a closed uranium or thorium fuel cycle, or from hydrogen-deuterium fusion. With proper management, humans are at no risk of lacking sufficient agricultural land for food. Given plentiful land and unlimited energy, substitutes for other material inputs to human well-being can easily be found if those inputs become scarce or expensive. There remain, however, serious long-term environmental threats to human well-being, such as anthropogenic climate change, stratospheric ozone depletion, and ocean acidification. While these risks are difficult to quantify, the evidence is clear today that they could cause significant risk of catastrophic impacts on societies and ecosystems. Even gradual, non-catastrophic outcomes associated with these threats are likely to result in significant human and economic costs as well as rising ecological losses. Much of the world’s population still suffers from more-immediate local environmental health risks. Indoor and outdoor air pollution continue to bring premature death and illness to millions annually. Water pollution and water-borne illness due to pollution and degradation of watersheds cause similar suffering. 2. Even as human environmental impacts continue to grow in the aggregate, a range of long-term trends are today driving significant decoupling of human well-being from environmental impacts. Decoupling occurs in both relative and absolute terms. Relative decoupling means that human environmental impacts rise at a slower rate than overall economic growth. Thus, for each unit of economic output, less environmental impact (e.g., deforestation, defaunation, pollution) results. Overall impacts may still increase, just at a slower rate than would otherwise be the case. Absolute decoupling occurs when total environmental impacts — impacts in the aggregate — peak and begin to decline, even as the economy continues to grow. Decoupling can be driven by both technological and demographic trends and usually results from a combination of the two. The growth rate of the human population has already peaked. Today’s population growth rate is one percent per year, down from its high point of 2.1 percent in the 1970s. Fertility rates in countries containing more than half of the global population are now below replacement level. Population growth today is primarily driven by longer life spans and lower infant mortality, not by rising fertility rates. Given current trends, it is very possible that the size of the human population will peak this century and then start to decline. Trends in population are inextricably linked to other demographic and economic dynamics. For the first time in human history, over half the global population lives in cities. By 2050, 70 percent are expected to dwell in cities, a number that could rise to 80 percent or more by the century’s end. Cities are characterized by both dense populations and low fertility rates. Cities occupy just 1 to 3 percent of the Earth’s surface and yet are home to nearly four billion people. As such, cities both drive and symbolize the decoupling of humanity from nature, performing far better than rural economies in providing efficiently for material needs while reducing environmental impacts. The growth of cities along with the economic and ecological benefits that come with them are inseparable from improvements in agricultural productivity. As agriculture has become more land and labor efficient, rural populations have left the countryside for the cities. Roughly half the US population worked the land in 1880. Today, less than 2 percent does. As human lives have been liberated from hard agricultural labor, enormous human resources have been freed up for other endeavors. Cities, as people know them today, could not exist without radical changes in farming. In contrast, modernization is not possible in a subsistence agrarian economy. These improvements have resulted not only in lower labor requirements per unit of agricultural output but also in lower land requirements. This is not a new trend: rising harvest yields have for millennia reduced the amount of land required to feed the average person. The average per-capita use of land today is vastly lower than it was 5,000 years ago, despite the fact that modern people enjoy a far richer diet. Thanks to technological improvements in agriculture, during the half-century starting in the mid-1960s, the amount of land required for growing crops and animal feed for the average person declined by one-half. Agricultural intensification, along with the move away from the use of wood as fuel, has allowed many parts of the world to experience net reforestation. About 80 percent of New England is today forested, compared with about 50 percent at the end of the 19th century. Over the past 20 years, the amount of land dedicated to production forest worldwide declined by 50 million hectares, an area the size of France. The “forest transition” from net deforestation to net reforestation seems to be as resilient a feature of development as the demographic transition that reduces human birth rates as poverty declines. Human use of many other resources is similarly peaking. The amount of water needed for the average diet has declined by nearly 25 percent over the past half-century. Nitrogen pollution continues to cause eutrophication and large dead zones in places like the Gulf of Mexico. While the total amount of nitrogen pollution is rising, the amount used per unit of production has declined significantly in developed nations. Indeed, in contradiction to the often-expressed fear of infinite growth colliding with a finite planet, demand for many material goods may be saturating as societies grow wealthier. Meat consumption, for instance, has peaked in many wealthy nations and has shifted away from beef toward protein sources that are less land intensive. As demand for material goods is met, developed economies see higher levels of spending directed to materially less-intensive service and knowledge sectors, which account for an increasing share of economic activity. This dynamic might be even more pronounced in today’s developing economies, which may benefit from being late adopters of resource-efficient technologies. Taken together, these trends mean that the total human impact on the environment, including land-use change, overexploitation, and pollution, can peak and decline this century. By understanding and promoting these emergent processes, humans have the opportunity to re-wild and re-green the Earth — even as developing countries achieve modern living standards, and material poverty ends. 3. The processes of decoupling described above challenge the idea that early human societies lived more lightly on the land than do modern societies. Insofar as past societies had less impact upon the environment, it was because those societies supported vastly smaller populations. In fact, early human populations with much less advanced technologies had far larger individual land footprints than societies have today. Consider that a population of no more than one or two million North Americans hunted most of the continent’s large mammals into extinction in the late Pleistocene, while burning and clearing forests across the continent in the process. Extensive human transformations of the environment continued throughout the Holocene period: as much as three-quarters of all deforestation globally occurred before the Industrial Revolution. The technologies that humankind’s ancestors used to meet their needs supported much lower living standards with much higher per-capita impacts on the environment. Absent a massive human die-off, any large-scale attempt at recoupling human societies to nature using these technologies would result in an unmitigated ecological and human disaster. Ecosystems around the world are threatened today because people over-rely on them: people who depend on firewood and charcoal for fuel cut down and degrade forests; people who eat bush meat for food hunt mammal species to local extirpation. Whether it’s a local indigenous community or a foreign corporation that benefits, it is the continued dependence of humans on natural environments that is the problem for the conservation of nature. Conversely, modern technologies, by using natural ecosystem flows and services more efficiently, offer a real chance of reducing the totality of human impacts on the biosphere. To embrace these technologies is to find paths to a good Anthropocene. The modernization processes that have increasingly liberated humanity from nature are, of course, double-edged, since they have also degraded the natural environment. Fossil fuels, mechanization and manufacturing, synthetic fertilizers and pesticides, electrification and modern transportation and communication technologies, have made larger human populations and greater consumption possible in the first place. Had technologies not improved since the Dark Ages, no doubt the human population would not have grown much either. It is also true that large, increasingly affluent urban populations have placed greater demands upon ecosystems in distant places –– the extraction of natural resources has been globalized. But those same technologies have also made it possible for people to secure food, shelter, heat, light, and mobility through means that are vastly more resource- and land-efficient than at any previous time in human history. Decoupling human well-being from the destruction of nature requires the conscious acceleration of emergent decoupling processes. In some cases, the objective is the development of technological substitutes. Reducing deforestation and indoor air pollution requires the substitution of wood and charcoal with modern energy. In other cases, humanity’s goal should be to use resources more productively. For example, increasing agricultural yields can reduce the conversion of forests and grasslands to farms. Humans should seek to liberate the environment from the economy. Urbanization, agricultural intensification, nuclear power, aquaculture, and desalination are all processes with a demonstrated potential to reduce human demands on the environment, allowing more room for non-human species. Suburbanization, low-yield farming, and many forms of renewable energy production, in contrast, generally require more land and resources and leave less room for nature. These patterns suggest that humans are as likely to spare nature because it is not needed to meet their needs as they are to spare it for explicit aesthetic and spiritual reasons. The parts of the planet that people have not yet profoundly transformed have mostly been spared because they have not yet found an economic use for them — mountains, deserts, boreal forests, and other “marginal” lands. Decoupling raises the possibility that societies might achieve peak human impact without intruding much further on relatively untouched areas. Nature unused is nature spared. 4. Plentiful access to modern energy is an essential prerequisite for human development and for decoupling development from nature. The availability of inexpensive energy allows poor people around the world to stop using forests for fuel. It allows humans to grow more food on less land, thanks to energy-heavy inputs such as fertilizer and tractors. Energy allows humans to recycle waste water and desalinate sea water in order to spare rivers and aquifers. It allows humans to cheaply recycle metal and plastic rather than to mine and refine these minerals. Looking forward, modern energy may allow the capture of carbon from the atmosphere to reduce the accumulated carbon that drives global warming. However, for at least the past three centuries, rising energy production globally has been matched by rising atmospheric concentrations of carbon dioxide. Nations have also been slowly decarbonizing — that is, reducing the carbon intensity of their economies — over that same time period. But they have not been doing so at a rate consistent with keeping cumulative carbon emissions low enough to reliably stay below the international target of less than 2 degrees Centigrade of global warming. Significant climate mitigation, therefore, will require that humans rapidly accelerate existing processes of decarbonization. There remains much confusion, however, as to how this might be accomplished. In developing countries, rising energy consumption is tightly correlated with rising incomes and improving living standards. Although the use of many other material resource inputs such as nitrogen, timber, and land are beginning to peak, the centrality of energy in human development and its many uses as a substitute for material and human resources suggest that energy consumption will continue to rise through much if not all of the 21st century. For that reason, any conflict between climate mitigation and the continuing development process through which billions of people around the world are achieving modern living standards will continue to be resolved resoundingly in favor of the latter. Climate change and other global ecological challenges are not the most important immediate concerns for the majority of the world's people. Nor should they be. A new coal-fired power station in Bangladesh may bring air pollution and rising carbon dioxide emissions but will also save lives. For millions living without light and forced to burn dung to cook their food, electricity and modern fuels, no matter the source, offer a pathway to a better life, even as they also bring new environmental challenges. Meaningful climate mitigation is fundamentally a technological challenge. By this we mean that even dramatic limits to per capita global consumption would be insufficient to achieve significant climate mitigation. Absent profound technological change **there is no credible path to meaningful climate mitigation**

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. While advocates differ in the particular mix of technologies they favor, we are aware of no quantified climate mitigation scenario in which technological change is not responsible for the vast majority of emissions cuts. The specific technological paths that people might take toward climate mitigation remain deeply contested. Theoretical scenarios for climate mitigation typically reflect their creators’ technological preferences and analytical assumptions while all too often failing to account for the cost, rate, and scale at which low-carbon energy technologies can be deployed. The history of energy transitions, however, suggests that there have been consistent patterns associated with the ways that societies move toward cleaner sources of energy. Substituting higher-quality (i.e., less carbon-intensive, higher-density) fuels for lower-quality (i.e., more carbon-intensive, lower-density) ones is how virtually all societies have decarbonized, and points the way toward accelerated decarbonization in the future. Transitioning to a world powered by zero-carbon energy sources will require energy technologies that are power dense and capable of scaling to many tens of terawatts to power a growing human economy. Most forms of renewable energy are, unfortunately, incapable of doing so. The scale of land use and other environmental impacts necessary to power the world on biofuels or many other renewables are such that we doubt they provide a sound pathway to a zero-carbon low-footprint future. High-efficiency solar cells produced from earth-abundant materials are an exception and have the potential to provide many tens of terawatts on a few percent of the Earth’s surface. Present-day solar technologies will require substantial innovation to meet this standard and the development of cheap energy storage technologies that are capable of dealing with highly variable energy generation at large scales. Nuclear fission today represents the only present-day zero-carbon technology with the demonstrated ability to meet most, if not all, of the energy demands of a modern economy. However, a variety of social, economic, and institutional challenges make deployment of present-day nuclear technologies at scales necessary to achieve significant climate mitigation unlikely. A new generation of nuclear technologies that are safer and cheaper will likely be necessary for nuclear energy to meet its full potential as a critical climate mitigation technology. In the long run, next-generation solar, advanced nuclear fission, and nuclear fusion represent the most plausible pathways toward the joint goals of climate stabilization and radical decoupling of humans from nature. If the history of energy transitions is any guide, however, that transition will take time. During that transition, other energy technologies can provide important social and environmental benefits. Hydroelectric dams, for example, may be a cheap source of low-carbon power for poor nations even though their land and water footprint is relatively large. Fossil fuels with carbon capture and storage can likewise provide substantial environmental benefits over current fossil or biomass energies. The ethical and pragmatic path toward a just and sustainable global energy economy requires that human beings transition as rapidly as possible to energy sources that are cheap, clean, dense, and abundant. Such a path will require sustained public support for the development and deployment of clean energy technologies, both within nations and between them, though international collaboration and competition, and within a broader framework for global modernization and development. 5. We write this document out of deep love and emotional connection to the natural world. By appreciating, exploring, seeking to understand, and cultivating nature, many people get outside themselves. They connect with their deep evolutionary history. Even when people never experience these wild natures directly, they affirm their existence as important for their psychological and spiritual well-being. Humans will always materially depend on nature to some degree. Even if a fully synthetic world were possible, many of us might still choose to continue to live more coupled with nature than human sustenance and technologies require. What decoupling offers is the possibility that humanity’s material dependence upon nature might be less destructive. The case for a more active, conscious, and accelerated decoupling to spare nature draws more on spiritual or aesthetic than on material or utilitarian arguments. Current and future generations could survive and prosper materially on a planet with much less biodiversity and wild nature. But this is not a world we want nor, if humans embrace decoupling processes, need to accept. What we are here calling nature, or even wild nature, encompasses landscapes, seascapes, biomes and ecosystems that have, in more cases than not, been regularly altered by human influences over centuries and millennia. Conservation science, and the concepts of biodiversity, complexity, and indigeneity are useful, but alone cannot determine which landscapes to preserve, or how. In most cases, there is no single baseline prior to human modification to which nature might be returned. For example, efforts to restore landscapes to more closely resemble earlier states (“indigeneity”) may involve removing recently arrived species (“invasives”) and thus require a net reduction in local biodiversity. In other circumstances, communities may decide to sacrifice indigeneity for novelty and biodiversity. Explicit efforts to preserve landscapes for their non-utilitarian value are inevitably anthropogenic choices. For this reason, all conservation efforts are fundamentally anthropogenic. The setting aside of wild nature is no less a human choice, in service of human preferences, than bulldozing it. Humans will save wild places and landscapes by convincing our fellow citizens that these places, and the creatures that occupy them, are worth protecting. People may choose to have some services — like water purification and flood protection — provided for by natural systems, such as forested watersheds, reefs, marshes, and wetlands, even if those natural systems are more expensive than simply building water treatment plants, seawalls, and levees. There will be no one-size-fits-all solution. Environments will be shaped by different local, historical, and cultural preferences. While we believe that agricultural intensification for land-sparing is key to protecting wild nature, we recognize that many communities will continue to opt for land-sharing, seeking to conserve wildlife within agricultural landscapes, for example, rather than allowing it to revert to wild nature in the form of grasslands, scrub, and forests. Where decoupling reduces pressure on landscapes and ecosystems to meet basic human needs, landowners, communities, and governments still must decide to what aesthetic or economic purpose they wish to dedicate those lands. Accelerated decoupling alone will not be enough to ensure more wild nature. There must still be a conservation politics and a wilderness movement to demand more wild nature for aesthetic and spiritual reasons. Along with decoupling humankind’s material needs from nature, establishing an enduring commitment to preserve wilderness, biodiversity, and a mosaic of beautiful landscapes will require a deeper emotional connection to them. 6. We affirm the need and human capacity for accelerated, active, and conscious decoupling. Technological progress is not inevitable. Decoupling environmental impacts from economic outputs is not simply a function of market-driven innovation and efficient response to scarcity. The long arc of human transformation of natural environments through technologies began well before there existed anything resembling a market or a price signal. Thanks to rising demand, scarcity, inspiration, and serendipity, humans have remade the world for millennia. Technological solutions to environmental problems must also be considered within a broader social, economic, and political context. We think it is counterproductive for nations like Germany and Japan, and states like California, to shutter nuclear power plants, recarbonize their energy sectors, and recouple their economies to fossil fuels and biomass. However, such examples underscore clearly that technological choices will not be determined by remote international bodies but rather by national and local institutions and cultures. Too often, modernization is conflated, both by its defenders and critics, with capitalism, corporate power, and laissez-faire economic policies. We reject such reductions. What we refer to when we speak of modernization is the long-term evolution of social, economic, political, and technological arrangements in human societies toward vastly improved material well-being, public health, resource productivity, economic integration, shared infrastructure, and personal freedom. Modernization has liberated ever more people from lives of poverty and hard agricultural labor, women from chattel status, children and ethnic minorities from oppression, and societies from capricious and arbitrary governance. Greater resource productivity associated with modern socio-technological systems has allowed human societies to meet human needs with fewer resource inputs and less impact on the environment. More-productive economies are wealthier economies, capable of better meeting human needs while committing more of their economic surplus to non-economic amenities, including better human health, greater human freedom and opportunity, arts, culture, and the conservation of nature. Modernizing processes are far from complete, even in advanced developed economies. Material consumption has only just begun to peak in the wealthiest societies. Decoupling of human welfare from environmental impacts will require a sustained commitment to technological progress and the continuing evolution of social, economic, and political institutions alongside those changes. Accelerated technological progress will require the active, assertive, and aggressive participation of private sector entrepreneurs, markets, civil society, and the state. While we reject the planning fallacy of the 1950s, we continue to embrace a strong public role in addressing environmental problems and accelerating technological innovation, including research to develop better technologies, subsidies, and other measures to help bring them to market, and regulations to mitigate environmental hazards. And international collaboration on technological innovation and technology transfer is essential in the areas of agriculture and energy.

#### Innovation’s sustainable

Economist 13 — Economist, Has the ideas machine broken down?, 2013, [www.economist.com/news/briefing/21569381-idea-innovation-and-new-technology-have-stopped-driving-growth-getting-increasing](http://www.economist.com/news/briefing/21569381-idea-innovation-and-new-technology-have-stopped-driving-growth-getting-increasing)

The fountains of paradise

Closer analysis of recent figures, though, suggests reason for optimism. Across the economy as a whole productivity did slow in 2005 and 2006—but productivity growth in manufacturing fared better. The global financial crisis and its aftermath make more recent data hard to interpret. As for the strong productivity growth in the late 1990s, it may have been premature to see it as the effect of information technology making all sorts of sectors more productive. It now looks as though it was driven just by the industries actually making the computers, mobile phones and the like. The effects on the productivity of people and companies buying the new tech

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nology seem to have begun appearing in the 2000s, but may not yet have come into their own. Research by Susanto Basu of Boston College and John Fernald of the San Francisco Federal Reserve suggests that the lag between investments in information-and-communication technologies and improvements in productivity is between five and 15 years. The drop in productivity in 2004, on that reckoning, reflected a state of technology definitely pre-Google, and quite possibly pre-web. Full exploitation of a technology can take far longer than that. Innovation and technology, though talked of almost interchangeably, are not the same thing. Innovation is what people newly know how to do. Technology is what they are actually doing; and that is what matters to the economy. Steel boxes and diesel engines have been around since the 1900s, and their use together in containerised shipping goes back to the 1950s. But their great impact as the backbone of global trade did not come for decades after that. Roughly a century lapsed between the first commercial deployments of James Watt’s steam engine and steam’s peak contribution to British growth. Some four decades separated the critical innovations in electrical engineering of the 1880s and the broad influence of electrification on economic growth. Mr Gordon himself notes that the innovations of the late 19th century drove productivity growth until the early 1970s; it is rather uncharitable of him to assume that the post-2004 slump represents the full exhaustion of potential gains from information technology. And information innovation is still in its infancy. Ray Kurzweil, a pioneer of computer science and a devotee of exponential technological extrapolation, likes to talk of “the second half of the chess board”. There is an old fable in which a gullible king is tricked into paying an obligation in grains of rice, one on the first square of a chessboard, two on the second, four on the third, the payment doubling with every square. Along the first row, the obligation is minuscule. With half the chessboard covered, the king is out only about 100 tonnes of rice. But a square before reaching the end of the seventh row he has laid out 500m tonnes in total—the whole world’s annual rice production. He will have to put more or less the same amount again on the next square. And there will still be a row to go. Erik Brynjolfsson and Andrew McAfee of MIT make use of this image in their e-book “Race Against the Machine”. By the measure known as Moore’s law, the ability to get calculations out of a piece of silicon doubles every 18 months. That growth rate will not last for ever; but other aspects of computation, such as the capacity of algorithms to handle data, are also growing exponentially. When such a capacity is low, that doubling does not matter. As soon as it matters at all, though, it can quickly start to matter a lot. On the second half of the chessboard not only has the cumulative effect of innovations become large, but each new iteration of innovation delivers a technological jolt as powerful as all previous rounds combined.