# 1NC

## offcase

**new affs bad**

#### new affs are a voting issue – they skew research and sacrifice in-round engagement opportunities for artificially persuasive evidence that relies on time pressure – disclosure halfway through prep solves – uniquely justifies condo

**vagueness**

**Vagueness –**

**The plan’s generic wording is manipulated in implementation – wrecks solvency**

**Baer 20** [Bill Baer former visiting fellow in governance studies at The Brookings Institution and assistant attorney general of the Antitrust Division and as the acting associate attorney general of the U.S. Department of Justice, 11-19-2020 <https://equitablegrowth.org/research-paper/restoring-competition-in-the-united-states/?longform=true>]

Meaningful antitrust reform should be a priority of the next administration and the 117th U.S. Congress. The challenge of drafting legislation is substantial. On the one hand, the legislation must be written for a judiciary that is both increasingly hostile to antitrust claims in general and increasingly textualist in its statutory interpretation. On the other hand, in the context of the antitrust laws, courts have often “abandoned statutory textualism” to interpret the laws “in favor of big business,”15 explains Daniel Crane, the Fredrick Paul Furth Sr. professor of law at the University of Michigan Law School. If given discretion to interpret new legislation, the current judiciary is likely to fall back on the same **skepticism** of antitrust enforcement that it has advanced over the past 40 years.

Despite those concerns, legislation remains the best option to revitalizing antitrust enforcement. In drafting legislation, Congress can learn from the past. One case in point: The legislative history of the Celler-Kefauver bill, not its text, reveals the bill’s intent, which courts increasingly ignore.16 Congress can reduce that risk by **being explicit** in the text when vacating or rejecting existing precedent and when identifying relevant factors, such as the importance of protecting both actual and potential competition. Congress should identify in statute the elements sufficient to establish an antitrust violation **as precisely as possible**.

**Voting issue---**

**Aff conditionality destroys ground. 2AC clarifications dodge DA links and counterplan competition.**

**t-prohibit**

**Topical affs must forbid a practice --- plan is only a hindrance**

**Van Eaton** et al **17** --- Joseph Van Eaton, Gail Karish Gerard Lavery Lederer, lawyers for BEST BEST & KRIEGER, LLP. Michael Watza, KITCH DRUTCHAS WAGNER VALITUTTI & SHERBROOK, “BEFORE THE FEDERAL COMMUNICATIONS COMMISSION WASHINGTON, D.C”, COMMENTS OF SMART COMMUNITIES SITING COALITION, March 8, 2017 , https://tellusventure.com/downloads/policy/fcc\_row/smart\_communities\_siting\_coaltion\_comments\_mobilitie\_8mar2017.pdf

What are at issue legally are prohibitions and effective prohibitions, and not hindrances, as the Commission seems to suggest in its Notice. The term “prohibit” is not defined in the Act, but it has an ordinary meaning: **to formally forbid** (something) by law, rule, or other authority; or to “prevent, stop, rule out, preclude, **make impossible**.” A mere “**hindrance**” “is simply **not in accord with the ordinary and fair meaning” of the term prohibit**,104 and can provide no basis for additional Commission intrusions on local authority over wireless facilities. Much of what Mobilitie complains about is a “hindrance” at most (and usually a hindrance magnified by its own actions).

**Vote neg for limits and ground --- obstacles explode the research burden and take away core negative ground**

### deadlock

Deadlock DA

#### Bedoya’s confirmation is likely, BUT opposition to the antitrust agenda threatens to indefinitely deadlock meatpacking enforcement – and everything else

Moran 1-6-22 (Max Moran, Research Director of the Personnel Team at the Revolving Door Project, studied International Relations and Journalism at Brandeis University, “Merrick Garland Is Undermining the Biden Antitrust Strategy,” The American Prospect, 1-6-2022, https://prospect.org/justice/merrick-garland-is-undermining-biden-antitrust-strategy/)

The Biden administration is threatening new anti-monopoly enforcement actions against the Big Four meatpacking companies, in part to counter inflation at the grocery store and in part to address decades of exploitation of small farmers. On Monday, the president dispatched Agriculture Secretary Tom Vilsack and Attorney General Merrick Garland to hear grievances from small ranchers, while the White House builds a new web portal to gather complaints. While the White House’s proposals for funding small meat processors to increase competition are rather unsatisfying, the enforcement piece could have a real impact.

This initiative has caused the usual grumbling from neoliberal economists, and the usual corrections to the usual grumbling. But no one has yet explained how Biden plans to actually follow through on his threat—a problem for which Garland is partly to blame.

As The Information’s Josh Sisco reported on Tuesday, there are currently just two deputies trying to manage the entire DOJ Antitrust Division (ATR) alongside Assistant Attorney General Jonathan Kanter, who was confirmed only two months ago. ATR typically has at least 12 deputies and top advisers in the “front office” who oversee about 700 career staffers. And that was under past administrations, which didn’t have nearly as ambitious an antitrust agenda as Biden’s. Reversing four decades of Borkian antitrust sloth requires a cohesive and energetic senior leadership team.

Meanwhile, the Federal Trade Commission, the executive branch’s other main antitrust enforcer, remains in a 2-2 partisan deadlock, as Senate Republicans blockade Biden nominee Alvaro Bedoya from being confirmed as a commissioner. He has a path to 51 Senate votes, but arcane (and unnecessary) procedural hurdles have slowed the process to a crawl, hindering the other avenue to antitrust action.

Biden can only do so much to move Bedoya’s nomination. But in theory, nothing prevents him from hiring whomever Kanter personally trusts to help execute their shared agenda. The deputies at ATR are not Senate-confirmed positions. So what’s causing the chaos?

The problem isn’t procedural; it’s political. In addition to diversity concerns, Sisco reports that “ideological divisions” about anti-monopoly enforcement within the Biden administration are causing fights over any potential selection for the ATR deputies.

These divisions should be familiar to anyone who followed the initial fight over antitrust nominees during the Biden transition last year. While Biden himself seems sold on the benefits of a strong anti-monopoly agenda, Garland testified last year that he sees no problem with hiring big corporations’ preferred defense attorneys to oversee their former firms and clients. Garland and other anonymous voices floated a slew of names to run ATR throughout last year—anyone but Kanter, whom progressives favored.

While Garland lost that initial fight, he seems content to starve Kanter of resources as a work-around, even if it means sabotaging his own president’s agenda. Garland, after all, appears to consider it core to his job to throttle the better parts of the Biden administration for the sake of an imagined apolitical comity. He rushed to the Trump administration’s defense over the objections of the White House many times over the last year, and continues to undermine environmental action wherever he can. It’s perfectly in keeping with his priorities to undermine antitrust enforcement too.

The corporate revolvers and pro-monopoly hacks Garland boosted also haven’t gone anywhere. Again according to Sisco, Sonia Pfaffenroth is now in the mix for one of those coveted jobs in the ATR “front office.” Pfaffenroth revolved from Arnold & Porter into the Obama ATR and back over the last two decades. In private practice, she’s defended pharmaceutical firms, fossil fuel companies, and mining companies from class actions, price-fixing cases, and of course antitrust lawsuits.

One should look to Pfaffenroth’s record from her past stint at ATR to get a sense of what a second go-around might look like. Under the Obama administration, Pfaffenroth blessed tie-ups between Virgin America and Alaska Airlines, as well as US Airways and American Airlines. Today, just four mega-airlines control 80 percent of U.S. air traffic.

Pfaffenroth even approved the $107 billion merger between Anheuser-Busch InBev and SABMiller, allowing 30 percent of the world’s beer market volume and 60 percent of the world’s beer market profits at the time to be controlled by one firm. Today, AB InBev has essentially hacked the multitiered regulatory system that kept the alcohol market competitive for decades. In some cases, AB InBev’s distributors only allow craft brewers to distribute their drinks to retailers if they keep overall production low. This bottlenecking, alongside the pandemic, has been devastating for craft brewers.

Pfaffenroth’s record at ATR reveals someone whose poor judgment has harmed major American industries. But her judgment is reflective of the failed antitrust status quo, and in antitrust and everything else, Garland sees maintaining the status quo as inherently salutary. Where you or I might see bad calls, Garland likely sees jurisprudence executed according to a well-worn book. Whether the book is right or wrong is immaterial, in his eyes.

To state the obvious, Biden ought to reject Pfaffenroth and empower Kanter with deputies ready to throw that book aside, or else his antitrust agenda on meatpacking and everything else will get tossed on the growing pile of broken promises that are cratering his approval ratings. Doing so, however, will require standing up to Garland.

Thus far, Biden has appeared reluctant to do so, for fear of threatening the attorney general’s independence. There’s a kernel of truth here, after the Justice Department was turned into the president’s personal law firm under Trump. But there is a big difference between deploying the DOJ’s resources to help friends and target enemies and ensuring the DOJ has the staff and leadership necessary to execute its policy agenda. One is a blatant abuse of power, the other a clear presidential prerogative.

It’s an awkward situation for a president, but Biden must recognize that achieving his goals—especially the ones that improve working people’s economic fortunes—does far more for the health of the nation than sticking to a failed principle for its own sake. The president badly needs to remember that the buck stops not at Main Justice, but the Oval Office. Biden can demonstrate his commitment to fulfilling his promises and vision by empowering those of his appointees who are showing the necessary courage.

#### It’s NOT about Bedoya – it’s a referendum on the scope of the current agenda – deadlock is the point

Murphy 21 (Kathleen Murphy, Senior Reporter at FTC Watch, former Section Research Manager, Specialist at Congressional Research Service, former Managing Editor at CQ Roll Call and Bill Analysis Editor at Congressional Quarterly, “Bedoya’s confirmation hearing draws closer,” FTC Watch, Issue 1016, 11-1-2021, <https://www.mlexwatch.com/articles/13940/print?section=ftcwatch>)

When Alvaro Bedoya, President Joe Biden’s nominee to the Federal Trade Commission, faces US senators, he will be asked about his scholarly views on privacy. But the hearing also gives senators a chance to assess the agenda of the last FTC nominee they confirmed, Chair Lina Khan.

The Senate Commerce, Science and Transportation Committee is set to consider Bedoya’s nomination, although no hearing date has been set. It’s most likely to occur the week of Nov. 15 or early December, based on the 2021 Senate calendar.

Serving on the FTC means Bedoya, a Georgetown University professor and former congressional lawyer, would end a 2-2 split and give Democrats a majority to implement the chair’s policies. Bedoya, founding director of the Center on Privacy & Technology at Georgetown Law, would replace former Commissioner Rohit Chopra who left Oct. 8 to serve as director of the Consumer Financial Protection Bureau.

Biden nominated Bedoya in mid-September. Khan, meanwhile, started serving as FTC chair in mid-June after an 83-day confirmation process. (See FTCWatch, No. 1002, March 29, 2021.)

‘99% about FTC Chair Lina Khan’

Michael Keeley, co-chair of the antitrust practice at Axinn, Veltrop & Harkrider, tweeted: “Bedoya confirmation is going to be 99% about FTC Chair Lina Khan, and 1% to do with Alvaro Bedoya. (And hopefully 0% about the Vertical Merger Guidelines.)”

Keeley said he expects the focus of the hearing to be assessing the wisdom of the policies being pursued by Khan.

#### Plan expands opposition, derailing confirmation

Kovacic 20 (William E. Kovacic, former FTC Chair, Global Competition Professor of Law and Policy, George Washington University Law School, JD Columbia University, “Keeping Score: Improving the Positive Foundations for Antitrust Policy,” U. of Pennsylvania Journal of Business Law, 23(1), 2020, https://scholarship.law.upenn.edu/jbl/vol23/iss1/3/)

THE POLITICAL ASSAULT ON THE FTC

From the late 1960s through the 1970s, the FTC pursued an extraordinarily ambitious agenda of competition and consumer protection matters.107 Significant antitrust litigation included challenges to dominant firm misconduct and collective dominance, distribution practices, horizontal restraints, and facilitating practices. 108 Many matters involved powerful economic interests,109 and in a number of cases the Commission sought structural relief in the form of divestitures or the compulsory licensing of intellectual property. 110 In 1974, the agency also initiated a program that required certain large firms to provide “line-of-business” data concerning a range of performance indicators.111

In the same period, the Commission used a mix of litigation and rulemaking to transform its consumer protection agenda.112 Through policy guidance and litigation, the agency introduced its advertising substantiation program that required firms to have support for factual claims made in their advertisements.113 The Commission initiated over twenty-five rulemaking proceedings and promulgated final rules involving a broad collection of product and service sectors.114

As a group, the FTC’s competition and consumer protection initiatives aroused fierce opposition from the affected firms and industries, which contested the agency’s actions in court and before Congress. 115 The complaints of industry resonated with a large, powerful bipartisan coalition of legislators116 who criticized the Commission’s activism, proposed various measures to curb the agency’s authority, 117 and ultimately adopted a number of restrictions in The Federal Trade Commission Improvements Act of 1980 (FTC Improvements Act). 118 In 1980, bitter opposition to elements of the FTC’s competition and consumer protection programs led Congress to allow the FTC’s funding to lapse, forcing the agency to temporarily cease operations. 119 Perhaps emboldened by the weak political support the Commission enjoyed before 1981, when the Democrats controlled the White House and both chambers of Congress, the Reagan administration briefly resumed the assault on the agency’s funding. In January 1981, David Stockman, Ronald Reagan’s first Director of the Office of Management and Budget (OMB), launched a short-lived effort to eliminate funding for the FTC’s competition policy program.120

The congressional and executive branch officials who criticized the FTC in this period advanced two positive claims to justify recommendations for withdrawing authority or funding for the Commission. One claim was that the agency’s choice of competition and consumer protection programs had contradicted congressional guidance about how the FTC should use its authority and resources.121 Many legislators complained that the agency had disregarded the legislature’s preferences and used its powers in ways that Congress never contemplated to fall within the FTC’s remit.122 As Congress considered bills in 1979 to limit the Commission’s powers, Congressman William Frenzel captured the prevailing legislative mood:

It is bad enough to be counterproductive and therefore highly inflationary, but the FTC compounds its sins by generally ignoring the intent of our laws, and writing its own laws whenever the whimsey strikes it . . .

Ignoring Congress can be a virtue, but the FTC’s excessive nose-thumbing at the legislative branch has become legend. In short, the FTC has made itself into virulent political and economic pestilence, insulated from the people and their representatives, and accountable to no influence except its own caprice.123

The Commission, Frenzel concluded, was “a rogue agency gone insane.”124

The accusation of Commission disobedience figured prominently in Senate deliberations on the 1980 FTC Improvements Act. In less-flamboyant but still pointed terms, the chief Senate sponsors of the FTC Improvements Act said restrictions were necessary to curb the agency’s unauthorized adventurism. Senator Howard Cannon explained: “The real reason that we have proposed this legislation for the FTC is because the Commission appeared to be fully prepared to push its statutory authority to the very brink and beyond. Good judgment and wisdom had been replaced with an arrogance that seemed unparalleled among independent regulatory agencies.”125

The accusation of disregard for congressional will soon echoed in statements by high level officials in the newly arrived Reagan administration. OMB Director Stockman recited a variant of this theme in an appearance before a House of Representatives Committee early in 1981 to address his proposal to eliminate funding for the agency’s competition mission. Stockman said, “ . . . in recent years the FTC has served the public interest very poorly, in major part because it has sought to expand its power and influence beyond that envisioned by Congress.”126

Beyond generalized claims of institutional disobedience, the accusation of disregard for congressional will was invoked to justify proposals to impose restrictions on specific FTC initiatives. For example, in the fall of 1979, the Senate Commerce Committee held hearings on a proposal by Senator Howell Heflin to eliminate the FTC’s power to order divestiture or other forms ofstructural relief in non-merger cases.127 This was a shot across the bow of the FTC’s pending “shared monopoly”128 cases involving the breakfast cereal and petroleum refining sectors, where the FTC had requested structural relief (divestitures and, in the cereal case, compulsory trademark licensing) to restore competition.129 Congress did not adopt the Helfin proposal, but the idea of eliminating or restricting the FTC’s power to seek divestiture remained a serious threat to the agency. Roughly a year after the Commerce Committee hearings on the Heflin amendment, on the day before the balloting in the 1980 presidential elections, Vice-President Walter Mondale appeared at a campaign rally in Battle Creek, Michigan (the headquarters of the Kellogg Company). The Vice-President assured his audience that, if he and President Jimmy Carter were reelected, the Carter administration would seek legislation to ban the FTC from obtaining divestiture in the breakfast cereal shared monopolization case.130

A second, related claim was that the FTC had abandoned any adherence to sound administrative practice and descended into utterly irrational decision making. The agency was not merely disobedient (“rogue”) but crazy (“insane”), as well.131 Here, again, Congressman Frenzel pungently made the point. The FTC, Frenzel said, “is a king-sized cancer on our economy. It has undoubtedly added more unnecessary costs on American consumers who it is charged with protecting, than any other half dozen agencies combined.” 132 David Stockman’s initial broadside against the Commission in February 1981 echoed this sentiment. In a newspaper interview, Stockman said the FTC “is a passel of ideologues who are hostile to the business system, to the free enterprise system, and who sit down there and invent theories that justify more meddling and interference in the economy.”133

The accusation of disobedience and the diagnosis of insanity fit poorly, or at least awkwardly, with the positive record of the FTC’s activities in the 1970s. As discussed immediately below, the rogue agency story clashes with the many instances, especially between 1969 and 1976, in which congressional committees and key legislators directed the agency to carry out an aggressive, innovative enforcement program against major commercial interests. In 1969, numerous legislators endorsed the view of two external studies that the FTC had used its authority timidly and ineffectively.134 Leading members of Congress demanded that the agency transform its competition and consumer programs or face extinction.135

Congress described the content of the desired transformation in several ways. At a high level, oversight committees and individual legislators called for a dramatic boost in the agency’s appetite to undertake ambitious, risky projects—to replace a cautious, risk-avoiding decision calculus with a bold philosophy that erred in favor of intervention and used the agency’s elastic powers innovatively. Congress’s admonition to be aggressive and use power expansively emerged again and again in confirmation proceedings and routine oversight hearings.136 During hearings in 1970 to confirm Caspar Weinberger to be the Commission’s new chair, Senator Warren Magnuson, Chairman of the Senate Commerce Committee, told the nominee to “maintain the right kind of morale by recruiting strongly and expanding . . . Trade Commission programs in order to perform the job well.”137 In setting out this charge, Magnuson seemed to recognize that the FTC would have to be steadfast in resisting backlash—including from Congress—that would emerge as the FTC went about “expanding” its programs. The Commerce Committee Chairman said Congress was calling on the FTC to perform “tasks that require a great deal of attention and a great deal of fortitude not to respond to any pressures that come from any place.”138

Weinberger’s successor, Miles W. Kirkpatrick, received similar, and even more explicit congressional guidance, to apply the Commission’s powers broadly and aggressively. In 1969, Kirkpatrick had chaired a blueribbon American Bar Association panel whose report recommended the FTC implement an ambitious antitrust agenda that involved significant doctrinal, operational, and political risks.139 In his appearances as FTC chair before congressional committees, Kirkpatrick often heard legislators applaud the risk-preferring approach of the ABA study. In Kirkpatrick’s first appearance before the Commission’s Senate Appropriations subcommittee in 1971, the Subcommittee Chairman, Senator Gale McGee, provided the following guidance:

I think this is one of the Federal commissions that has a much larger responsibility and capability than sometimes it has been willing to live up to for reasons of congressional sniping at it in some respects or pressures put on it through the industry and the like.

Too often it has been either shy or bashful. . . . That is why we were having a rather closer look at your requests just in the hopes of encouraging you, if anything, to make mistakes, but I think the mistakes you are to make ought to be mistakes in doing and trying rather than playing safe in not doing. I believe that is the most serious mistake of all . . . you are not faulted for making mistakes. You may be for making it twice in a row, for not learning properly but, we would rather you make a mistake innovating, trying something new, rather than playing so cautiously that you never make a mistake. . . . 140

In his appearance before the same subcommittee a year later, Senator McGee observed with approval that Kirkpatrick had “responded to the criticism . . . by both Mr. [Ralph] Nader and the American Bar Association by moving aggressively against some of the major industries in the United States.” 141 Recognizing that the approach he described could elicit opposition from affected business interests, McGee promised that he and his colleagues would exercise best efforts to watch the agency’s back: “[I]f you step on toes you are going to catch flak for it, but I hope we will be able to push this even more aggressively by backing you more completely with the kind of help that I think you require.”142 McGee closed the proceedings with militant instructions:

“Stay with it and flex your muscles, clinch your fists, sharpen your claws, and go to it. We think this is desperately important in the interest of the Congress, whose creature you are, and the consumer whose faith and substantive capabilities in surviving hang very heavily upon what you succeed in doing.”143

Kirkpatrick served as the FTC’s chair for just over twenty-nine months. The Commission’s new chair, Lewis Engman, received the same policy guidance that Congress had provided Weinberger and Kirkpatrick. At Engman’s confirmation hearing before the Senate Commerce Committee early in 1973, Senator Frank Moss observed:

Under . . . Weinberger and Kirkpatrick, the Commission has taken on new life beginning with the search for strong and imaginative, rigorous developers and enforcers of the law and reaching out with innovative programs to restore competition and to make consumer sovereignty more than chamber of commerce rhetoric. 144

With evident approval, Moss recounted how the FTC had “stretched its powers to provide a credible countervailing public force to the enormous economic and political power of huge corporate conglomerates which today dominate American enterprise.” 145 The members of the Senate Commerce Committee, Moss concluded, “consider it one of our solemn duties to protect the Commission from economic and political forces which would deflect it from its regulatory zeal.” 146 Member after member of the Commerce Committee echoed Moss’s message to Engman. Senator Ted Stevens, an Alaska Republican, told the nominee, “I am really hopeful that . . . you will become a real zealot in terms of consumer affairs and some of these big business people will complain to us that you are going too far. That would be the day, as far as I am concerned.”147

The FTC got the message. The words and actions of Weinberger, Kirkpatrick, Engman, and other FTC leaders in this period reflected a preference for boldness, aggressiveness, innovation, and zeal. In a letter to Senator Edward Kennedy in July 1970, Weinberger reported that the FTC was trying “to make the most of that other resource given to us by Congress – our statutory powers.” 148 Weinberger said the Commission had “encouraged the staff to make recommendations to us which will probe the frontiers of our statutes,” had made progress in “[p]robling the outer limits” and “exploring the frontiers” of the agency’s authority, and had shown it “is receptive to novel and imaginative provisions in orders seeking to remedy unlawful practices.”149 In a speech to a professional association in 1971, Kirkpatrick reported that the Commission was “moving into ‘high gear’ in the task of preserving and promoting competition in the American economy.”150 He said he and his fellow board members “fully intend to be in the vanguard of exploration of the new frontiers of antitrust law.”151

By mid-1974, the FTC had launched several significant cases involving monopolization and collective dominance, including pathbreaking shared monopolization cases against the breakfast cereal152 and petroleum refining industries.153 With these matters underway, Engman in 1974 appeared at a congressional hearing of the Joint Economic Committee and received criticism that the FTC had been insufficiently active in challenging monopolies.154 The Joint Committee’s chairman, Senator William Proxmire, told Engman “the FTC, like a number of other regulatory agencies seems to concern itself with minor infractions of the law, and to spend much of its time on cases of small consequence.”155 Perhaps astonished to hear that cases to break up the nation’s leading breakfast cereal manufacturers and petroleum refiners involved minor infractions or matters of small consequence, Engman replied, “The Federal Trade Commission today is very aggressive. . . . We have seen a total turnaround in terms of the types of matters which are being addressed by the Bureau of Competition.”156

Beyond general policy exhortations to exercise power boldly and to err on the side of intervention, of doing too much rather than too little, Congress in the early to mid-1970s instructed the Commission to focus attention on specific commercial sectors and competitive problems within them. In the face of severe fuel shortages and price spikes for petroleum products in the early 1970s, numerous legislators demanded that the FTC conduct investigations and challenge the conduct of large, integrated petroleum companies. 157 Many insisted that the FTC use its competition mandate to force integrated refiners to deal on equitable terms with independent refiners and distributors.158 The Commission’s decision to file the Exxon shared monopoly case, which sought extensive horizontal and vertical divestiture remedies, can be explained as a response to these demands.159 In the same period, Congress applied strong pressure upon the FTC to examine and correct what it believed to be serious structural obstacles to effective competition in the food manufacturing industry.160 Here, also, the agency’s decision to prosecute the shared monopolization case against the country’s leading producers of ready-to-eat breakfast cereals can be seen as a response to this concern and faithful to the congressional prescription that the FTC use novel, innovative approaches to cure competitive problems.161 In these and other matters, the Commission explored the frontiers of its powers in the development of new cases.162

When one aligns the guidance of Congress in the early to mid-1970s about the appropriate content of FTC policy making with the FTC’s activity in the decade, it is apparent that the critique of the agency as disobedient to legislative will is a fiction, or at least badly misleading. A more accurate positive depiction of events in the 1970s is that the Commission faithfully followed legislative instructions given from 1970 up through the mid-1970s about the appropriate philosophy and means of enforcement, and that, as the decade came to a close, Congress changed its mind about what the FTC should do and how it should do it. As described below in Section IV.D., 163 that change in legislative temperament and the response by Congress to industry backlash against the FTC’s program have important implications for how the FTC plans programs and selects projects in the future. Accurate positive analysis reveals that the agency was not disobedient to Congress but was inattentive to the operation of a political feedback loop that exposes Congress to industry pressure once the FTC implements programs that involve significant economic stakes and endanger powerful commercial interests.164

Nor does a careful study of the positive record of the 1970s show that the FTC policy making was “insane.” Measured by its contributions to institution-building, the Commission did many things that epitomize good public administration. It carried out important organizational and personnel reforms that upgraded its operations and personnel.165 As explained more fully below, the agency also improved its mechanisms for setting priorities and selecting projects to achieve them and strengthened investments in policy research and development (including a program to evaluate the effects of completed cases).166 The FTC successfully carried out new regulatory duties entrusted by Congress in the 1970s; most notable was the implementation of the premerger notification mechanism that Congress created in the Hart-Scott-Rodino Antitrust Improvements Act of 1976.167 In all of these areas, the Commission of the 1970s made enduring enhancements to the institution and set important foundations for successful programs that followed in the next forty years. An insane agency could not have done so.

Another focal point for attention in assessing the FTC’s performance in the 1970s was the quality of its substantive agenda. Was the FTC’s substantive program in the 1970s “insane”? Many Commission competition and consumer protection initiatives in the 1970s encountered grave problems. FTC efforts to execute the bold, innovative, risk-preferring program that Congress had called for earlier in the decade generated a number of serious project failures.168 Insanity, on the part of individual leaders or the institution as a whole, does not explain the failures. These outcomes have more prosaic causes whose understanding is important to the future formulation of competition policy. Chief among the FTC’sflaws were a lack of historical awareness about the political hazards associated with undertaking an agenda of bold, innovative cases against powerful commercial interests; inadequate appreciation for the demands of bringing large numbers of difficult cases and promulgating ambitious trade regulation rules would impose on the agency’s improving but uneven human capital; and underestimation of the change in the center of gravity of economic learning that supports the operation of the U.S. antitrust system. As described below, many of these failings are rooted in weaknesses in the FTC’s knowledge in the 1970s of the positive record of its past enforcement experience.169

B. The Inadequate and Misdirected Enforcement Activity Narrative

Like the hyperactivity narrative described above, the inadequate activity narrative relies heavily on enforcement data to support the view that the federal antitrust agencies have brought too few cases overall and, when filing cases, have focused resources on the wrong types of matters.

Implicit or explicit assumptions about the level of enforcement activity have provided a central foundation in the modern era for broad normative claims of poor system performance. One collection of inadequacy critiques attacks federal enforcement program of the Reagan administration – a period characterized by what one journalist described as an “almost total abandonment of antitrust policy.” 170 In 1987, in discussing Reagan-era federal antitrust enforcement, Professor Robert Pitofsky said the DOJ and the FTC had produced “the most lenient antitrust enforcement program in fifty years.” 171 Professor Milton Handler remarked that in the Reagan era “a policy of nonenforcement has set in, much to the distress of those who believe that without antitrust the free market cannot remain free.” 172 Professors Lawrence Sullivan and Wolfgang Fikentscher observed, in addressing the treatment of civil nonmerger matters, “enforcement ceased.”173

A second body of commentary assails the work of the federal agencies in the George W. Bush administration. For example, in 2008, during his campaign to gain the Democratic Party’s nomination for the presidency, Barack Obama said the George W. Bush administration “has what may be the weakest record of antitrust enforcement of any administration in the last half-century.” 174 The Obama statement did not compare activity levels across all administrations over the 50-year-long comparison period, but the statement suggested that the general claim was based on variations in activity over time.

A third version of the inadequacy narrative marks the beginning of the decline of effective enforcement at the outset of the George W. Bush administration and extending through the present.175

A fourth variant writes off the entire period from roughly 1980 onward as an antitrust catastrophe.176 After noting that for most of the 20th century “antitrust enforcement waxed or waned depending on the administration in office,” Professor Robert Reich recently wrote that “after 1980 it all but disappeared.”177 He added that Presidents Bill Clinton and Barack Obama “allowed antitrust enforcement to ossify, enabling large corporations to grow far larger and major industries to become more concentrated.” 178

Presented below are categories of arguments that rely upon specific assertions about the positive record of modern antitrust enforcement. These arguments make positive claims regarding either the amount of activity, the reasons for observed behavior, or both.

GENERAL CRITICISMS OF ANTITRUST ENFORCEMENT: BORK, REAGAN, AND THE DESTRUCTION OF U.S. COMPETITION POLICY

Many commentators have offered explanations for why federal antitrust enforcement became inadequate after the late 1970s. One major positive explanation is that the modern Chicago School of antitrust analysis, grounded largely in the writings of Robert Bork, inspired a severe retrenchment of enforcement at the DOJ and the FTC and led the federal courts to narrow antitrust doctrine since the late 1970s.179 A major focus of this discussion of the causes for changes in enforcement involves rules governing the treatment of dominant firms.180

A second cause offered to explain a redirection of enforcement is the ascent to the presidency of Ronald Reagan and his appointment of permissive leadership to the DOJ and the FTC.181 The Reagan administration is said to have inherited a generally well-functioning antitrust enforcement system and run it into the ground.

The Chicago School, Bork-centric, and Reagan-centric explanations for policy change can be misleading due to mischaracterizations of what took place and their tendency to omit other forces that had helped narrow the scope of antitrust enforcement. Bork and the Chicago School unmistakably have exerted a significant impact upon modern antitrust policy, but the retrenchment of antitrust enforcement in some areas cannot accurately be attributed to them entirely or, for a number of important developments, even principally. 182 Many proponents of the inadequacy narrative make little or no mention of the role of modern Harvard School scholars, such as Philip Areeda and Donald Turner, in leading courts and enforcement agencies to move the antitrust system toward a less interventionist stance.183

Areeda and Turner encouraged courts to forego reliance on noneconomic goals in deciding antitrust cases. 184 The two Harvard scholars also advocated the adoption of stricter procedural and doctrinal screens to counteract what they perceived to be flaws in the U.S. system of private rights of action.185 The inadequacy narrative often overlooks the influence of the modern Harvard School and thus misses how much the permissiveness of modern antitrust policy reflects the Harvard School’s concern that private rights of action over-deter legitimate business conduct by dominant firms.186 This yields a faulty positive diagnosis of the forces that have reduced the reach of the U.S. antitrust regime. As noted below, understanding how the institution-grounded limitations proposed by the modern Harvard School have imposed greater demands on plaintiffs has important implications for government plaintiffs seeking to devise a strategy to reclaim doctrinal ground lost since the 1970s.187

Similar imprecision and omission characterize the portrayal of the Reagan administration as the force that swung antitrust policy away from a sensible interventionist equilibrium and gave it a durably noninterventionist orientation. Some elements of the Reagan-centric narrative turn events 180 degrees around from their positive roots.188 More significant, the narrative does not address how badly the Congress and the White House had damaged the FTC’s stature and operations before Ronald Reagan took office in late January 1981. By the end of 1980, the Commission had been shoved into the equivalent of political bankruptcy by a Congress and a White House under the control of the Democratic Party.189

By treating the 1980 presidential election as the cause of an abrupt change in federal antitrust enforcement policy, the Reagan-centric inadequacy narrative fails to grasp the significance of the political assault, led by Democrats, against the FTC in the late 1970s. Recognition of how the FTC’s relationship with Congress changed over the course of the 1970s forces one to confront the question of why an agency that enjoyed powerful congressional support through much of the decade came to grief so quickly. The episode has a sobering cautionary lesson for contemporary policy making: it demonstrates how quickly congressional attitudes can change once powerful business interests affected by FTC actions bring their resources to bear upon Congress, and how turnover in the legislature can erode vital political support. An accurate positive account of the 1970s suggests that an agency should strive to complete its cases and rulemaking initiatives as expeditiously as possible, lest long lags between the start and conclusion of matters expose the agency to debilitating political backlash. This policy making prescription becomes apparent only by forming an accurate picture of what happened to the FTC in the 1970s.

#### Key to break the political power of Big Ag broadly – spills over to deconsolidate farming

Gustin 19 (Georgina Gustin, covers agriculture for Inside Climate News, won numerous awards, including the John B. Oakes Award for Distinguished Environmental Journalism and the Glenn Cunningham Agricultural Journalist of the Year, formerly reported for the St. Louis Post-Dispatch and CQ Roll Call, graduate of the Columbia University Graduate School of Journalism, “Industrial Agriculture, an Extraction Industry Like Fossil Fuels, a Growing Driver of Climate Change,” Inside Climate News, 1-25-2019, https://insideclimatenews.org/news/25012019/climate-change-agriculture-farming-consolidation-corn-soybeans-meat-crop-subsidies/)

Meat and Mergers

Critics say that lax enforcement of antitrust laws has enabled even more concentration in the hands of fewer companies.

That concentration has occurred not just at the farm level but throughout the food system, including in fertilizer and pesticide manufacturing, grain distribution, food processing and grocery retailing. Four companies or fewer control each of these sectors of the food industry.

Recent mega-mergers of agricultural chemical and seed companies—Monsanto and Bayer, ChinaChem and Syngenta, Dow Chemical and DuPont—have further concentrated seed technology in the hands of a few companies. Critics worry that could leave farmers with fewer choices over what to plant and how.

Nowhere has the consolidation been more pronounced than in the meat industry, a hugely profitable and influential force in American agriculture. Today, a handful of companies, led by Brazil-based JBS Holdings, dominate the global meat industry, wielding enormous economic and political might.

“It’s JBS and Smithfield,” said Joe Maxwell, a hog farmer from Missouri and executive director of the antitrust watchdog Organization for Competitive Markets. “They want the U.S. to be the cheapest place to raise meat. They drive the political power in D.C. The result is that farmers are locked into farming for government programs that are not sustainable, economically and environmentally.”

The consolidation in meat production is also what’s driving the consolidation of crop farming, Maxwell said.

Livestock is now commonly raised or fattened in confinement on a diet of soybeans and corn instead of grass or other forage.

“The decades-long removal of livestock from diversified farms and moving into industrial facilities has certainly increased corn and soybean acreage. Those two things go hand in hand,” Hoefner said. “I think it’s a very open question whether that kind of transition back to a more integrated crop and livestock system is even possible. We’ve made such major landscape changes.”

#### Key to regenerative farming

Tam 21—(writer at UCLA Undergraduate Law Journal, won the UCLA Prize for Undergraduate Research, supervised by William Boyd, Professor of Law at UCLA School of Law and Institute of the Environment and Sustainability). Kristen Tam & Olivia Bielskis. April 1, 2021. “Stimulating Antitrust Enforcement to Expand the Regenerative Agriculture Movement”. UCLA Library. <https://escholarship.org/uc/item/0m16g2r5#main>.

Small farms, 10.0 to 49.9 acres, are more likely to implement regenerative fertilizer methods than medium sized, 260 to 499 acres, and large sized, 1,000 to 1,999 acre farms. In 2017, 32.74 percent of small farms used regenerative fertilizer, compared to 27.27 percent of medium and 21.63 percent of large farms.41 Small farms are also transitioning away from commercial fertilizer to regenerative fertilizer methods at a faster rate than medium and large farms. From 2012 to 2017, small farms had the greatest percent decrease in number of farms using commercial fertilizers, 6.50 percent, and the largest percent increase for regenerative practices, 6.47 percent. Medium farms experienced a 2.28 percent decrease in the number of farms implementing commercial fertilizers, while a 2.57 percent increase in regenerative fertilizers. Large farms experienced a 2.31 percent decrease in the number of farming implementing commercial fertilizers, while a 2.32 percent increase in regenerative fertilizers.42 This demonstrates that smaller farms are more willing and better suited to implement regenerative practices.

Industrial agriculture firms, on the other hand, highly prioritize efficiencies and maximizing profit, thus, are less likely to invest the time and money into learning about and switching to regenerative fertilization practices. While small farms are making the most rapid transition to regenerative fertilization practices that would benefit the market and planet in the long run, the increased market and resource dominance of the largest farms, which have the slowest rates of transition to regenerative fertilization practices, is ultimately hindering the growth of regenerative agriculture in the United States.

#### Extinction

Friedemann 17 – Alice Friedemann, Unrelated to Nina, Systems Architect and Engineer For Over 25 Years, Science, Energy, and Agriculture Writer, Investigative Journalist and Energy Expert, Founder of Energy Skeptic, Author of When Trucks Stop Running: Energy and the Future of Transportation, “Chemical Industrial Agriculture is Unsustainable. Here’s Why”, Resilience, 5-27, http://www.resilience.org/stories/2017-03-27/chemical-industrial-farming-unsustainable-heres/

We hear a lot about how we’re running out of antibiotics. But we are also doomed to run out of pesticides, because insects inevitably develop resistance, whether toxic chemicals are sprayed directly or genetically engineered into the plants.

Worse yet, weeds, insects, and fungus develop resistance in just 5 years on average, which has caused the chemicals to grow increasingly lethal over the past 60 years. And it takes on average eight to ten years to identify, test, and develop a new pesticide, though that isn’t long enough to discover the long-term toxicity to humans and other organisms.

And this devil’s bargain hasn’t even provided most of the gains in crop yields, which is due to natural-gas and phosphate fertilizers plus soil-crushing tractors and harvesters that can do the work of millions of men and horses quickly on farms that grow only one crop on thousands of acres.

Yet before pesticides, farmers lost a third of their crops to pests, after pesticides, farmers still lose a third of their crops.

Even without pesticides, industrial agriculture is doomed to fail from extremely high rates of soil erosion and soil compaction at rates that far exceed losses in the past, since soil couldn’t wash or blow away as easily on small farms that grew many crops.

But pest killing chemicals are surely accelerating the day of reckoning sooner rather than later. Enormous amounts of toxic chemicals are dumped on land every year — over 1 billion pounds are used in the United State (US) every year and 5.6 billion pounds globally (Alavanja 2009).

This destroys the very ecosystems that used to help plants fight off pests, and is a major factor biodiversity loss and extinction.

Evidence also points to pesticides playing a key role in the loss of bees and their pollination services. Although paleo-diet fanatics won’t mind eating mostly meat when fruit, vegetable, and nut crops are gone, they will not be so happy about having to eat more carbohydrates. Wheat and other grains will still be around, since they are wind-pollinated.

Agricultural chemicals render land lifeless and toxic to beneficial creatures, also killing the food chain above — fish, amphibians, birds, and humans (from cancer, chronic disease, and suicide).

Surely a day is coming when pesticides stop working, resulting in massive famines. But who is there to speak for the grandchildren? And those that do speak for them are mowed down by the logic of libertarian capitalism, which only cares about profits today. Given that a political party is now in power in the U.S. that wants to get rid of the protections the Environmental Protection Agency (EPA) and other agencies provide, may make matters worse if agricultural chemicals are allowed to be more toxic, long-lasting, and released earlier, before being fully tested for health effects.

Meanwhile chemical and genetic engineering companies are making a fortune, because the farmers have to pay full price, since the pests develop resistance long before a product is old enough to be made generically. Except for glyphosate, but weeds have developed resistance. Predictably.

In fact, the inevitability of resistance has been known for nearly seven decades. In 1951, as the world began using synthetic chemicals, Dr. Reginald Painter at Kansas State University published “Insect Resistance in Crop Plants”. He made a case that it would be better to understand how a crop plant fought off insects, since it was inevitable that insects would develop genetic or behavioral resistance. At best, chemicals might be used as an emergency control measure.

Farmers will say that we simply must carry on like this, there’s no other choice. But that’s simply not true.

Consider the corn rootworm, that costs farmers about $2 billion a year in lost crops despite spending hundreds of millions on chemicals and the hundreds of millions of dollars chemical companies spend developing new chemicals.

To lower the chances of corn pests developing resistance, corn crops were rotated with soybeans. Predictably, a few mutated to eat soybeans plus changed their behavior. They used to only lay eggs on nearby corn plants, now they disperse to lay eggs on soybean crops as well. Worse yet, corn is more profitable than soy and many farmers began growing continuous corn. Already the corn rootworm is developing resistance to the latest and greatest chemicals.

But the corn rootworm is not causing devastation in Europe, because farms are smaller and most farmers rotate not just soy, but wheat, alfalfa, sorghum and oats with corn (Nordhaus 2017).

Before planting, farmers try to get rid of pests that survived the winter and apply fumigants to kill fungi and nematodes, and pre-emergent chemicals to reduce weed seeds from emerging. Even farmers practicing no-till farming douse the land with herbicides by using GMO herbicide-resistant crops. Then over the course of crop growth, farmers may apply several rounds of additional pesticides to control different pests. For example, cotton growers apply chemicals from 12 to 30 times before harvest.

Currently, the potential harm is only assessed for 2 to 3 years before a permit is issued, even though the damage might occur up to 20 years later.

Although these chemicals appear to be just like antibiotics, that isn’t entirely true. We develop some immunity to a disease after antibiotics help us recover, but a plant is still vulnerable to the pests and weeds with the genetics or behavior to survive and chemical assault.

Although there are thousands of chemical toxins, what matters is how they kill, their method of action (MOA). For herbicides there are only 29 MOAs, for insecticides, just 28. So if a pest develops resistance to one chemical within an MOA, it will be resistant to all of the thousands of chemicals within that MOA.

The demand for chemicals has also grown due the high level of bioinvasive species. It takes a while to find native pests and make sure they won’t do more harm than good. In the 1950s there were just three main corn pests. By 1978 there were 40, and they vary regionally. For example, California has 30 arthropods and over 14 fungal diseases to cope with.

When I was learning how to grow food organically back in the 90s, I remember how outraged organic farmers were that Monsanto was going to genetically engineer plants to have the Bt bacteria in them. This is because the only insecticide organic farmers can use is Bt bacteria, because it is found in the soil. It’s natural. Organic farmers have been careful to spray only in emergencies so that insects didn’t develop resistance to their only remedy. Since 1996, GMO plants have been engineered to have Bt in them, and predictably, insects have developed resistance. For example, in 2015, 81% of all corn was planted with genetically engineered Bt. But corn earworms have developed resistance, especially in North Carolina and Georgia, setting the stage for damage across the nation. Five other insects have developed resistance to Bt as well.

GMO plants were also going to reduce pesticide use. They did for a while, but not for long. Chemical use has increased 7% to 202,000 tons a year in the past 10 years.

Resistance can come in other ways than mutations. Behavior can change. Cockroach bait is laced with glucose, so cockroaches that developed glucose-aversion now no longer take the bait.

It is worth repeating that chemicals and other practices are ruining the long-term viability of agriculture. Here is how author Dyer explains it:

“Ultimately the practice of modern farming is not sustainable” because “the damage to the soil and natural ecosystems is so great that farming becomes dependent not on the land but on the artificial inputs into the process, such as fertilizers and pesticides. In many ways, our battle against the diverse array of pest species is a battle against the health of the system itself. As we kill pest species, we also kill related species that may be beneficial. We kill predators that could assist our efforts. We reduce the ecosystem’s ability to recover due to reduced diversity, and we interfere with the organisms that affect the biogeochemical processes that maintain the soils in which the plants grow.

Soil is a complex, multifaceted living thing that is far more than the sum of the sand, silt, clay, fungi, microbes, nematodes, and other invertebrates. All biotic components interact as an ecosystem within the soil and at the surface, and in relation to the larger components such as herbivores that move across the land. Organisms grow and dig through the soil, aerate it, reorganize it, and add and subtract organic material. Mature soil is structured and layered and, very importantly, it remains in place. Plowing of the soil turns everything upside down. What was hidden from light is exposed. What was kept at a constant temperature is now varying with the day and night and seasons. What cannot tolerate drying conditions at the surface is likely killed. And very sensitive and delicate structures within the soil are disrupted and destroyed.

Conventional tillage disrupts the entire soil ecosystem. Tractors and farm equipment are large and heavy; they compact the soil, which removes air space and water-holding capacity. Wind and water erosion remove the smallest soil particles, which typically hold most of the micronutrients needed by plants. Synthetic fertilizers are added to supplement the loss of oil nutrients but often are relatively toxic to many soil organisms. And chemicals such as pre-emergents, fumigants, herbicides, insecticides, acaricides, fungicides, and defoliants eventually kill all but the most tolerant or resistant soil organisms. It does not take long to reduce a native, living, dynamic soil to a relatively lifeless collection of inorganic particles with little of the natural structure and function of undisturbed soil”.

When I told my husband all the reasons we use agricultural chemicals and the harm done, my husband got angry and said “Farmers aren’t stupid, that can’t be right!”

I think there are a number of reasons why farmers don’t go back to sustainable organic farming.

First, there is far too much money to be made in the chemical herbicide, pesticide, and insecticide industry to stop this juggernaut. After reading Lessig’s book “Republic, Lost”, one of the best, if not the best book on campaign finance reform, I despair of campaign financing ever happening. So chemical lobbyists will continue to donate enough money to politicians to maintain the status quo. Plus the chemical industry has infiltrated regulatory agencies via the revolving door for decades and is now in a position to assassinate the EPA, with newly appointed Scott Pruitt, who would like to get rid of the EPA.

Second, about half of farmers are hired guns. They don’t own the land and care about passing it on in good health to their children. They rent the land, and their goal, and the owner’s goal is for them to make as much profit as possible.

Third, renters and farmers both would lose money, maybe go out of business in the years it would take to convert an industrial monoculture farm to multiple crops rotated, or an organic farm.

Fourth, it takes time to learn to farm organically properly. So even if the farmer survives financially, mistakes will be made. Hopefully made up for by the higher price of organic food, but as wealth grows increasingly more unevenly distributed, and the risk of another economic crash grows (not to mention lack of reforms, being in more debt now than 2008, etc).

Fifth, industrial farming is what is taught at most universities. There are only a handful of universities that offer programs in organic agriculture.

Sixth, subsidies favor large farmers, who are also the only farmers who have the money to profit from economies of scale, and buy their own giant tractors to farm a thousand acres of monoculture crops. Industrial farming has driven 5 million farmers off the land who couldn’t compete with the profits made by larger farms in the area.

But farmers will have to go organic whether they like it or not

It’s hard to say whether this will happen because we’ve run out of pesticides, whether from resistance or a financial crash reducing new chemical research, or whether peak oil, peak coal, and peak natural gas will cause the decline of chemical farming. Agriculture uses about 15 to 20% of fossil fuel energy, from natural gas fertilizer, oil-based chemicals, farm vehicle and equipment fuel, the agricultural cold chain, distribution, packaging, refrigeration, and cooking to name a few of the uses.

At some point of fossil decline, there won’t be enough fuel or pesticides to continue business as usual.

Farmers will be forced to go organic at some point. Wouldn’t it be easier to start the transition now?

**T**

**FTCA not antitrust --- no private cause of action or treble damage**

**VARNEY 10** --- CHRISTINE A. VARNEY, US Assistant Attorney General, “STATEMENT OF HON. CHRISTINE A. VARNEY, ASSISTANT ATTORNEY GENERAL, ANTITRUST DIVISION, U.S. DEPARTMENT OF JUSTICE, WASHINGTON, D.C.”, SUBCOMMITTEE ON ANTITRUST, COMPETITION POLICY AND CONSUMER RIGHTS of the COMMITTEE ON THE JUDICIARY UNITED STATES SENATE ONE HUNDRED ELEVENTH CONGRESS, JUNE 9, 2010, https://www.govinfo.gov/content/pkg/CHRG-111shrg66454/html/CHRG-111shrg66454.htm

Let me also discuss the Commission's increasing use of our Section 5 unfair methods of competition authority, which allows us to **go beyond** the ambit of the **antitrust laws** to protect consumers. Congress granted us this authority in 1914, and it balanced it by limiting the remedies available under Section 5. In recent years, Section 5 has been used sparingly since lower courts in the late 1970s rejected some applications of Section 5 when the antitrust laws were viewed much more broadly and I would say in some ways too broadly.

But since that time, the courts have **restricted the range** of antitrust to some extent as a result of the Chicago School, which, to its credit, has emphasized rigorous economic analysis as well as efficiencies, and to some extent in reaction to the costs of **class actions** and **private treble damage litigation**. But for whatever the reason, the result of these changes has been to limit Federal enforcement agencies, which **have no treble damage authority**, in our efforts to protect American consumers.

Section 5, carefully applied--and it needs to be--is practically tailor-made for this situation. It can effectively protect consumers, but it **is not an antitrust law** so it does not by its own terms **create treble damage liability**. So we have broad bipartisan support within the Commission to use Section 5 in appropriate circumstances, and we are going out and re-using it.

**Voter for limits and ground --- expanding “antitrust” to include section 5 allows the aff to defend the SQ and pivots away from treble damages --- the most controversial part of antitrust**

**McLaughlin 64** --- Gerald McLaughlin, Federal Judge, 3rd Circuit Court of Appeals, “New Jersey Wood Finishing Company, Plaintiff-appellee, v. Minnesota Mining and Manufacturing Company, Defendant-appellant, and Essex Wire Corp., Defendant, 332 F.2d 346 (3d Cir. 1964)”, US Court of Appeals for the Third Circuit, May 20th 1964, https://law.justia.com/cases/federal/appellate-courts/F2/332/346/326983/

N. J. Wood's claim arises in the first instance under Section 4 of the Clayton Act, which provides that "persons" injured by violations "of the **antitrust laws**" shall be entitled to threefold damages. 15 U.S.C. § 15 (1958) "**Antitrust laws"** as that term is employed in Section 4 **has a restricted meaning**. Notwithstanding other antitrust acts prior or subsequent to the Clayton Act, private parties can recover under Section 4, only where their injury has resulted from acts in violation of the specific antitrust laws, itemized in Section 1 of the Act.3 15 U.S.C. § 12 (1958); Nashville Milk Co. v. Carnation Co., 355 U.S. 373, 78 S. Ct. 352, 2 L. Ed. 2d 340 (1958). The Sherman and Clayton Acts upon violations of which N. J. Wood's complaint is based, **are "antitrust laws"** within the meaning of Section 4. Other acts **are not,** including for our purposes, the **Federal Trade Commission Act**. See Samson Crane Co. v. Union National Sales, 87 F. Supp. 218 (D.C.Mass.1949).

In its scheme for the enforcement of these "antitrust laws", Congress envisaged **both public and private actions**. United States v. Borden Co., 347 U.S. 514, 519, 74 S. Ct. 703, 98 L. Ed. 903 (1954); United States v. Cooper Corp., 312 U.S. 600, 608, 610, 61 S. Ct. 741, 85 L. Ed. 1071 (1941); United States v. Bendix Home Appliances, 10 F.R.D. 73, 77 (S.D.N.Y. 1949); see 2 Toulmin's Antitrust Laws, Section 16.6 P. 91 (1949); MacIntyre, The Role of the Private Litigant in Antitrust Enforcement, 7 Antitrust Bulletin, P. 113, et seq. (1962). Through Section 4, the business public became an ally of government and the private antitrust suit, a substantial weapon of national antitrust policy. Cinnamon v. Abner A. Wolf, Inc., 215 F. Supp. 833, 834 (E.D. Mich. 1963), citing Report of the Attorney General's National Committee to Study the Antitrust Laws, P. 378 (1955). Congress had hoped that these private antitrust suits would supplement government actions and perhaps in some cases make them unnecessary.4

This broad plan of private and public actions is further detailed. The Sherman Act5 contemplates civil (Section 4) and criminal (Section 3) actions by the Justice Department, **and treble damage suits** by private parties (Section 7). 15 U.S.C. §§ 3, 4, 15 note (1958); but cf. Federal Trade Commission v. Cement Institute, 333 U.S. 683, 68 S. Ct. 793, 92 L. Ed. 1010 (1948). Under the Clayton Act,6 private actions may be in the form of suits for injunctive relief (Section 16) or for treble damages (Section 4). 15 U.S.C. §§ 26, 15 (1958); public actions, in the form of suits principally by the FTC and the Justice Department under Section 11 for violations of Sections 2, 3, 7 and 8 of that act. 15 U.S.C. § 21 (1958).

To be **distinguished** is the role of the FTC under the FTC Act.

The Federal Trade Commission was established under the Federal Trade Commission Act (Act of September 26, 1914, c. 311, 38 Stat. 717) and invested with both adjudicatory and investigatory functions. Under Section 5 (of the FTC Act) the FTC was empowered to order the discontinuance of "unfair methods of competition" and later "unfair \* \* practices" which were declared "unlawful" by the Act. See the extensive legislative history in Judge Denison's partial dissent in L. B. Silver Co. v. Federal Trade Commission, 289 F. 985, 992-998 (6 Cir. 1923); Federal Trade Commission v. Klesner, 280 U.S. 19, 50 S. Ct. 1, 74 L. Ed. 138 (1929); Federal Trade Commission v. Raladam Co., 283 U.S. 643, 647, 51 S. Ct. 587, 75 L. Ed. 1324 (1931). Purposefully left broad and generally undefined (as to what constituted an "unfair method of competition" or an "unfair practice"), Section 5 proceeded on the idea of an administrative body of experts (the FTC) which, given a flexible standard of judgment, would discover and prevent the use of such practice before it worked a Sherman violation. See Federal Trade Commission v. Motion Picture Advertising Service Co., 344 U.S. 392, 394, 73 S. Ct. 361, 97 L. Ed. 426 (1953); Federal Trade Commission v. Raladam Co., 283 U.S. 643, 648, 51 S. Ct. 587, 75 L. Ed. 1324 (1931); see Beer, Federal Trade Law and Practice (1942) P. 76-77. The Sherman Act was to serve as a guide for the Commission, as a "declaration of policy", to be considered in determining what constituted an unfair method of competition. Federal Trade Commission v. Beech Nut Packing Co., 257 U.S. 441, 42 S. Ct. 150, 66 L. Ed. 307 (1922); Standard Oil Co. v. Federal Trade Commission, 282 F. 81, 86-87 (3 Cir. 1922) affirmed 261 U.S. 463, 43 S. Ct. 450, 67 L. Ed. 746 (1923).

Within this area of "unfair methods of competition", the FTC Act and the Clayton Act overlap. At the time of the enactment of the Clayton Act, it was believed that its specific prohibitions particularly Section 2 and Section 3 (15 U.S.C. §§ 13, 14 (1958)) would be covered by Section 5 of the FTC Act. However, Congress, by declaring these practices unlawful specifically in the Clayton Act, took away from the Commission its informed judgment respecting them.7 These "unfair methods of competition (later amended to include "unfair \* \* \* practices"), whether prohibited specifically under the Clayton Act, or generally under the FTC Act, were to be restrained according to a congressional design. While Section 5 of the FTC Act was to be enforced by the FTC, Section 11 of the Clayton Act provided a scheme of dual enforcement of Sections 2, 3, 7 and 8 of that act, by the FTC and the Justice Department; and while the underlying substantive violation of Section 5 (FTC Act) did not give rise to a private right of action (**the FTC Act was not an antitrust law** within the meaning of Clayton Section 4), a violation of Sections 2, 3, 7 and 8 **did**, no matter by which agency, if either of them, they were enforced. In short, the FTC Act bolstered the Clayton and Sherman Acts both by restraining evils, which **might** also constitute violations of those acts, and by reaching areas not covered by their proscriptions. These three acts are "interlaced" remedially as well as substantively evincing a Congressional desire for a "cumulative remedy" for the threats and dangers to trade and competition. See Federal Trade Commission v. Cement Institute, 333 U.S. 683, 694-695, 68 S. Ct. 793, 92 L. Ed. 1010 (1948); United States v. Borden Company, 347 U.S. 514, 518, 74 S. Ct. 703, 98 L. Ed. 903 (1954). 51 Cong.Rec. 16274-16275 (1914). The question here presented concerns in part the "cumulative remedy" Congress provided for the violation of Section 7 of the Clayton Act. In the case at bar, both the FTC (under Section 11) and N. J. Wood (under Section 4) had brought actions based on the violation of Section 7. N. J. Wood claims that, by virtue of the FTC proceeding, it is entitled to the benefits of Section 5 of the Clayton Act. Section 5 is auxiliary to Section 4 and provides for the tolling of the statute of limitations in favor of potential private suitors during the pendency of certain government antitrust suits. 3M, however, contends that the FTC proceeding is not a proceeding instituted by the United States within the meaning of Section 5.

### FTC PIC

#### The Department of Justice should expand the scope of its core antitrust laws by increasing prohibitions on investors that hold shares of more than a single effective firm in an oligopoly owning more than 1% of market share unless it is a free-standing index fund that commits to being purely passive.

#### Zero ftc key arg and their advocate spec’s both

**CP – Climate Pic**

**The USFG should ban expanding the scope of antitrust law when collusion is for environmental benefits or sustainability.**

**The USFG should expand the scope of its core antitrust laws by increasing prohibitions on investors that hold shares of more than a single effective firm in an oligopoly owning more than 1% of market share unless it is a free-standing index fund that commits to being purely passive in other instances where the exemptions doesn’t apply.**

**Creating an exemption for collusion solves warming**

**Koga 20** Dailey C. Koga J.D. Candidate, University of Washington School of Law, Class of 2021. “Teamwork or Collusion? Changing Antitrust Law to Permit Corporate Action on Climate Change,” 95 *Wash. L. Rev*. 1989 (2020). Available at: <https://digitalcommons.law.uw.edu/wlr/vol95/iss4/8> {DK}

Congress has the ability to codify exemptions to antitrust laws and has done so numerous times in the past.297 **Congress should pass an exemption to antitrust law for sustainability agreements using the Dutch Guidelines as a model**. This would allow companies to enter into agreements addressing climate change without fear of antitrust litigation. While this type of exemption may increase the risk of cartel behavior, keeping the exemption narrowly tailored and requiring quantitative evidence of sustainability benefits can mitigate those anticompetitive concerns. In the meantime, litigants should frame sustainability agreements in economic terms to survive antitrust scrutiny and can use past precedent as a model to do so. A. Congress Should Pass a Sustainability Exemption Congress should adopt an antitrust exemption for sustainability agreements similar to that proposed in the Netherlands.298 For agreements that have anticompetitive effects, Congress can require companies to meet the four main requirements suggested by the Dutch: (1) the agreement must have sustainability benefits, (2) the ultimate consumer must receive “a fair share of those benefits,” (3) the restraint on competition must not be greater than necessary to achieve those benefits, and (4) the agreement must not eliminate “a substantial part of the products/services in question.”299 While the broad proposal from the Netherlands represents the most ideal solution, Congress could change the exemption in two ways that would be more consistent with current precedent and also limit the risk of cartel behavior. First, the exception could require companies to always have quantitative data showing a certain threshold of environmental benefits, regardless of market share. Requiring quantitative data that shows benefits to a certain threshold could reduce arbitrary results. It could also help to partially ensure that the agreement is not a cover for a cartel in that the environmental impacts would have to be real, not just suggested or purported. Second, Congress could limit the sustainability benefits analysis to the industry in question. This type of limitation may severely limit the types of agreements companies are permitted to enter into because the agreements would have to have an impact on the specific industry. But it would be closer in line with Supreme Court precedent disallowing procompetitive justifications outside of the industry in question.300 Take the automakers’ agreement as an example of how this kind of analysis could work. Imagine that the four car manufacturers had agreed amongst themselves to increase emissions standards rather than each independently conferring with California. Under current antitrust law, it is unlikely that this agreement would be illegal per se because it does not explicitly fix prices or reduce quantity. But under a rule of reason or quick look analysis, the agreement would almost certainly fail. Courts would first examine whether the automakers have market power and whether the agreement has anticompetitive effects. The four automakers at issue here likely have market power,301 and it would be fairly simple for the government to argue that the agreement would have anticompetitive effects—the agreement could increase the price of automobiles and reduce the number of options on the market. Assuming the court found anticompetitive effects, the automakers would then have the opportunity to put forth procompetitive justifications. Under current antitrust law, it is hard to imagine what those procompetitive justifications could be. Increased innovation may represent the most effective argument, but because the automakers would not actually add a new type of product to the market, that argument would likely be unsuccessful. In contrast, if Congress granted an exemption similar to the Dutch guidelines, such an agreement could survive antitrust scrutiny if it met the four requirements. First, the companies would have to show, quantitatively, that the agreement would result in lower CO2 emissions. Given the evidence of vehicles’ sizeable contribution to CO2 emissions,302 that data likely exists. Second, the automakers would have to show that their consumers would equitably share in the benefits. Consumers would certainly stand to benefit from this agreement. Not only could reduced auto emissions improve air quality and help slow climate change,303 but car consumers could save money on gas.304 Third, as in current rule of reason analysis, the companies would have to show that the agreement was no more restrictive than necessary to achieve the benefits in question. This may be a fact-specific inquiry, but with some further guidance, companies could narrowly tailor their agreements to satisfy the third factor. The fourth factor—whether a substantial number of products would be eliminated—would likely be the most difficult for the automakers to meet. Analyzing this factor may depend on the specific terms of the agreement. But, again, companies may be able to craft agreements to satisfy this factor. For example, if the concern was that increasing auto emissions standards would eliminate nearly all pickup trucks from the market, the agreement could be crafted with different emission standards for sedans, SUVs, vans, and pickup trucks. Having guidelines like those proposed in the Netherlands would allow companies to craft their agreements to meet the four required factors while still allowing them to work together to address climate change. The most complicated part of implementing this exemption would be the way in which courts could weigh “public interest” factors with economic ones. The benefit of the Dutch model is that it builds in less arbitrary standards than those in the South African and Australian models because of its focus on quantitative data. In fact, the Dutch model fits quite well within the rule of reason analysis currently used by American courts because it could function as a burden-shifting analysis just like the rule of reason. To further address the arbitrariness problem, the exemption could require the sustainability benefits to meet a certain threshold, such as reducing carbon emissions by a certain percentage. In contrast, a simple public interest test would force judges to weigh sustainability against one of the main purposes of antitrust law—preventing unfair competition. Using the Dutch model avoids some of the arbitrariness inherent in the public interest test analysis. Not only could this exemption fit cleanly into current antitrust law, but it also could be crafted to comply with the American Bar Association’s guidelines for creating antitrust exemptions.305 First, Congress could effectively consider the potential impact of the exemption on consumer welfare given the wealth of information on the effects of carbon emissions.306 Second, by including the two alterations mentioned above, Congress could craft a narrow exemption to provide that “competition is reduced only to the minimum extent necessary.”307 Third, the goals of the exemption—curbing climate change—almost certainly outweigh the goals of antitrust law because climate change amounts to an existential crisis that will annihilate the planet if left unaddressed. And finally, Congress could easily include a sunset provision in the exemption. Although addressing climate change is vital to the future of the world as we know it, some will likely argue that antitrust law is not the appropriate avenue for tackling the problem. While companies could plausibly make substantial progress in the climate crisis if allowed to enter into agreements such as the one entered into by the automakers in California, permitting agreements among competitors comes with a risk of increased cartel behavior.308 But if we fail to curb climate change, industry will cease to exist altogether, along with the rest of our planet. It could also be politically challenging for Congress to pass such an exemption. However, a bill aimed at protecting climate change agreements from the reaches of antitrust law may be more plausible than an omnibus climate change initiative. The bill would not involve spending money or additional restrictions on businesses, which could make it easier to pass than other climate change laws. Thus, even if antitrust law was not originally intended to encompass moral or social considerations, the dire need for action on carbon emissions, and the greater feasibility of an antitrust exemption, indicate that antitrust law may, in fact, be a fitting avenue for combatting climate change.

**Warming is existential — causes humanitarian crises, geopolitical conflict, ecosystem collapse, and disease.**

**Melton 19** — Michelle Melton, former fellow in the Energy and National Security Program focusing on climate change at the Center for Strategic and International Studies, journalist at the Environmental Law Institute, J.D. from Harvard University, 2019 (“Climate Change and National Security, Part II: How Big a Threat is the Climate?,” *Lawfare,* January 7th, Available Online at <https://www.lawfareblog.com/climate-change-and-national-security-part-ii-how-big-threat-climate>, Accessed 06-18-2020)

At least until 2050, and possibly for decades after, climate change will remain a **creeping threat** that will exacerbate and amplify existing, structural global inequalities. While the developed world will be negatively affected by climate change through 2050, the consequences of climate change will be felt most acutely in the developing world. The national security threats posed by climate change to 2050 are likely to differ in degree, not kind, from the kinds of threats already posed by climate change. For the next few decades, climate change will exacerbate **humanitarian crises**—some of which will result in the deployment of military personnel, as well as material and financial assistance. It will also aggravate natural resource constraints, potentially contributing to **political and economic conflict** over water, food and energy.

The question for the next 30 years is not “can humanity survive as a species with 1.5°C or 2°C of warming,” but, “how much will the existing disparities between the developed and developing world widen, and how long (and how successfully) can these widening political/economic disparities be sustained?” The urgency of the climate threat in the next few decades will depend, to a large degree, on whether and how much the U.S. government perceives a widening of these global inequities as a threat to U.S. national security.

By contrast, if emissions continue to creep upward (or if they do not decline rapidly), by 2100 climate-related national security threats could be **existential**. The question for the next hundred years is not, “are disparities politically and economically manageable?” but, “can the global order, premised on the nation-state system, itself based on territorial sovereignty, survive in a world in which substantial swathes of territory are potentially uninhabitable?”

National Security Consequences of Climate Change to 2050 Scientists can predict the consequences of climate change to 2050 with some measure of certainty. (Beyond that date, the pace and magnitude of climate change—and therefore, the national security threat posed by it—depend heavily on the level of emissions in the coming years, as I have explained.) There is relative agreement across modeled climate scenarios that the world will likely warm, on average, at least 1.5°C above pre-industrial levels by about 2050—but perhaps as soon as 2030. This level of warming is likely to occur even if the world succeeds in dramatically reducing greenhouse gas emissions, as even the recent Intergovernmental Panel on Climate Change (IPCC) report implicitly admits. In other words, a certain amount of additional warming—at least 1.5°C, and probably more than that—is presumptively unavoidable.

Looking ahead to 2050, it can be said with relative confidence that the national security consequences of climate change will vary in degree, not in kind, from the national security threats already facing the United States. This is hardly good news. **Even small differences** in global average temperatures result in significant environmental changes, with attendant social, economic and political consequences. By 2050, climate change will wreak increasing havoc on human and natural systems—predominantly, but not exclusively, in the developing world—with attenuated but profound consequences for national security.

In particular, changes in temperature, the hydrological cycle and the ranges of insects will impact food availability and food access in much of the world, increasing **food insecurity**. Storms, flooding, changes in ocean pH and other climate-linked changes will damage infrastructure and negatively impact labor productivity and economic growth in much of the world. **Vector-borne diseases** will also become more prevalent, as climate change will expand the geographic range and intensity of transmission of diseases like malaria, West Nile, Zika and dengue fever, and cholera. Rising public health challenges, economic devastation and food insecurity will translate into an increased demand for humanitarian assistance provided by the military, increased migration—especially from tropical and subtropical regions—and **geopolitical conflict**.

Long-term trends such as declining food security, coupled with short-term events like hurricanes, could sustain unprecedented levels of migration. The 2015 refugee crisis in Europe portends the kinds of population movements that will only accelerate in the coming decades: people from Africa, Southwest and South Asia and elsewhere crossing land and water to reach Europe. For the United States, this likely means greater numbers of people seeking entry from both Central America and the Caribbean. Such influxes are not unprecedented, but they are unlikely to abate and could increase in volume over the next few decades, driven in part by climate change-related food insecurity, climate change-related storms and also by economic and political instability. Food insecurity, economic losses and loss of human life are also likely to **exacerbate existing political tensions** in the developing world, especially in regions with poor governance and/or where the climate is particularly vulnerable to warming (e.g., the Mediterranean basin). While the Arab Spring had many underlying causes, it also coincided with a period of high food prices, which arguably contributed to the protests. In some situations, food insecurity, economic losses and public health crises, combined with weak and ineffectual governance, could precipitate future conflicts of this kind—although it will be difficult to know where and when without more precise local studies of both underlying political dynamics and the regionally-specific impacts of climate change.

2100 and Beyond While the national security impacts of climate change to 2050 are likely to be costly and disruptive for the U.S. military—and devastating for many people around the world—at some point after 2050, if warming continues at its current pace, changes to the climate could fundamentally reshape geopolitics and possibly even the current nation-state basis of the current global order.

To be clear, both the ultimate level of warming and its attendant political consequences is highly speculative, for the reasons I explained in my last post. Nonetheless, we do know that the planet is currently on track for at least 3-4°C of warming by 2100. The “known knowns” of higher levels of warming—say, 3°C—are frightening. At that 3°C of warming, for example, scientists project that there will be a nearly 70 percent decline in wheat production in Central America and the Caribbean, 75 percent of the land area in the Middle East and more than 50 percent in South Asia will be affected by highly unusual heat, and sea level rise could displace and imperil the lives hundreds of millions of people, among other consequences.

But even higher levels of warming are physically possible within this century. At these levels of warming, some regions of the world would be literally uninhabitable, likely resulting in the depopulation of the tropics, to say nothing of the consequences of sea-level rise for economically important cities such as Amsterdam and New York. Even if newly warmed regions of the far north could theoretically accommodate the resulting migrants, this presumes that the political response to this unprecedented global displacement would be orderly and conflict-free borders on fantasy.

The geopolitical consequences of significant levels of warming are severe, but if these changes occur in a linear way, **at least there will be time for human systems to adjust.** Perhaps more challenging for national security is the possibility that the until-now linear changes give way to abrupt and irreversible ones. Scientists forecast that, at higher levels of warming—precisely what level is speculative—humanity could trigger **catastrophic**, abrupt and unavoidable consequences to the ecosystem. The IPCC has considered nine such abrupt changes; one example is the potential shutting down of the Indian summer monsoon. Over a billion people are dependent upon the Indian monsoon, which provides parts of South Asia with about 80 percent of its annual rainfall; relatively minor changes in the monsoon in either direction can cause disasters. In 2010, a wetter monsoon led to the catastrophic flooding in Pakistan, which directly affected 20 million people; a drier monsoon in 2002 led to devastating drought. Studies suggest that the Indian summer monsoon has two stable states: wet (i.e., the current state) and dry (characterized by low precipitation over the subcontinent). At some point, if warming continues, the monsoon could abruptly shift into the second, “dry” state, with catastrophic consequences for over a billion people dependent on monsoon-fed agriculture. The IPCC suggests that such a state-shift is “unlikely”—that is, there is a 10 to 33 percent chance that a state-shift will happen in the 21st century—but scientists also have relatively low confidence in their understanding of the underlying mechanisms in this and other large-scale natural systems.

The consequences of abrupt, severe warming for national security are obvious in general, if unclear in the specifics. In 2003, the Defense Department asked a contractor to explore such a scenario. The resulting report outlined the offensive and defensive national security strategies countries may adopt if faced with abrupt climate change, and highlighted the increased risk of inter- and intra-state conflict over natural resources and immigration. Although the report may be off in its imagined timeframe (positing abrupt climate change by 2020), the world it conjures is improbable but not outlandish. If the Indian monsoon were to switch to dry state, and a billion people were suddenly without reliable food sources, for example, it is not clear how the Indian government would react, assuming it would survive in its current form. **Major wars or low-intensity proxy conflicts seem likely, if not inevitable**, in such a scenario.

## Common Ownership Adv

1. **The plan gets circumvented**
2. **Courts**

**Crane 21** – Frederick Paul Furth Sr. Professor of Law at UMich (Daniel, Antitrust Antitextualism, 96 Notre Dame L. Rev. 1205 (2021). Available at: <https://scholarship.law.nd.edu/ndlr/vol96/iss3/7>

But it gets worse. The courts have not merely abandoned statutory textualism or other modes of faithful interpretation out of a commitment to a dynamic common-law process. Rather, they have departed from text and original meaning in one consistent direction—toward reading down the antitrust statutes in favor of big business. As detailed in this Article, this unilateral process began almost immediately upon the promulgation of the Sherman Act and continues to this day. In brief: within their first decade of antitrust jurisprudence, the courts read an atextual rule of reason into section 1 of the Sherman Act to transform an absolute prohibition on agreements restraining trade into a flexible standard often invoked to bless large business combinations; after Congress passed two reform statutes in 1914, the courts incrementally read much of the textual distinctiveness out of the statutes to lessen their anticorporate bite; the courts have read the 1936 Robinson-Patman Act almost out of existence; and the Celler-Kefauver Amendments of 1950, faithfully followed in the years immediately after their promulgation, have been watered down to textually unrecognizable levels by judicial interpretation and agency practice. It is no exaggeration to say that not one of the principal substantive antitrust statutes has been consistently interpreted by the courts in a way faithful to its text or legislative intent, and that the arc of antitrust antitexualism has bent always in favor of capital. Unlike in many debates over statutory interpretation, the issue in antitrust is not a contest between strict textualism and purposivism, including resort to legislative history.6 This Article uses “antitextualism” as a shorthand for the phenomenon of ignoring any bona fide construction of what a statute means, whether in the plain meaning of its words, linguistic or substantive interpretive canons, legislative history, or other ordinary markers of legislative meaning. Uninterested in these methods, the courts have treated the antitrust laws as a virtually unbounded delegation of common-law powers when, in important ways, the statutes quite clearly say something other than that. Inquiring into the nature and implications of antitrust antitextualism is particularly salient at the present when, for the first time in a generation, there is widespread dissatisfaction with antitrust enforcement and impetus for potential reform legislation.7 As was true at each of the prior moments of reformist sentiment, the call is for statutory reforms to curb the power of big business.8 We have seen this play before, and also its sequel. In the play, Congress announces that the antitrust laws are too weak and that reforms are necessary to protect the nation from the power of big capital. In the sequel, the courts (often abetted by the antitrust agencies and other antitrust elites) read down the statutes to accomplish less than their texts suggest or Congress meant. Will anything be different this time around, or are the legislative reforms currently on the table predestined to a similar fate?

1. **Multiple standards creates confusion --- Rolls back the aff**

**LOPEZ-GALDOS 17** --- MARIANELA LOPEZ-GALDOS, Global Competition Counsel at the Computer & Communications Industry Association (CCIA), where she represents and advises the association on competition policy issues as well as domestic and international regulatory policy matters, “Antitrust in 60 Seconds: Is the Consumer Welfare Standard Appropriate?”, NOVEMBER 17, 2017, https://www.project-disco.org/competition/111717-antitrust-in-60-seconds-is-the-consumer-welfare-standard-appropriate/

In 2003 the OECD recognized that the inclusion of conflicting objectives, including **public interest considerations beyond consumer welfare**, would **undermine the public good**. It stated that rooting antitrust in **multiple competing policy rationales**:

“**increases the risks of conflicts and inconsistent application of competition policy.** The interests of different stakeholders may **severely constrain the independence of competition policy** authorities, lead to political intervention and in a relatively minor way, compromise and, adversely affect one of the major benefits of the competitive process namely, economic efficiency.”

In the United States, the increasing uncertainty created by antitrust enforcement actions and decisions **empower**ed the voices in favor oflimiting and eventually **eliminating** the political dimension to **the enforcement of antitrust norms.** In fact, some argue that the exclusion of political factors from antitrust enforcement **restored intellectual coherence to the** antitrust **framework**.

#### They don’t spec court or Congress – moots innovation – confusion

#### Growth causes war – decline won’t

Boehmer 10 (Charles R., Associate Professor of Political Science at the University of Texas El Paso, “Economic Growth and violent international conflict: 1875-1999,” Defence and Peace Economics, Volume 21, Issue 3, June)

The theory set forth earlier theorizes that economic growth increases perceptions of state strength, increasing the likelihood of violent interstate conflicts. Economic growth appears to increase the resolve of leaders to stand against challenges and the willingness to escalate disputes. A non-random pattern exists where higher rates of GDP growth over multiple years are positively and significantly related to the most severe international conflicts, whereas this is not true for overall conflict initiations. Moreover, growth of military expenditures, as a measure of the war chest proposition, does not offer any explanation for violent interstate conflicts. This is not to say that growth of military expenditures never has any effect on the occurrence of war, although such a link is not generally true in the aggregate using a large sample of states. In comparison, higher rates of economic growth are significantly related to violent interstate conflicts in the aggregate. States with growing economies are more apt to reciprocate military challenges by other states and become involved in violent interstate conflicts. The results also show that theories from the Crisis-Scarcity perspective lack explanatory power linking GDP growth rates to war at the state level of analysis. This is not to say that such theories completely lack explanatory power in general, but more particularly that they cannot directly link economic growth rates to state behavior in violent interstate conflicts. In contrast, theories of diversionary conflict may well hold some explanatory power, although not regarding GDP growth in a general test of states from all regions of the world across time. Perhaps diversionary theory better explains state behaviors short of war, where the costs of externalizing domestic tensions do not become too costly, or in relation to the foreign policies of particular countries. In many circumstances, engaging in a war to divert attention away from domestic conditions would seemingly exacerbate domestic crisis conditions unless the chances of victory were practically assured. Nonetheless, this study does show that domestic conflict is associated with interstate conflict. If diversionary conflict theory has any traction as an economic explanation of violent interstate conflicts, it may require the study of other explanatory variables besides overall GDP growth rates, such as unemployment or inflation rates. The contribution of this article has been to examine propositions about economic growth in a global study. Most existing studies on this topic focus on only the United States, samples of countries that are more developed on average (due to data availability in the past), or are based on historical information and not economic GDP data. While I have shown that there is no strong evidence linking military expenditures to violent interstate conflicts at the state level of analysis, much of the remaining Growth-as-Catalyst perspective is grounded in propositions that are not directly germane to questions about state conflict behavior, such as those linking state behavior to long-cycles, or those that remain at the systemic level. What answer remains linking economic growth to war once we eliminate military expenditures as an explanation? Considering that the concept of foreign policy mood is difficult to identify and measure, and that the bulk of the literature relies solely on the American historical experience, I do not rely on that concept. It is still possible that such moods affect some decision-makers. Instead, similar to Blainey, I find that economic growth, when sustained over a stretch of years, has its strongest effect on states once they find themselves in an international crisis. The results of this study suggest that states such as China, which have a higher level of opportunity to become involved in violent interstate conflicts due to their capabilities, geographic location, history of conflict, and so on, should also have a higher willingness to fight after enjoying multiple years of recent economic growth. One does not have to assume that an aggressive China will emerge from growth. If conflicts do present themselves, then China may be more likely to escalate a war given its recent national performance.

**Nuclear deterrence halts escalation – it’s a global safety net, even worst-case examples prove**

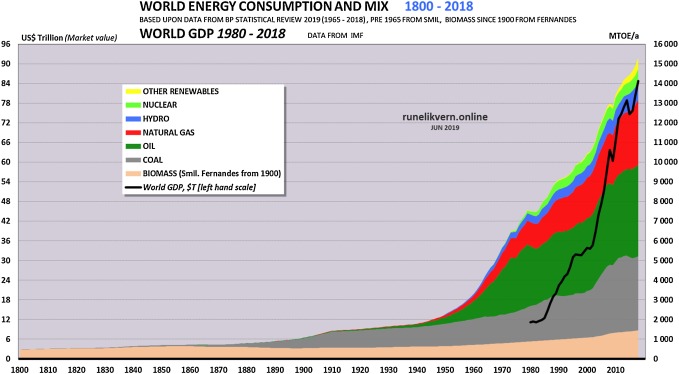
**Tertrais 14** (Bruno, Senior Research Fellow, Fondation pour la Recherche Stratégique, Paris, France, and a Contributing Editor of Survival, “The Four Straw Men of the Apocalypse,” Survival vol. 55 no. 6, January)//cmr

Deterrence, regional crises and the ‘long peace’ Do nuclear weapons bring stability? Do they contribute to peace? Does nuclear deterrence even work in a crisis? To these decades-old questions, Wilson answers a resounding ‘no’: nuclear deterrence has failed many times, and it has not preserved peace. But his arguments are weak, and based again on a debatable interpretation of history, as well as on an unjustified conception of nuclear deterrence. According to Wilson, the blockade of Cuba during the 1962 missile crisis was a failure of nuclear deterrence. But why would that be the case? The Soviet Union never claimed that it would launch nuclear missiles on the US homeland if access to Cuba was blocked. In fact, the crisis could be seen as an early success for extended nuclear deterrence precisely because Washington chose not to invade the island (although there was no appetite for doing so after the Bay of Pigs). The Chinese entry into the Korean War is, allegedly, another failure of nuclear deterrence. Here, again, Wilson uses a questionable interpretation of what such deterrence concerns: there is no evidence that the US had made a clear nuclear threat to Beijing beforehand. Another example is the Yom Kippur War: Egypt and Syria attacked a pre - sumably nuclear-armed country. But Cairo and Damascus did not threaten Israel within its 1948 ‘sanctuary’. Furthermore, there is evidence that this restraint was at least partly due to Israel’s nuclear capabilities; the 1973 war might also be an example of successful nuclear deterrence. 12 The final example is the First Gulf War (1990–91). A letter written by President H.W. Bush had warned Iraq of terrible consequences if chemical or biological weapons were used, Kuwaiti oil fields were destroyed or ter - rorist attacks against coalition members were ordered. Wilson’s claim is that nuclear deterrence failed because the latter two ‘red lines’ were crossed by Iraq. But the Bush letter – which Iraqi Foreign Minister Tariq Aziz refused to take – was accompanied by a verbal warning from US Secretary of State James Baker, which only concerned the use of weapons of mass destruction and hinted at the possibility of a nuclear response. This warning was ampli - fied by public threats made by other members of the US administration. Iraqi officials stated that they did fear a US nuclear response. 13 Archives have confirmed that the possibility of US nuclear use during the war was seen as very real among the Iraqi leadership. 14 Also, Wilson chooses to inter- pret the Scud strikes against Israel as ‘terrorist actions’, a debatable choice (especially since Israel was not a coalition member). Some have seen the Scud attacks against Israel as a failure of Israeli nuclear deterrence. But those mostly symbolic strikes did not threaten Israel’s vital interests. What is notable is that chemical weapons were not used against Israel by Egypt in 1973 or by Iraq in 1991, whereas they had been used by Cairo in the North Yemen Civil War and by Baghdad against Iran. Again, there is no certainty here, but are we to believe that the shadow of Israel’s nuclear weapons had absolutely nothing to do with these changes in Egyptian or Iraqi strategy? In the late 1980s and in the run-up to the First Gulf War, there were veiled Israeli warnings that the use of chemical weapons could elicit a nuclear response. 15 This biased view of history is common among critics of nuclear deter - rence. In a 2013 Survival article, James Doyle argued that such arms did not deter Argentina from attacking the Falklands in 1982, NATO from using force in Kosovo in 1999 or Russia from invading Georgia in 2008. 16 This is true but irrelevant: none of these territories were covered by nuclear deter - rence. It is like complaining that your earthquake insurance does not cover flooding. There is a ‘franchise’ in the nuclear-deterrence business: it oper - ates only for the gravest damages. In fact, the historical record could be read as follows: **there has never been a fully fledged military conflict between two nuclear-armed states**; **no invasion** of the homeland **of a nuclear-armed country has ever taken place**; **no country covered by a nuclear guarantee has ever been the target of major military aggression**; and **no nuclear**-armed **country has ever been the victim of a chemical attack**. 17 An additional problem is that Wilson is unaware of – or chooses not to use – some convincing quantitative analyses. Two recent studies have shown that the possession of nuclear weapons by two countries **significantly reduces the likelihood** of war between them. 18 So, the author’s statement that ‘the conviction that nuclear deterrence makes crises more stable is not based on facts’ is an exaggeration (p. 66). Wilson does, however, raise a relevant question: does nuclear deterrence have to be ‘perfect’? If it were indeed to fail demonstrably and seriously – especially if nuclear weapons were used – what would happen then? This would probably depend on the perceived outcome. The fourth myth that the author seeks to debunk is that **deterrence has preserved major-power peace since 1945**. This is a classic discussion and Wilson offers few new arguments. He claims that there are alternative explanations: war fatigue, distraction (in regional conflicts), economic inte - gration, alliances and international institutions. These arguments are not without merit, but do not suffice by themselves. 19 Economic interdepend- ence existed in the early 1910s, and international institutions existed in the late 1930s. Major powers’ involvement in indirect conflicts, economic integration in Europe, the solidification of NATO and the Warsaw Pact hap - pened in no small part because of the possession of nuclear weapons by the US and the Soviet Union. Wilson claims that there have been other examples of ‘long peaces’, but there is no precedent in the last four centuries for a period free of great-power wars for nearly 70 years. There were two-dozen conflicts among major powers in the equivalent amount of time following the treaties of Westphalia (1648), and several such wars in the wake of the Vienna Congress (1815). As an analyst discussing Wilson’s thesis reminds us, ‘it is always difficult (if not impossible) to prove the effectiveness of preventive measures’. 20 But the fact that weapons which have an unparalleled cost–destruction ratio have not been used for nearly seven decades is surely an argument in favour of their deterrence value. And there is also positive evidence. Cold-War states- men have testified that nuclear weapons did make them more cautious. 21 As Lawrence Freedman puts it, ‘to one who has spent some time researching the views of policymakers during the most tense moments of the Cold War, the suggestion that the fear of nuclear war was of scant importance in inducing caution and designing policies is preposterous.’ 22 Wilson is on surer ground when discussing his fifth and final myth; namely, the claim that ‘nuclear weapons cannot be de-invented’. He is right to state that a technological invention that stops being useful ‘slides into oblivion without even the slightest push from us’ (p. 107). He could even have made his point stronger: the know-how for making modern, reliable and safe nuclear weapons cannot be reduced to a set of written instructions, and might very well disappear after a few decades if there was a global interdiction of such weapons. Wilson is right on another point. Any reasonable person can only agree with him that nuclear weapons are ‘an anomaly’ (p. 3). To consider it a normal feature of international relations that peace among major coun - tries depends on the threat of unleashing these terrible weapons would be morally wrong. **Nuclear deterrence should be seen as** a temporary measure, a sort of **insurance against the failure of** the **liberal peace** project. **War is on the wane** and mankind is becoming less violent. 23 If these trends continue, at some point during the course of this century, both realists and idealists will rejoin in relegating nuclear weapons to the museum.

#### Unfettered growth is categorically unsustainable

NATE Hagens 20 (Nate Hagens, on the Boards of Post Carbon Institute, Bottleneck Foundation, IIER and Institute for the Study of Energy and the Future, “Economics for the future – Beyond the superorganism,” Ecological Economics, Volume 169, March 2020, 106520, <https://doi.org/10.1016/j.ecolecon.2019.106520)//NRG>

1. Overview

Despite decades of warnings, agreements, and activism, human energy consumption, emissions, and atmospheric CO2 concentrations all hit new records in 2018 (Quéré et al., 2018). If the global economy continues to grow at about 3.0% per year, we will consume as much energy and materials in the next ∼30 years as we did cumulatively in the past 10,000. Is such a scenario inevitable? Is such a scenario possible? Simultaneously, we get daily reminders the global economy isn’t working as it used to (Stokes, 2017) such as rising wealth and income inequality, heavy reliance on debt and government guarantees, populist political movements, increasing apathy, tension and violence, and ecological decay. To avoid facing the consequences of our biophysical reality, we’re now obtaining growth in increasingly unsustainable ways. The developed world is using finance to enable the extraction of things we couldn’t otherwise afford to extract to produce things we otherwise couldn’t afford to consume. With this backdrop, what sort of future economic systems are now feasible? What choreography would allow them to come about? In the fullness of the Anthropocene, what does a hard look at the relationships between ecosystems and economic systems in the broadest sense suggest about our collective future? Ecological economics was ahead of its time in recognizing the fundamental importance of nature’s services and the biophysical underpinnings of human economies. Can it now assemble a blueprint for a ‘reconstruction’ to guide a way forward? Before articulating prescriptions, we first need a comprehensive diagnosis of the patient. In 2019, we are beyond a piecemeal listing of what’s wrong. A coherent description of the global economy requires a systems view: describing the parts, the processes, how the parts and processes interact, and what these interactions imply about future possibilities. This paper provides a brief overview of the relationships between human behavior, the economy and Earth’s environment. It articulates how a social species self-organizing around surplus has metabolically morphed into a single, mindless, energy-hungry “Superorganism.” Lastly, it provides an assessment of our constraints and opportunities, and suggests how a more sapient economic system might develop. 2. Introduction For most of the past 300,000 years, humans lived in sustainable, egalitarian, roaming bands where climate instability and low CO2 levels made success in agriculture unlikely (Richerson et al., 2001). Around 11,000 years ago the climate began to warm, eventually plateauing at warmer levels than the previous 100,000 years (Fig. 1). This stability allowed agriculture to develop in at least seven separate locations around the world. For the first time, groups of humans began to organize around physical surplus - production exceeding the group’s immediate caloric needs. Since some of the population no longer had to devote their time to hunting and gathering, this surplus allowed the development of new jobs, hierarchies, and complexity (Gowdy and Krall, 2013). This novel dynamic led to widespread agriculture and large-scale state societies over the next few thousand years (Gowdy and Krall, 2014). In the 19th century, this process was accelerated by the large-scale discovery of fossil carbon and the invention of technologies to use it as fuel. Fossil carbon provided humans with an extremely dense (but finite) source of energy extractable at a rate of their choosing, unlike the highly diffuse and fixed flow of sunlight of prior eras. This energy bounty enabled the 20th century to be a unique period in human history: 1) more (and cheaper) resources led to sharp productivity increases and unprecedented economic growth, 2) a debt based financial system cut free from physical tethers allowed expansive credit and related consumption to accelerate, 3) all of which fueled resource surpluses enabling diverse and richer societies. The 21st century is diverging from that trajectory: 1) energy and resources are again becoming constraining factors on economic and societal development, 2) physical expansion predicated on credit is becoming riskier and will eventually reach a limit, 3) societies are becoming polarized and losing trust in governments, media, and science and, 4) ecosystems are being degraded as they absorb large quantities of energy and material waste from human systems. Where do we go from here? 3. Human behavior Humans are unique, but in the same ways tree frogs or hippos are unique. We are still mammals, specifically primates. Our physical characteristics (sclera in eyes, small mouth, lack of canines etc.) are the products of our formative social past in small bands (Bullet et al., 2011; Kobayashi and Kohshima, 2008). However, our brains and behaviors too are products of what worked in our past. We don’t consciously go through life maximizing biological fitness, but instead act as ‘adaptation executors’ seeking to replicate the daily emotional states of our successful ancestors (Barkow et al., 1992). Humans have an impressive ability to process information, cooperate, and discover things, which is what brought us to the state of organization and wealth we experience today. But our stone-age minds are responding to modern technology, resource abundance and large, fluid, social groups in emergent ways. These behaviors - summarized below - underpin many of our current planetary and cultural predicaments (Whybrow, 2013). 3.1. Status and relative comparison Humans are a social species. Each of us is in competition for status and resources. As biological organisms we care about relative status. Historically, status was linked to providing resources for the clan, leadership, respect, storytelling, ethics, sharing, and community (Gowdy, 1998; von Rueden and Jaeggi, 2016). But in the modern culture we compete for status with resource intensive goods (cars, homes, vacations, gadgets), using money as an intermediary driver (Erk et al., 2002). Although most of the poorest 20% in advanced economies live materially richer lives than the middle class in the 1900′s, one’s income rank, as opposed to the absolute income, is what predicts life satisfaction (Boyce et al., 2010). For those who don’t ‘win’, a lack of perceived status leads to depression, drinking, stockpiling of guns and other adverse behaviors (Katikireddi et al., 2017; Mencken and Froese, 2019). Once basic needs are satisfied, we are primed to respond to the comparison of “better vs.worse” more than we do to “a little” vs. “a lot.” 3.2. Supernormal stimuli and addiction In our ancestral environment, the mesolimbic dopamine pathways were linked to motivation, action and (calorific) reward. Modern technology and abundance can hijack this same reward circuitry. The brain of a stock trader making a winning trade lights up in an fMRI the same way a chimpanzee’s (and presumably our distant ancestors’) does when finding a nut or berry. But when trading stocks, playing video games or building shopping centers, there is no instinctual ‘full’ signal in modern brains - so we become addicted to the ‘unexpected reward’ of the next encounter, episode, or email, at an ever increasing pace (Hagens, 2011; Schultz et al., 1997). Our brains require flows (feelings) that we satisfy today mostly using non-renewable stocks. In modern resource rich culture, the ‘wanting’ becomes a stronger emotion than the ‘having’. 3.3. Cognitive biases We didn’t evolve to have a veridical view of our world (Mark et al., 2010). We think in words and images disconnected from physical reality. This imagined reality commonly seems more real than science, logic and common sense. Beliefs that arise from this virtual interface become religion, nationalism, or quixotic goals such as terraforming Mars (Harari, 2018). For most of history, we maintained groups by sharing social myths like these. Failure to believe those myths led to ostracism and death. Beliefs usually precede the reasons we use to explain them, and thus are far more powerful than facts (Gazzaniga, 2012). Psychologists have identified hundreds of cognitive biases whereby common human behaviors depart from economic rationality. These include: motivated reasoning, groupthink, authority bias, bystander effect, etc. Rationality is from a newer part of our brain that is still dominated by the more primitive, intuitive, and emotional brain structures of the limbic system. Modern economics assumes the rational brain is in charge, but it’s not. Combined with our tribal, in-group nature, it’s understandable that fake news works, and that people resist uncomfortable notions involving limits to growth, energy descent, and climate change. Evolution selects for fitness, not truth (Hoffman, 2019). We typically only value truth if it rewards us in the short term. Rationality is the exception, not the rule. 3.4. Time bias (steep discount rates) For good evolutionary reasons (short life spans, risk of food expropriation, unstable environment, etc.) we disproportionately care about the present more than the future, measured by economists via a ‘discount rate’(Hagens and Kunz, 2010). The steeper the discount rate, the more the person is ‘addicted to the present.’ (Laibson et al., 2007). Drug users and drinkers, risk takers, people with low I.Q. scores, people who have heavy cognitive workloads, and men (vs. women) tend to more steeply discount events or issues in the future (Chabris et al., 2010). Unfortunately, most of our modern challenges are ‘in the future’. Recognition that the future exists and that we are part of it springs from a relatively new brain structure, the neocortex. It has no direct connection to deep-brain motivational centers that communicate urgency. When asked to plan a snack for next week between chocolate or fruit, people chose fruit 75% of the time. When choosing a snack for today, 70% select chocolate. When choosing a movie to watch next week 63% choose an educational documentary but when choosing a film for tonight 66% pick a comedy or sci-fi (Read et al., 1999). We have great intentions for the future, until the future becomes today. Our neocortex can imagine them, but we are emotionally blind to long-term issues like climate change or energy depletion. Emotionally, the future isn’t real. 3.5. Cooperation and group behavior Group behavior has shaped us as much as individual behavior (Wilson and Wilson, 2008). Humans are strongly ‘groupish’ (Haidt, 2013), and before agriculture were aggressively egalitarian (Pennisi, 2014; Boehm, 1993). Those historic tribes that could act as a cohesive unit facing a common threat outcompeted tribes without such social cohesion. Because of this, today we easily and quickly form ingroups and outgroups and behave favorably and antagonistically towards them respectively. We are also primed to cooperate with our in-group whether that is a small business, large corporation, or even a nation-state - to obtain monetary (or in earlier times, physical) surplus. Me over Us, Us over Them. 3.6. Cultural evolution, Ultrasociality and the Superorganism “What took place in the early 1500s was truly exceptional, something that had never happened before and never will again. Two cultural experiments, running in isolation for 15,000 years or more, at last came face to face. Amazingly, after all that time, each could recognize the other’s institutions. When Cortés landed in Mexico he found roads, canals, cities, palaces, schools, law courts, markets, irrigation works, kings, priests, temples, peasants, artisans, armies, astronomers, merchants, sports, theatre, art, music, and books. High civilization, differing in detail but alike in essentials, had evolved independently on both sides of the earth.” Ronald Wright, A Short History of Progress (2004, pp50-51) “Ultrasociality refers to the most social of animal organizations, with full time division of labor, specialists who gather no food but are fed by others, effective sharing of information about sources of food and danger, self-sacrificial effort in collective defense.” (Campbell, 1974; Gowdy and Krall, 2013). Humans are among a small handful of species that are extremely social. Phenotypically we are primates, but behaviorally we’re more akin to the social insects (Haidt, 2013). Our ultrasociality allows us to function at much larger scales than as individuals. At the largest scales, cultural evolution occurs far more rapidly than genetic evolution (Richerson and Boyd, 2005). Via the cultural evolution that began with agriculture, humans have evolved into a globally interconnected civilization, ‘outcompeting’ other human economic models along the way to becoming a defacto ‘superorganism’ (Hölldobler and Wilson, 2008). A superorganism can be defined as "a collection of agents which can act in concert to produce phenomena governed by the collective"(Kelly, 1994). Via cooperation (and coordination), fitness transfers from lower levels to higher levels of organization (Michod and Nedelcu, 2003). The needs of this higher-level entity (today for humans; the global economy) mold the behavior, organization and functions of lower-level entities (individual human behavior) (Kesebir, 2011). Human behavior is thus constrained and modified by ‘downward causation’ from the higher level of organization present in society (Campbell, 1974). All the ‘irrationalities’ previously outlined have kept our species flourishing for 300,000 years. What has changed is not ‘us’ but rather the economic organization of our societies in tandem with technology, scale and impact. Since the Neolithic, human society has organized around growth of surplus, initially measured physically e.g. grain, now measured by digital claims on physical surplus, (or money) (Gowdy and Krall, 2014). Positive human attributes like cooperation have been co-opted to become coordination towards surplus production. Increasingly, the “purpose” of a modern human in the ultrasocial global economy is to contribute to surplus for the market (e.g. the economic value of a human life based on discounted lifetime income, the marginal productivity theory of labor value, etc.) (Gowdy 2019, in press). 3.7. Human behavior – summary Our behavioral repertoire is wide, yet informed, and constrained by our neurological heritage and the higher level of organization exhibited by our economic system. We are born with heritable modules prepared to react to context in predictable ways. “Who we are” as a species is highly relevant to issues of ecological overshoot, sustainability and our related cultural responses. 4. Energy Ecological economics acknowledges that real economies are completely dependent on energy. However, orthodox economic theory remains blind to this reality. As a result, so do our institutions and our citizenry. The disconnect has massive implications for our future. This is so critical it deserves reiteration. 4.1. Energy in nature Energy is and always will be the currency of life. The effectiveness of energy capture is central to biological systems. Any movement, activity or event in nature requires energy. Organisms utilize foraging strategies that optimize energy intake vs. energy expenditure adjusted for time and risk (Krebs and Davies, 1997). In this way, biological organisms too, are investors. A larger energy surplus gives an organism a competitive advantage for growth, reproduction, defense, competition, maintenance and repair (Lotka, 1922). As such it is the ‘net energy’ after energy costs have been subtracted that is the enabler and driver of natural – and human – systems (Hall, 2016). 4.2. Energy and power Biological systems maximize power. Metabolism is the rate at which organisms acquire, transform, and expend energy and materials (Brown et al., 2004; Schröter, 2009). “Power” is energy accessed/utilized per unit-time. Organisms and ecosystems naturally structure themselves to maximize power via accessing energy gradients. An oak tree doesn’t grow one leaf (maximum efficiency) or e.g. 100 thousand leaves (maximum gross energy), but an intermediate amount of leaves placed to maximize the surface area of the tree to the sun for photosynthesis (Schneider and Kay, 1994). Systems which maximize useful power generally outcompete those which do not (Odum, 1995). 4.3. Energy benefits Major transitions in human societies over the past 10,000 years were linked to the benefits from different energy types and availability (Day et al., 2018). Industrialization changed the historic human relationship of energy capture from using the daily flows of nature to using technology fueled by large amounts of cheap fossil energy. One barrel of crude oil can perform about 1700 kW h of work. A human laborer can perform about 0.6 kW h in one workday (IIER, 2011). Simple arithmetic reveals it takes over 11 years of human labor to do the same work potential in a barrel of oil. Even if humans are 2.5x more efficient at converting energy to work, the energy in one barrel of oil substitutes approximately 4.5 years of physical human labor. This energy/labor relationship was the foundation of the industrial revolution. Most technological processes requires hundreds to thousands of calories of fossil energy to replace each human calorie previously used to do the same tasks manually. Consider milking a cow using three methods (see Fig. 2): manual (human labor energy only), semi-automated electric milking machines (1100 kW h per cow per year), and fully automated milking (3000 kW h per cow-year). The manual milker, working alone, requires 120 h of human labor per year per cow; semi-automated machines require 27 h of labor; and full automation, 12 h. We’ll estimate that the human milker generates economic value of $5 an hour working alone. Using electric milkers at $0.05 per kWh, output rises significantly and—because cheap electricity substitutes for so many human hours of labor—the revenue increases to $19 per hour with semi-automated milkers and to $25 per hour with the fully automated technologies. (Note: this large economic benefit could go to the owner of the dairy farm, the employees, or to consumers in the form of cheaper milk – or any combination) (Hagens, 2015). This same principle extrapolates to most modern industrial processes: we save human labor and time by adding large amounts of cheap fossil labor (Cleveland et al., 1984; IIER, 2011). Although modern industrial output is energy inefficient it is extremely cost efficient because fossil energy is much cheaper than human energy. This is the “fossil subsidy”, that makes modern profits, wages and standards of living considerably higher compared to previous civilizations based on diffuse renewable flows. The average human in 2015 produced 14 times more GDP than a person in 1800 – and the average American 49 times more (Lindgren, 2011)! Modern Americans -via their energy subsidy - now have the physical metabolism of 30+ ton primates (Brown and Group, 2013; Patzek, 2011). However, these windfalls come with a downside. Industrial profitability is vulnerable to energy price increases. As indicated in orange and grey bars in Fig. 2, a doubling or trebling of energy costs makes previously high-profit industries with large energy input requirements unprofitable (e.g. airlines, cement manufacture, aluminum smelting etc.). Additionally, the reduction in profits from energy price increases cannot be offset entirely by efficiency improvements because the business model itself was predicated on large amounts of cheap energy. These “reduced benefits” due to energy price increases are a worldwide phenomenon (EIA, 2013; Kingsley-Jones, 2013). 4.4. Energy scale In 2018, the global economy ran on a constant 17 trillion watts of energy - enough to power over 170 billion 100-watt light bulbs continuously. Over 80% of this energy, shown in Fig. 3, was the 110 billion barrels of oil equivalents of fossil hydrocarbons that power (and is embodied in) our machines, transportation and infrastructure. At 4.5 years per barrel, this equates to the labor equivalent of more than 500 billion human workers (compared to ∼4 billion actual human workers). The economic story of the 20th century was one of adding ancient solar productivity from underground to the agricultural productivity of the land. These fossil ‘armies’ are the foundation of the modern global economy and work tirelessly in thousands of industrial processes and transportation vectors. We didn’t pay for the creation of these armies of workers, only their liberation. Transitioning away from them, either via taxation or depletion, will necessarily mean less ‘benefits.’  4.5. Energy substitutability Modern economic theory considers all inputs fungible and substitutable. If the price of one input gets too high, the market will develop an alternative. However, energy does not cooperate with this theory because different sources of energy exhibit critical differences in quality, density, storability, surplus, transportability, environmental impact, and other factors. For instance, there are hundreds of medium and high heat industrial processes (for textiles, chemicals, cement, steel etc.) using fossil fuels that have no current (or even under development) alternative using low- carbon technology (Khanna et al., 2017). Energy can only be substituted by a similar form/quality energy. 4.6. Energy primacy Energy is so fundamental, that its availability sets the physical limits to our social scale. All life, commerce, work, or creation of order is enabled and limited by available net energy (Hall and Klitgaard, 2011). As GDP increases globally, energy needs to increase in lockstep. Until the 1970s, energy and GDP were nearly perfectly correlated; a 5% increase in GDP required a 5% rise in energy consumption (Cleveland et al., 1984). This was followed by a short-term energy/GDP decoupling due to efficiency advancements resulting from the oil & natural gas price shocks in the United States. This further led to a switching from oil use in power plants to nuclear and natural gas. By the mid-1980s debt and globalization were used to increase access to energy needed to keep GDP growing. Much fanfare is made about long term declines in energy intensity. For instance, from 1965 to 2012 the number of MegaJoules used per $ of global GDP declined from 11 to 8, ostensibly signifying a decoupling. However, averaged annually, over these years, the correlation between energy and GDP remained a tightly linked 99.4% (Energy & Stuff, 2019). But as a result of these trends, energy intensity improved faster than the historical rate during the last two decades of the 20th century. Heterodox theories linking productivity to energy (Gilliland, 1975) were cast aside in favor of other less limiting descriptions of human economic prosperity. From 2000–2012, the annual rate of relative decoupling dropped back down to 0.3% per year (Energy & Stuff, 2019). Since then, data is inconsistent due to many changes to GDP accounting methods, but the general principle remains: for additional economic activity, we need more energy. Today, energy is still treated as merely another input into our economic system – $10 of gasoline is considered to have the same contribution to human output as $10 of Pokemon cards. This is in spite of the fact that: a) energy is needed to create and transform all material inputs and b) energy can only be substituted by other energy. Mainstream economic theory attributes all economic productivity to labor and capital, and therefore assumes the economic importance of energy equals its cost share (Solow, 1994). However, biophysical analysis of all production inputs shows that the economic importance of energy is substantially larger than energy’s share in total factor cost, with the opposite being true for labor. This means that energy has a significantly greater role in our wealth and productivity than its nominal cost share signal. In the case of Japan and Germany over 60% of economic productivity is explained by energy input (Kümmel and Lindenberger, 2014). The relationship would be considerably stronger if tested at the global level (Ayres et al., 2013), because globalization allowed us to shift energy and resource use away from advanced economies (Bank of America Merrill Lynch, 2019). Alternative methods highlight that primary energy consumption is tied to accumulated global wealth via an energy constant of 9.7 ± 0.3 mW per 1990 US dollar (Garrett, 2012). Rather than being an insignificant factor in productivity energy is the major factor. Prior to the industrial age, all relevant economic theorists (including Adam Smith, David Ricardo and others) used land and land productivity to describe the human ecosystem (Warr, 2011). As the global economy expanded with increasing subsidy from fossil energy, land productivity and physical input constraints were considered unnecessary and eventually removed entirely from economic theory. By the time of the first energy crisis in the 1970s, macroeconomic descriptions had been reduced to labor and capital via the Cobb-Douglas function and Solow Residual, where they (mostly) remain today (Keen et al., 2019; Santos et al., 2018). We had created an infinite growth model on a finite planet. Economists view capital, labor and human creativity as primary and energy secondary or absent. The opposite is, in fact, true. We are energy blind.1 4.7. Energy and technology Most modern technological advances are not stand-alone but powered by either liquid fuel or electricity. Biophysically, there are two general types of technology. Type 1 technology finds ways to use energy more efficiently (power plant improvements, better vehicle fuel efficiency) or invents new energy sources (solar or geothermal). Type 2 technology consists of devices that replace manual human labor (chainsaws, cars) or new ways for humans to use energy (Facebook, Candycrush). Currently Type 2 dominates technology inventions and increases total global demand for energy (De Decker, 2018). Technology like the ‘cloud’ is not really “virtual”. Computers and cellphones (including servers and networks), consume over 15% of the world’s electricity, and this will increase with the advent of 5 G (Andrae and Edler, 2015). Technology is an expression of the available energy we can exploit (Brockway, 2013). What we call “technological progress” at any time is mostly the development of the capital base to support an ever-greater throughput of available energy at a later time. With growing GDP as a global goal, extra energy allows for more inventions that in turn make our economy more complex. Furthermore, higher social/technological complexity itself requires higher energy consumption– resulting in the energy complexity spiral (Tainter and Patzek, 2012). 4.8. Energy Depletion Using photosynthesis as a trickle charge, hundreds of millions of years of living biomass were stored as hydrocarbons in Earth’s battery. We are drawing down this carbon battery 10-million times faster than it was charged (Schramski et al., 2015). Estimates of remaining oil and natural gas vary widely (Mohr et al., 2015), but the cheap high quality oil, at scale, has largely been found and exploited (Fustier et al., 2016; Masnadi and Brandt, 2017). The left side of Fig. 4 conveys a misleading, but common interpretation of current U.S. oil production. Due to technology advancements, U.S.A has become the world’s top oil producer. One is left with the false impression that technology has triumphed depletion making oil abundant and therefore not a risk to future growth. However, reality is more accurately depicted in the right panel, where, collectively, non-shale oil sources are shown to be in permanent decline. The up-tic in total production is a consequence of tight oil (in red), recently scaling to 52% of all production. Tight oil is in the source rock where all other oil originated. Tight oil is economically and ecologically costly and quickly depleted (by as much as 90% in the first 3 years). A typical new well requires complex equipment, 1200 truckloads of water, 100 train carloads of sand and $8-10 million in drilling and completion cost (Robinson, 2014). This explains why the US Drilling Oil and Gas Wells Producer Price Index increased 350% from 2005 to 2014 (U.S. Bureau of Labor Statistics, 2018). During this time, the market price of oil, has not kept up with its extraction cost. Since Q3, 2014, capital expenditures on shale plays have exceeded cash flow 19 quarters in a row (Rassenfoss, 2019). Because of the steep decline rates of existing fields (shale and conventional), the International Energy Agency asserts that with no new drilling, world oil production would be cut in half by 2025 and to only 15% of today’s output by 2040 (“WEO 2018,” 2018). Of course, we will invest in new oil fields – but doing so will require a higher oil price, which would lead to lower economic growth (see Fig. 2, grey columns). Energy’s cost share of our economy, after five centuries of decline, reached a low in 1999 and has been increasing since (King, 2015). When obtaining energy requires more energy, materials and money, the economy suffers because discretionary wealth is redirected or drained away (Capellán-Pérez et al., 2019). Earth’s geological battery of energy dense carbon is not unlimited, and we’ve already found and used the cheapest and easiest. Relative to 2008, debates about oil scarcity, and ‘peak oil’ have morphed into ‘peak demand’ and electrification of transportation as solutions. However, the net energy of remaining reserves, their affordability, and society's ability to allocate capital to recover them remain central questions (Brockway et al., 2019). 4.9. Energetic remoteness Barriers of energy, time, materials and complexity separate us from the things we want and need. Our natural subsidy of concentrated ores is declining along with the natural subsidy of fossil hydrocarbons. We don’t face ‘the end’ of oil, copper and water, but we do face increasing effort and cost to extract these resources from lower grade ores. This will have a corresponding effect on benefits to societies. Energy enters the global economy via exploration, extraction, transformation of natural resources, and transportation. Energy is thus embedded in every industrial process, mineral and material in our economies. Raw materials — such as copper, phosphorous, or aluminum — are easier to extract and refine when they are concentrated. As energy becomes more expensive, and we deplete the concentrated, easy resources, many commodities become more "remote" for our use because they become more expensive to find and extract. Copper is a key industrial commodity for scaling renewable-based technologies such as electric vehicles (García-Olivares and Ballabrera-Poy, 2015). Fig. 5 shows the annual copper production relative to 2001 (in blue) for the country of Chile. The total energy used to process copper ore and overburden is shown in red. Lower quality ore grades require increased energy (and water), leading to less copper expected to be available in the coming decade (Copper Commission of Chile, 2018) at the same time demand for copper is increasing. This same ‘energetic remoteness’ applies to many key resources, including water, lithium, and food. We use around two calories of fossil fuel to grow one food calorie in our modern agricultural system – but we use 8–12 additional fossil calories to process, package, deliver, store and cook modern food (Bradford, 2019). In the natural world, this is unsustainable. Organisms that require more energy to find food than the food contains, will die. We only get away with this because our institutions and policies treat the energy subsidy from fossil hydrocarbons as interest, not principal. Everything we do will become more expensive if we cannot reduce energy consumption of industrial processes faster than prices grow. 4.10. Energy and money Society runs on energy and materials, but most people think it runs on money. Indeed, money is the only part of our economies not subject to laws of thermodynamics because it is created as debt subject to mathematical laws of compound interest (Soddy, 1933). Commercial banks are not intermediaries that lend out existing capital (Jakab and Kumhof, 2015), but rather create money by loaning it into existence (McLeay and Radia, 2014). Contrary to what is taught in economics textbooks, money is not lent out from existing wealth– it is created (Werner, 2014; Ament, 2019). This new money eventually gets spent on a good or service which will contain embodied energy. Money is a claim on energy yet its creation is not tethered to energy availability or cost. 4.11. Energy and debt Since money is a claim on energy2, then debt is a claim on future energy. Business schools teach that debt is neutral to the capital structure, an ‘intertemporal transfer of consumption preference.’ Thus, GDP generated with debt, or with cash, are considered equivalent. In an economy of perpetual growth opportunities, this might be appropriate. However, in every single year since 1965, both the USA and World have grown debt more than GDP. This makes debt more accurately an ‘intertemporal transfer of consumption’. Debt is a social construct with physical consequences. Fig. 6 illustrates how debt pulls resources forward in time. In this hypothetical oil field, the differing shaded areas represent different cost tranches of an oil resource.3 Obtaining access to cheap financing allows a company to expand drilling into marginally commercial areas as long as new creditors believe in future prospects. This debt funding allows the oil company to ‘create a bigger straw’, to extract new higher-cost oil (dark black on right panel) and raise total field production (Hughes, 2019). However, this results in steeper future declines because the temporary increase cannot be sustained: the next tranche available for development yields poorer well and financial performance often accompanied by higher decline rates and lower quality oil. Unconventional oil and gas typifies this phenomenon (Kelly, 2019). Fig. 6 illustrates not only how oil production responds to debt infusions, but the consumption of entire economies. Low entropy (high concentration, high quality) resources underpin our productivity. Thus debt can be seen as a tool humans use to access an energy gradient, and the resulting goods and services. Debt has been referred to as ‘fake energy’ (Weyler, 2011). More accurately, debt moves real energy and consumption from the future, to the present, unsustainably. But it is fake in the sense that to pay back the debt, we have to also pay back the energy. One could say this amount (and related consumption) is “borrowed” energy. 4.12. Energy and well-being Despite the pervasive belief that more money and energy makes us happier, evidence suggests this is mostly not true. After basic needs are met, additional energy use yields a slower growth of the Human Development Index (Smil, 2017). Although Americans use 20 times more energy per capita than Filipinos, the percentage of ‘very happy’ citizens remains equal (Hagens, 2007) (Fig. 7). Other biophysical (and psychological) indicators may track human well-being more closely than GDP and energy use (Lambert et al., 2014; Roy et al., 2012). If we have social support structures, many physical inconveniences can be overcome (Venniro et al., 2018). After basic needs are met, the best things in life are free.

#### The impact is planetary extinction from biophysical limits – DeGrowth is the only sufficient response

NATE Hagens 20 (Nate Hagens, on the Boards of Post Carbon Institute, Bottleneck Foundation, IIER and Institute for the Study of Energy and the Future, “Economics for the future – Beyond the superorganism,” Ecological Economics, Volume 169, March 2020, 106520, <https://doi.org/10.1016/j.ecolecon.2019.106520)//NRG>

4.13. “Externalities’ and energy

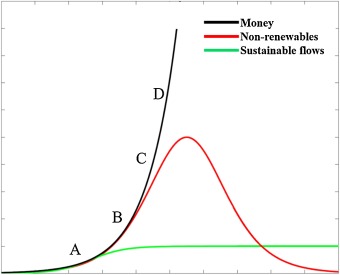
Society may remain energy blind, but we are rapidly becoming aware of the negative consequences of the global human enterprise (Weyler, 2018). Negative impacts for humans include: topsoil loss, endocrine disrupting chemicals (Fischer, 2019), declining sperm counts (Levine et al., 2017), mounting inequality, water shortages (Schewe et al., 2014), declining median incomes (in the developed world) (Hannon, 2019), populism, depression (Hidaka, 2012) worry about the future, and geopolitical risks. Negative impacts to the natural world include: CO2 risks to climate (C. Oppenheimer et al., 2017) to ecosystems (Saunders, 2005), ocean acidification, coral loss and other ocean impacts (Caesar et al., 2018; Schmidtko et al., 2017; Ward, 2008; Yeo, 1998), deforestation, insect decline (Hallmann et al., 2017; Sánchez-Bayo and Wyckhuys, 2019), bird decline (Allinson, 2018), extinction of primates (Estrada et al., 2017) decline of (wild) mammal populations (Bar-on et al., 2018), plastics in oceans (Eriksen et al., 2014; Koelmans et al., 2014), microplastics and airborne phthalates (Jamieson et al., n.d.; Lenoir et al., 2016), loss of forests, and general risk of a 6th mass extinction (Ceballos et al., 2015; González et al., 2017). All readers of this journal are aware of the social and ecological impacts of economic activity ‘external’ to the market pricing system. Most of these are enabled and worsened by cheap energy, but are absolutely internal to a fossil fuel based economy.

4.14. Energy – summary

Soaring GDP in the 20th century was tightly linked to soaring burning of fossil hydrocarbons. Society doesn’t yet recognize these links because we conflate the dollar cost of energy extraction (tiny) with the work value (huge). Energy is only substitutable with other similar quality energy. Increasingly, advanced technology is achieved with energy, and most technological advances increase future energy requirements. We can (for now) readily print money but we can’t print energy to give it value. We can only develop new sources or extract what exists faster or learn to use it more efficiently. We’ve papered over already visible declines in energy growth rates and resource quality by using credit in breathtaking volumes. Modern economic theory ignores or minimizes most of these points, as do our institutions, policies and plans. In the future, the scale, quality, and cost of energy will dictate what sort of human systems are possible. We remain energy blind.

5. Synthesis

Fig. 8 is a conceptualization of the last few and next few hundred years (not to scale). The green line represents sustainable flow levels available to humanity which reached technological and geographical limits in the 19th century. The red line represents the one-time pulse of non-renewable natural resource inputs to human economies (oil, gas, copper, etc.). The black line represents financial markers (money, credit, etc.) of the underlying primary capital.



In the pre-Industrial era up to Point A, humankind migrated around the planet accessing solar flows using relatively simple technology such as agriculture, sails, slaves and animal labor. At the dawn of the industrial revolution, Point B, humanity added the condensed stocks of hydrocarbons to previously flow-based human economies. A valid description of the Solow residual (i.e. the economic growth not explained by labor or capital) was absent during this time because the black line and red line were tracking together.

Between B and C we hit an energy crisis in the 1970s, which we ‘solved’ by both 1) using debt to pull consumption forward in time and 2) globalization and outsourcing to the cheapest areas of production. These changes allowed economic growth to continue until it hit a wall with conventional finance in 2008 (Point C)– at which point central banks and global governments were forced to essentially redesign the entire financial system. This new (ongoing) paradigm involved measures such as too-big-to-fail guarantees, artificially low interest rates (even negative!) (Salmon, 2019), quantitative easing, central bank balance sheet expansion and various GDP-friendly rule changes (Alderman, 2014). The continued increase in global credit allowed: access to costlier tranches of resources, more social programs, cheap financing for renewable energy, and a sustained – if tepid – return to economic growth since 2009. We are now heading towards Point D, where our global monetary representations of reality continue to decouple from the underlying biophysical reality (red curve).

Since 2007 we have grown our global debt 3.5x faster than we’ve grown our economies bringing global debt/GDP ratio to over 300% (Tiftik et al., 2019). Most institutional experts and pundits are aware of Point D, but because of cultural energy blindness, are generally not aware of this point in relation to the red line, or even that there is a red line. Eventually we will discover that the black line (money and credit) also has limits, which ultimately are tethered to the growth enabled by energy and resource availability and cost.

5.1. Humans → superorganism

We expend energy to produce work because our brains seek emotional states similar to that of our successful ancestors – physical and emotional homeostasis, comfort, status, excitement, relaxation, etc. all modulated by hormones, neurotransmitters and endocrine signals. To a Tibetan monk, this ‘state of comfort’ might be sitting quietly all day on a wooden bench, but for most humans in modern consumer culture, achieving this emotional state means: eating at a better restaurant, buying a better car, air conditioning or heat, fast internet, faster transportation, etc. For most people these preferences have a strong correlation to devices and processes requiring energy. Our ancestors didn’t live with Instagram, Fortnight, Teslas, sushi or Netflix. Addiction to modern stimuli and comfort tethers to resource consumption (Hagens, 2011; Ladika, 2018).

Additionally, we do not choose to wait or defer consumption and experiences. Rather, we have a strong preference for positive experiences in the present moment (Hagens, 2010). Even the ecologically literate will avoid ‘sustainable’ practices that accomplish equal goals but require more time (Penn, 2019). Since consumption requires energy, and we (generally) prefer immediate gratification, we can understand how our behaviors are linked to power (energy/time) in the real world (Hagens and Kunz, 2010). This seeking of 'power' by individuals, aggregated at the economy level, also explains the compulsion of debt, which pulls energy and material consumption to the present .

5.2. The Superorganism: blind, hungry and in charge

What began some 11,000 years ago as hunter gatherers cooperating to obtain physical surplus from land, has morphed into a globally connected human culture maximizing financial representations of physical surplus (Gowdy and Krall, 2013). In pursuit of economic growth, modern human culture appears as a self-organized, mindless, energy seeking Superorganism, functioning in similar ways to a brainless amoeba using simple tropisms. But why? How?

In nature, an individual starling follows three simple rules (Reynolds, 1987):

1) Do what your neighbor does

2) Don’t get too close

3) Fly towards the center

When tens of thousands of starlings follow these simple rules we see a beautiful, complex murmuration in the sky. This is an emergent result not predictable by the biology and behavior of the individual birds.

In similar ways, the surplus creating “requirements” of the global economic superorganism call forth compatible behaviors like acquisitiveness, greed for possessions, and simplified individual behaviors. Today, most modern humans – as individuals – follow something like the following 3 simple rules:

1) Execute optimal foraging algorithms by coordinating with other humans (families, small businesses, corporations, nations) towards acquiring financial surplus

2) Pursue culturally condoned behaviors

3) Spend the financial surplus on comfortable, fun things or experiences (as long as culturally acceptable)

In a global culture maximizing surplus value, human brains are thus linked to energy use via the 'pursuit of comfort' and 'avoidance of pain'. In aggregate, human economies require power just as animals eat food, or oak trees grow leaves (Odum, 2007). The emergent property of 7.7 billion humans going through their daily lives following simple rules like these is a ‘Superorganism’ with a 17 TW metabolism4 .

6. Implications

There are several key implications from humanity effectively functioning as a Superorganism.

6.1. Gross domestic product (GDP) → gross world burning (GWB)

Biological scaling laws follow the natural, emergent outgrowth of networks —in the case of animals, a blood circulatory network which transports hemoglobin throughout the ‘volume’ of the organism. Klieber’s Law observes that the energy metabolism of animals is proportional to their mass scaled to the ¾ power (Thommen et al., 2019). The flow of petroleum through modern economies can be likened to the flow of blood in mammals (Marder et al., 2016) with the veins and arteries of the human ‘sphere’ being the global air, sea and road transportation nodes (Kleinschroth et al., 2019). Virtually all human infrastructure - gas stations, surface area of roads, hospitals etc., scale using similar biological allometry relationships (West, 2017). Connections – veins in bodies, social media, telephones or highways, scale at roughly ½ of the number of nodes squared (.5n2). Each of these nodes requires energy to maintain and new nodes need energy to connect. Modern human society can thus be viewed as a macro-organism, whose energy metabolism increases at the size of the global GDP to the ¾ power (Brown et al., 2011; Patzek, 2011). Larger animals – and larger economies-are more efficient, which is why they don’t scale 1 for 1.

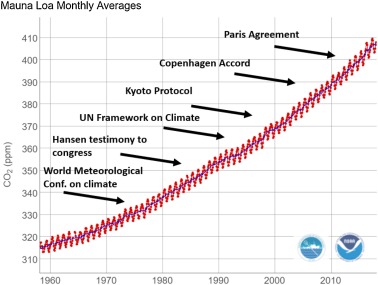
Economic growth can only experience ‘absolute decoupling’ if we increase GDP while decreasing primary energy consumption. Relative decoupling occurs when total primary energy grows but at a smaller rate than GDP. Since dual statistics began in 1965, there has been no absolute decoupling globally and negligible relative decoupling (0.5%) (Heun and Brockway, 2019). From 2012–2017 there appeared to be an increase in relative decoupling but this was largely an artifact of a larger portion of GDP going to financial (virtual) assets, implying an even tighter energy/economy link once the financial system recalibrates (Kovacic et al., 2018). Nor has the move to ‘service’ economies reduced the strong GDP/energy link (Fix, 2019).

Every single good and service in the global (or your own) economy started somewhere with a small fire. We cannot decouple this basic relationship on an absolute basis (Ward et al., 2016), and relative decoupling will be minor as long as GDP growth is our cultural goal. GDP is a poor metric of our well-being and cultural progress. It is however a reasonably good metric of how much energy humans burn: GWB – Gross World Burning.

In principle a superorganism could be super intelligent but ours is not. In the 1930s economists chose GDP as a metric to track economic activity, not as an end goal. Yet almost 100 years later, our economies unconsciously, relentlessly, pursue the GDP carrot, often toward frivolous endeavors that promise the greatest financial return in the shortest time. Currently, no one is driving this societal bus, neither billionaires, politicians, nor a secret cabal (White and Hagens, 2019). We are all caught up in the global growth imperative, which is immune from self-criticism. In the same way that ants pursue individual tasks for the growth of the colony, humans have outsourced our individuality to the ‘cloud’, which is itself devoid of an actual brain. The more people involved in a decision/process, the more our decisions resemble simple bacterial tropisms which unconsciously move towards energy acquisition. At the largest levels, the global economy is moving much like a starling murmuration following simple emergent rules. In the year 2019 C.E. the emergent result of 7.7+ billion hominids living their daily lives is an energy seeking Superorganism, out of control, yet still hungry. This superorganism is not human. It's a thing-in-itself (Ding an sich) with its own survival instincts that override the individual humans that comprise it (White and Hagens, 2019).

6.2. Climate change and ocean risks- the metabolism of the superorganism

Fig. 9 depicts CO₂ concentrations over time with highlighted major efforts to reduce emissions. Despite these efforts, 2018 marked the year with the most energy ever burned, the most CO₂ ever emitted by humans, and the highest atmospheric concentrations in over three million years (Willeit et al., 2019). Because of the direct linkage of human economies to ‘fire’ and fire to carbon, climate change and ocean acidification are - and will likely remain - directly linked to the metabolism of human economies. A central finding in the AR5 climate assessment was that the single largest driver of emissions globally was growth in income (Victor et al., 2014). The tight power-law relationship described above infers that current levels of economic consumption would not be feasible without fossil carbon and hydrocarbon consumption (Marder et al., 2016). In an economic system dependent on energy to grow, motivating voters to choose to keep carbon in the ground is akin to arguing with a forest fire. Climate change and its mitigation are thus ‘downstream’ of the superorganism.5



6.3. Population

Overpopulation is also downstream of this Superorganism’s growth dynamic. The global economy and monetary systems are based on and require growth. Growth requires consumption. Consumption requires consumers. Additional consumers requires more babies. In countries with falling population growth (e.g. Denmark), governments now pay for advertising for couples to go on ‘sexy vacations’ (McCoy, 2014). Since the current economic system requires growth, we need someone to pay for toys, diapers, teachers, and pensions. A baby strike (unlikely) would eventually crash the financial claims on future energy. Climate and overpopulation are behaviorally downstream of the GDP-seeking emergent property of human cultures. We can ‘solve’ these issues, but not until the Superorganism a) shrinks b) changes direction or c) is overthrown.

#### Recoupling with environmental indicators solves – try or die, economic collapse is inevitable

NATE Hagens 20 (Nate Hagens, on the Boards of Post Carbon Institute, Bottleneck Foundation, IIER and Institute for the Study of Energy and the Future, “Economics for the future – Beyond the superorganism,” Ecological Economics, Volume 169, March 2020, 106520, <https://doi.org/10.1016/j.ecolecon.2019.106520)//NRG>

6.4. Renewables

Beyond absolute or relative energy decoupling, there is carbon decoupling -e.g. the same level of GDP using less carbon. Environmental media have popularized the narrative we can completely de-carbonize the economy. Proponents point to the fact that since 2003, over 20 countries, including the USA and UK, have reduced GHGs while growing their economies (Aden, 2016). However, this accounting neglects that these economies exported their carbon-intensive manufacturing to cheap labor regions. China’s industrial sector alone uses almost as much energy as the entire US economy (National Bureau of Statistics, 2018), and the USA now imports what it used to produce.

Carbon emissions and economic activity can be “decoupled” if we increase non-fossil energy production faster than energy consumption growth (essentially: faster than economic growth). But that’s not happening globally. Figure 10 shows the increase in consumption from fossil carbon and hydrocarbons and from renewables this century. The only year that fossil fuel consumption dropped (or increased less than renewables) was the global financial crash of 2009. In fact, the increase in global electricity demand in just 2018 was more than the entire historical installed capacity of solarvoltaics (BP, 2019). Fig. 10 reveals that the only genuine solutions to overshoot and carbon emissions will include economic contraction, not growth.

The Superorganism grows, and doesn’t (voluntarily) shrink. Under this logic we will have to change economic systems before we can meaningfully decarbonize the economy. Even the switch from wood to coal wasn’t really a ‘transition’ only an addition. We are consuming more forest biomass globally today than we were at the dawn of the industrial revolution (BP, 2019). Likewise, renewables are adding energy, not replacing hydrocarbons. If this continues, renewables will continue to scale, but only as part of a larger energy dissipating, CO2 emitting structure (Heinberg and Fridley, 2016; Smil, 2013).

Additionally, between 1970 and 2010, estimated total global extraction of natural resources from Earth (fuels, ores, salts, biomass, etc.) grew 3.2-fold from 22 to 70 billion tons (UNEP International Resource Panel, 2016). During the same time period, the size of the world economy, adjusted for inflation, grew 3.4-fold from $18.9 to $65.6 trillion. For one additional unit of Gross World Product (GWP), we needed close to one additional unit of natural resources. If we remain at 17 TW, whether carbon intensive or carbon neutral, we’ll still need ∼1 kg of minerals and materials for every $2 of global GDP. Physics suggests that this is not possible, and that our answers will primarily be found through social changes linked with contraction, not technical innovations resulting in long-term growth.

6.5. Credit and financialization

Although we currently witness emotional signals that injustice, wealth inequality, and climate change, are real and urgent issues, there appears to be little awareness of constraints concerning energy and finance. The modern system has used finance to obfuscate the fact that we have consumed beyond our means for at least the past 50 years. The energy/credit/growth dynamic is the least understood but most important phenomenon driving the current global economic and ecological situation.

Think of credit as a magic wand, that allows us to spend more than our income with a promise to pay it back in the future. This only works well when our economy is growing and there are enough untapped resources (e.g. 1950) to allow future growth to repay those debts.

Fig. 11 indicates debt (black) vs GDP (green) for the USA. The charts for most other developed nations debt/GDP show similar patterns. Without growing (just) our government debt our economy would have stopped growing over a decade ago. Much of our recent GDP growth has just been spending borrowed money (Coogan, 2019a). Globally, this ‘debt productivity’ (economic growth relative to debt growth) is now down to about 30-cents on the dollar. Should this ratio reach zero, we’d be adding debt just to keep the economy the same size. We have been growing our obligations faster than we’re growing our economies, because we had to. Globally, accessing our magic credit wand is dangerous and unsustainable, yet the Superorganism requires us to attempt it.

For example, the large amounts of credit created by China since the Great Financial Crisis increased demand (and prices) for commodities and energy globally. China’s economy is now very large -- approximately $13 Trillion – but they’ve created about $55 trillion in credit to maintain their current consumption. When growth stops -- which is inevitable – there are trillions of dollars of unsupportable loans in China alone – versus $800 billion in the Global Financial Crisis in 2008/9 (Coogan, 2019b).

In 2018, global credit growth began to slow. Along with slower economic growth there are signs of deflationary impact — because many people can no longer afford basic things (inflation remains — but mostly in healthcare, education, real assets and financial assets) (Irwin, 2014). Global bonds that have negative interest rates (something unimaginable in the past) total $14 trillion and growing. In Scandinavia, a home mortgage may now carry a below-zero interest rate (Coogan, 2019b). This low cost of capital, which has incentivized homeowner loans, is also crippling return rates for savers, and posing significant risks to pension funds, which depend on 7–8% a year annual returns.

We increasingly hear about the risks that climate change has on insurance, and financial futures. The head of the Commodity Futures Trading Commission (CFTC) recently stated: “It’s abundantly clear that climate change poses a financial risk to the stability of the financial system”(Behnam, 2019).

What the CFTC commissioner didn’t say is that finance poses a financial risk to the stability of the system. Despite massive credit injections, our productivity per unit of labor since 2011 is at 40 year lows (U.S. Bureau of Labor Statistics, 2018). If you add all the unfunded liabilities on top of government and private debt, the USA currently has obligations of 1200% of GDP (Shin and Brancaccio, 2018). As debt relative to GDP rises, the ‘debt productivity’ of each additional dollar declines, eventually reaching a limit requiring: write-offs, foreclosures, deflation, and a smaller economy at best, with currency reform and systemic risk at worst.

At its core our culture has a flawed macroeconomic model. We are slowly figuring out the relationship between energy, technology and the economy. It is yet to be seen if there can be such a thing as ‘credit decoupling’, (growth, but with decreasing global credit), but based on the correlation of the past 50 years and the direct link between money creation, and the spending of it, this seems unlikely. The next big questions revolve around ‘what is money’, en route to ‘do we have a goal?’ In the meantime, what's relevant is that we cannot solve a credit crisis using more credit (McCulley, 2009). Recall that debt is a lien on energy. If we are ever to honor our current debts, the amount of energy required will be immense. If the energy is not available, at cheap prices, those debts will never be repaid, something that has happened historically with debt again and again (Graeber, 2011).

7. The great simplification

Fig. 12 returns to the big picture. After kicking various cans down the road to continue growth, we are now approaching Point X, using the black line (credit) to increase the rate at which we access fossil energy and non-renewable resources, and hence generate global GDP. All governments and major institutions nominally are planning for growth (towards Point Y). We are using the black line (finance) and the stories that support it to temporarily extend the red line in that direction. Recall how debt pulls resources forward in the oilfield example. An entire economy is no different. We should be planning for an energy level around F which would consciously direct our remaining low-entropy energy and materials to build renewable infrastructure and a society based largely on ecosystem flows.7 However, the Superorganism dynamic of the market can only ‘see’ and move towards Point Y. It cannot see the risk of Z (a rough landing point if we stopped using credit to drive growth), nor how to make a long term plan for an energy throughput in the neighborhood of Point F.

Under this analysis, a reduction of GDP in advanced economies is now likely: 1) when we can no longer access consumption via adding credit, and 2) with a shift towards lower quality and more costly energy and resources. The 20th century experienced increasing energy quality and decreasing energy prices. The 21st century will be a story of decreasing energy quality and increasing energy cost. In tandem with some fraction of the best remaining fossil energy, we certainly could use intermittent renewable energy in ways that could power a great human civilization – but it would look quite different than the one we currently live in and are planning for. Unfortunately, the Superorganism cannot plan, only slough forward seeking more energy and growth.

8. Social traps

Many challenges we face appear as classic social traps, whereby short-term social pressures guide individual behavior in opposition to the best long-run interest of the individual and society (Costanza, 1987). Cognitively, the implications presented in this paper are understandable to most people fluent in the issues, but behaviorally remain almost the perfect storm for the human brain to ignore or deny. The issues are: complex, abstract, in the future, threatening to politicians and business owners, difficult to answer, largely ignored by leaders, and depressing to think about. Typically, a description of our biophysical reality is met with denial or nihilism.

Both denial and nihilism help the mind remove dissonance and thus emotionally absolve a person from working to make (uncomfortable) changes that might improve our chances. This and other social traps appear to mitigate against meaningful action. Our super sociality results in valuing conformity over science, and valuing fairness of process over quality of results. We attempt to use social sorting mechanisms (popularity/status) to solve complex problems. Perhaps the biggest social trap of all is that we don’t actually need all this energy and material stuff to be happy or healthy. Nevertheless, led by the emergent drive of the Superorganism, we let pecuniary metrics, social comparisons, and novel technology, drag us into unnecessary and wasteful consumption.

9. Discussion

"The major problems in the world are the result of the difference between how nature works and the way people think." Gregory Bateson

“When a system is far from equilibrium, small islands of coherence have the capacity to shift the entire system” Ilya Prigogine

9.1. What next? Predictions for the superorganism

We can’t precisely predict the future, but we can increasingly be confident of what won’t happen. Given the biological and social underpinnings of growth and kicking the can described above, we can hypothesize what scenarios are unlikely:

• Growing the global economy while simultaneously solving climate change (reducing CO2) or avoiding a 6th mass extinction.

• Growing the economy while replacing hydrocarbons with low carbon energy.

• Voting en masse to keep remaining carbon compounds in the ground.

• Leaders embracing or preparing for an end of growth before it happens.

To avoid paying the societal debt bill we’ve amassed over past decades, we tend to keep kicking the can forward, with more financial guarantees, stories, and rule changes – all in increasingly less sustainable ways. With the backdrop of the Superorganism we might make some predictions:

• As more people recognize that energy underpins our futures, we’ll witness more schemes focusing on gross energy as opposed to its net contribution to society. Many technologies will be promoted that are viable, but not relevant, affordable or scalable.

• We will continue to create money and credit expecting their abundance to overcome physical world problems, until they too reach limits (no credit-worthy lenders, interest too high of % of growth, fiscal cliffs, etc.).

• To avoid social instability, we will remediate wealth inequality via programs like Universal Basic Income (If such ‘wealth transfers’ are direct, they will stabilize society but access more carbon as they are transfers of bank digits to direct calls on resources and energy. (Good for low income humans, bad for dolphins).(These transfers can be indirect e.g. ecological restoration, local public infrastructure etc.)

• Around the world, as economic prospects deteriorate, people will foster group cohesion by blaming their problems on outgroups, and tend to vote for leaders who promise better economic futures, or things to be more like the past, (linked to more economic growth, linked to energy, linked to carbon). Trump, Bolsonaro, Matteo, LePen, Morrison, etc. are but recent examples. (Conservative names listed, but most liberal types also promise "better economic futures.").

• As USA and Brazil attest, one of the few remaining economic cans to kick is de-regulation and removal of environmental protection. As the economy gets worse, environmental initiatives (e.g. climate mitigation) will become less popular – not because people disbelieve or care less but because they’ll have less financial and emotional bandwidth to advocate for them.

• As a globally tethered economic system, we will likely do anything we can to kick the can further down the road. We are caught in a spiral of growth, limits to growth, response to limits, more growth, more limits, more response.

9.2. Cultural evolution and the superorganism

We are members of a social species collaborating at various scales to execute optimal foraging algorithms in a novel, resource-rich environment. This results in a persistent, collective pursuit of economic growth. This growth imperative is now accentuated by:

a) Creating currency not tethered to physical resources

b) not creating the ‘interest’ due when money is created and

c) increasingly using methods of finance to solve problems created by finance.

Humankind, as a species, circa 2020 C.E., is ecologically functioning as a mindless, energy dissipating structure. We could overcome this, but will we? Events in coming decades will open up frozen cultural opportunities, but will occur stepwise. It is unlikely we’ll solve our environmental problems via new rules and pricing structures, while keeping the risks of credit, limits to growth, social cohesion, and populism walled off. It is likely we will have to solve social and financial problems first, before we can integrate longer time-horizon issues relating to ecosystems and more benign cultural aspirations.

Humans have unwittingly been ensnared in the Carbon Trap – whereby, to maintain our lifestyles and existence, we have to continue burning the ancient carbon that is inexorably destroying the natural world. No one is to blame for this trap but we are all complicit. We need to retire our ∼500 billion strong fossil armies, but if we really did this, it will transform our way of life in ways we are likely to resist.

The Superorganism framing of Homo sapiens appears unflattering, yet it offers both clarity and hope. Understanding that humans in large numbers predictably self-organize by following simple energy scaling tropisms gives us a chance to visualize and prepare for what is likely to happen (financial recalibration, less energy and material throughput, more local economies, less carbon, etc.) This awareness empowers individuals and small groups to pursue creative paths of future mitigation and planning outside of – or in parallel with – the aggregate human Superorganism.

Finally, just as we discovered that we live in a heliocentric world, and that we evolved, we now begin to see that we are part of a biologically emergent Superorganism which is de-facto eating the planet. If we figure that out, what new pathways might it open up? Our biology is not going to change – but our culture and our economic system could. How will we use the coming financial/energy recalibration to move towards a slower, wiser, less damaging system? What sorts of responses would be beneficial? What sort of new stories do we need?

There is a recent trend in environmental media asserting climate change is the primary systemic risk faced by civilization. One of the points of this paper is to suggest that climate change is one symptom of a much larger dysfunction. Multiple interrelated risks all point to an impending, imposed reduction in energy/material throughput in coming decades. There are 2 primary implications of this:

1) Societies need to physically and psychologically prepare for circumstances with less credit, complexity, energy/material throughput, and will need social support structures for those falling off the treadmill, and

2) We need a science-linked blueprint describing how a new economic system based on biophysical reality might emerge from this Great Simplification –e.g. taxes on non-renewables (not only carbon but other rapidly depleting resources), a reduction in the role of casino finance, caps and floors on income, etc., all informed by the species-level view. This is the small chink in the armor of the Superorganism. It is here that we should aim the arrow of heterodox economic ideas and the research agenda for Ecological (Systems) Economics for the next 30 years.

The concept of societal ‘collapse’ has now made its way into the mainstream media (Kemp, 2019). The word ‘collapse’ imbues a finality. It also sounds binary – yes or no. Our situation is much more nuanced, geographically dispersed, and actionable. By kicking so many cans to keep growing, we now face a bend or break scenario. We face a complex challenge to avoid the ‘break’ by bending. This bending will comprise a ‘recoupling’ with nature and with each other, while using fewer non-renewable resources. Physically this is possible. For example, a 30% GDP drop in the USA would bring that nation back to a 1990′s level of per capita GDP and a 50% drop in GDP would bring the USA back to a 1973 level.

The real challenge will begin when growth ends. Eventually, we likely face a global depression and other challenging departures from our recent trajectory. Those who understand and care about these things, who have social support, a modicum of resources, and psychological health, have to step up. This is not a time to minimize our individual impact, which only makes us a smaller part of 1/8-billionth of the Superorganism. Those who understand need to be effective at larger scales. We need to maximize our impact during this liminal space for Homo sapiens. The answers now are at least as much social as they are technical.

10. Conclusion

“There is science now to construct the story of the journey we have made on this Earth, the story that connects us with all beings. Right now we need to remember that story — to harvest it and taste it. For we are in a hard time. And it is knowledge of the bigger story that is going to carry us through.” Joanna Macy

A bunch of mildly clever, highly social apes broke into a cookie jar of fossil energy and have been throwing a party for the past 150 years. The conditions at the party are incompatible with the biophysical realities of the planet. The party is about over and when morning comes, radical changes to our way of living will be imposed. Some of the apes must sober up (before morning) and create a plan that the rest of the party-goers will agree to. But mildly clever, highly social apes neither easily nor voluntarily make radical changes to their ways of living. And so coffee and stimulants (credit, etc.) will be consumed during another lavish breakfast, but with the shades drawn. It’s morning already.

**Cartels Adv**

**Disease can’t cause extinction**

Dr. Toby **Ord 20**, Senior Research Fellow in Philosophy at Oxford University, DPhil in Philosophy from the University of Oxford, The Precipice: Existential Risk and the Future of Humanity, Hachette Books, Kindle Edition, p. 124-126

Are we safe now from events like this? Or are we more vulnerable? Could a pandemic threaten **humanity**’s future?10

The Black Death was not the only biological disaster to scar human history. It was not even the only great bubonic plague. In 541 CE the Plague of Justinian struck the Byzantine Empire. Over three years it took the lives of roughly 3 percent of the world’s people.11

When Europeans reached the Americas in 1492, the two populations exposed each other to completely novel diseases. Over thousands of years each population had built up resistance to their own set of diseases, but were extremely susceptible to the others. The American peoples got by far the worse end of exchange, through diseases such as measles, influenza and especially smallpox.

During the next hundred years a combination of invasion and disease took an immense toll—one whose scale may never be known, due to great uncertainty about the size of the pre-existing population. We can’t rule out the loss of more than 90 percent of the population of the Americas during that century, though the number could also be much lower.12 And it is very difficult to tease out how much of this should be attributed to war and occupation, rather than disease. As a rough upper bound, the Columbian exchange may have killed as many as 10 percent of the world’s people.13

Centuries later, the world had become so interconnected that a truly global pandemic was possible. Near the end of the First World War, a devastating strain of influenza (known as the 1918 flu or Spanish Flu) spread to six continents, and even remote Pacific islands. At least a third of the world’s population were infected and 3 to 6 percent were killed.14 This death toll outstripped that of the First World War, and possibly both World Wars combined.

Yet even events like these **fall short** of being a threat to **humanity**’s longterm potential.15

[FOONOTE]

In addition to this **historical** evidence, there are some **deep**er **biological** observations and theories **suggest**ing that **pathogens are unlikely to lead to the extinction** of their hosts. These include the **empirical anti-correlation** between **infectiousness** and **lethality**, the **extreme rarity** of diseases that kill more than 75% of those infected, the observed **tendency** of pandemics to **become less virulent** as they progress and the theory of **optimal virulence**. However, there is no watertight case against pathogens leading to the extinction of their hosts.

[END FOOTNOTE]

In the great bubonic plagues we saw civilization in the affected areas falter, but **recover**. The regional 25 to **50 percent** death rate was **not enough** to **precipitate a continent-wide collapse** of civilization. It changed the relative fortunes of empires, and may have altered the course of history substantially, but if anything, it gives us reason to believe that human civilization is **likely to make it through** future events with similar death rates, **even if** they were **global** in scale.

The 1918 flu pandemic was remarkable in having very little apparent effect on the world’s development despite its global reach. It looks like it was lost in the wake of the First World War, which despite a smaller death toll, seems to have had a much larger effect on the course of history.16

It is less clear what lesson to draw from the Columbian exchange due to our lack of good records and its mix of causes. Pandemics were clearly a part of what led to a regional collapse of civilization, but we don’t know whether this would have occurred had it not been for the accompanying violence and imperial rule. The strongest case against existential risk from natural pandemics is the **fossil record** argument from Chapter 3. Extinction risk from natural causes above **0.1 percent per century** is **incompatible** with the **evidence** of **how long** humanity and similar species have lasted. But this argument only works where the risk to humanity now is similar or lower than the longterm levels. For most risks this is clearly true, but not for pandemics. We have done many things to exacerbate the risk: some that could make pandemics more likely to occur, and some that could increase their damage. Thus even “natural” pandemics should be seen as a partly anthropogenic risk.

**Chem industry resilient**

**Zacks 16** (Zacks Analyst blog is part of Yahoo Finance. “Factors Supporting the Bullish Case for Chemical Stocks” August 10th 2016, <http://finance.yahoo.com/news/factors-supporting-bullish-case-chemical-205708053.html>)

The **chem**ical industry remains **besieged by a number of challenges**, including weak demand in agricultural and energy markets, a sluggish Chinese economy and headwinds from a strong dollar. **Nevertheless, the industry remains on the road to recovery**, gaining from **healthy momentum** across **automotive** and **construction** markets. There are a **number of reasons** to be optimistic about the broader **chemical industry** for both the short and long haul, which we have highlighted below:

**Shale Abundance Driving Chemical Spending**

The **shale** gas revolution in the U.S. has been a huge driving force behind chemical investment on plants and equipment in the country. According to the American Chemistry Council (ACC), the U.S. has emerged as an attractive investment location and petrochemical makers are now significantly expanding capacity in the country leveraging new supplies of natural gas. New methods of extraction such as horizontal drilling and hydraulic fracturing (or fracking) are boosting shale production, bringing down prices of ethane (derived from shale gas) in the process.

Driven by the abundant natural gas supply, chemical makers are ratcheting up investment on shale gas-linked projects which is expected to beef up capacity. The shale boom has incentivized a number of chemical companies to pump in billions of dollars for setting up facilities (crackers) in the U.S. to produce ethylene and propylene in a cost-effective way.

Per ACC, domestic chemical investment related to shale gas has reached as high as $164 billion, more than 60% of which are from firms outside the U.S. Already 264 projects -- many backed by the Federal government -- have been announced by chemical makers to take advantage of ample natural gas supplies with 40% of them already complete or under construction. Such investments are expected to boost capacity and export over the next several years. The ACC expects average annual gains of more than 8% in U.S. chemical industry capital spending through 2018.

Automotive in High Gear

**The automotive sector** -- a major chemical end-use market -- is witnessing **significant momentum**. The sector is enjoying the fruits of low gasoline prices. Outlook paints a rosy picture as global automotive sales are expected to rise 2.7% to 89.8 million units in 2016 on the back of strong volume growth in the U.S. and Europe, according to IHS Automotive.

The U.S. auto industry also remains in top gear. U.S. light vehicles (a key end-user market for chemicals) sales hit all-time high of around 17.5 million units in 2015 and are expected to rise further this year, aided by an improving job market, rising personal income, lower fuel prices and attractive financing options. New car and light truck sales are expected to reach to 17.7 million units in 2016 on the back of reduced gasoline prices and rising employment, as per The National Automobile Dealers Association (NADA) estimates.

The Auto industry in Asian countries, especially China**, is also expected to thrive over the next several years.** As such, chemical makers are expected to gain from higher demand from this important end-market.

Strategic Moves

Chemical companies continue to shift their focus on high-growth markets (driven by megatrends) in an effort to whittle down their exposure on other businesses that are struggling with weak demand and input costs pressure. Moreover, cost-cutting measures -- including plant closures and headcount reduction -- and productivity improvement actions by chemical companies are expected to yield industry-wide margin improvements. Several chemical makers are also disposing non-core assets as they shift their focus on high-margin businesses.

**Consolidations Gathering Steam**

Chemical makers remain actively focused on mergers and acquisitions to diversify and shore up growth in a still-difficult global economic environment. These companies continue to explore growth opportunities in the fast-growing emerging markets, particularly in the lucrative regions of Asia-Pacific and Latin America. The industry saw a pick-up in consolidation activities in 2014 and the momentum continued in 2015.

Chemical companies are increasingly looking for cost synergy opportunities and enhanced operational scale through consolidations. The $130 billion proposed mega-merger of Dow Chemical (DOW) and DuPont (DD) -- **the biggest chemical deal ever -- is a huge testimony** to these strategic moves.

Other major deals that have taken place in the chemical space in the recent past include Albemarle Corp.’s (ALB) $6.2 billion buyout of Rockwood Holdings, Inc., Eastman Chemical Company’s (EMN) purchase of specialty chemical company Taminco Corp. for $2.8 billion, PPG Industries Inc.’s (PPG) acquisition of Mexican paint company Comex, Olin Corp.’s (OLN) acquisition of a significant portion of Dow Chemical’s chlorine business for $5 billion, Merck KGaA's $17 billion acquisition of Sigma-Aldrich and FMC Corp.’s (FMC) acquisition of Cheminova A/S.

**Construction Sector Gaining Momentum**

A recovery across housing and commercial construction -- major chemical end-markets -- has been another **tailwind** for the chemical industry. After being hit hard in the recession, the construction sector has recovered on the back of strong housing fundamentals.

The U.S. housing sector saw steady recovery in 2015 backed by stabilizing mortgage rates, improving job market and moderating home prices, and the momentum continues this year. The underlying demand trends in the housing space remain strong, supported by an improving employment levels, affordable interest/mortgage rates, rising consumer confidence and a recovering economy.

Recent housing data has been fairly upbeat with reports of higher sales of new single-family houses coupled with mid-single-digit growth in housing starts. Moreover, the home remodeling market is also picking up pace.

The renewal of long-stalled construction projects and long awaited access to credit from lending institutions has also helped invigorate the commercial construction sector. U.S. architecture firm billings continue to rise. The US Architecture Billings Index (ABI), an indicator that offers a glimpse into the future of U.S. non-residential construction spending activity, clocked 50.6 in April 2016 (a reading above 50 indicates an increase in billings).

Moreover, the American Institute of Architects (AIA) expects healthy growth in non-residential construction spending this year based on strong demand for hotels, office space, manufacturing facilities and amusement and recreation spaces. The AIA sees spending to go up 8.3% in 2016. This augurs well for demand for chemicals in the construction markets.

Wrapping Up

**As you can see from the above-mentioned factors, there are a few good reasons to be optimistic about the chemical industry**. Chemical stocks that are well placed in the current operating backdrop include DuPont, FMC Corp., Air Products and Chemicals Inc. (APD), The Dow Chemical Company, PPG Industries Inc. and Celanese Corp. (CE).

**Democracy resilient – overwhelming public backing supports gains**

**Wollack 16** ---- Kenneth, president of the National Democratic Institute, former co-editor of the Middle East Policy Survey, former senior fellow at UCLA’s School for Public Affairs, “How Resilient is Democracy?” This text is the transcript from an interview with Alexander Heffner, PBS – The Open Mind, 10/15, <http://www.thirteen.org/openmind/government/how-resilient-is-democracy/5553/>

Well I think we’re seeing a number of phenomena that take place. Um, first of all you have new democracies around the world, that are struggling to deliver for its people. New institutions, political institutions that for the first time have legitimacy among the people, but in order to succeed and sustain their democratic system, they have to deliver on quality of life issues for, for the entire population. And if those institutions don’t deliver in many of these new democracies that have emerged over the last forty years, uh, then you’re gonna see backsliding and people will either go to the streets or vote for a populist demagogue who promises to bring sort of instant solutions to their problems. And then in non-democratic countries, you have what is called authoritarian learning, and that is autocrats today that are smarter than they were before, uh, that are fearful of diffusion of political power, uh, fearful of losing power themselves. Um, and they are using uh, traditional means and new legal means in which to repress the population, prevent the emergence of civil society, and not to speak of opposition political parties. And then you have a situation that you see in a number of countries in the Middle East where you have a sectarian strife and conflict. Uh, **but** in all of these situations, what you find is **democratic resilience**. That people around the world basically want the same thing. They want to put food on their table, uh, they want to have jobs and shelter and they want **a political voice**. And that, those aspirations and those hopes, uh, and those desires as I said are universal, and if you look at public opinion polls **around the world**, uh, people **do want to have democratic systems** that allow them to participate in the political life of their country. And that is, we are in the **optimism business**, and we believe in people and I think that ultimately those efforts, um, will, **will succeed**. But they need a lot of support, they need backing, um, uh, in order for uh, some very brave and courageous people to, to move the democratic for—uh, process forward in some of the most unlikely places in the world.

**No impact to facism**

**Strobaek ’17** (Michael; 6/5/17; Chief Investment Officer, free-lance journalist, and political analyst for CNBC; CNBC, “From the cacophony of populism, is a stronger middle emerging?” <http://www.cnbc.com/2017/07/05/from-the-cacophony-of-populism-is-a-stronger-middle-emerging.html)>

One would presume that anger breeds irrationality, radicalism and political as well as economic instability. But it need not. Anger – or let us call it, less dramatically, dissatisfaction with current affairs – can also lead to **renewal and progress**. Indeed, this year's elections in **Europe** suggest that voters are rather heading in that direction, i.e. seeking greater stability as well as reform while rejecting angry populism which has no real solutions to offer for today's major issues. With this in mind, it should thus come as no surprise that the radical **right was soundly defeated** in **Austria**, the **Netherlands** and **France**, and that the AfD (Alternative for Germany) is in rapid decline in **Germany**. In Finland, the radical right has just split into two, pragmatists and "purists." In Italy, too, recent local elections suggest that populist promises alone do not convince the electorate. Similarly, the **setbacks for the Conservatives** in the U.K. election in part represented a rejection of simplistic chauvinistic slogans. Leftist populism in demise? Conversely, we see few signs that the radical left is benefiting from this trend. Those who believe that the gains of the Labour party in the U.K. – headed by a rather dogmatic old-style socialist – suggest that leftist populists stand a good chance to govern are likely to be disappointed. Quite to the contrary, even in countries that have suffered deep crises – Spain and Greece come to mind – voters have **become disillusioned** with their recipes. Bernie Sanders would not, we believe, have won the U.S. election had he been the Democratic opponent of Donald Trump. Returning to what looks like a detail of the U.K. election, the very strong performance of the Conservative leader in Scotland, Ruth Davidson, an avowed "(EU) remainer" and opponent of the Scottish National Party suggests that separatism, another form of "anger," may also be **on the way out**. The outcome of the Catalan vote in the fall, should it take place, will be a further test of this thesis. Finally, beyond Europe, recent **political shifts** in Argentina and the upheaval in Brazil also suggest that leftist populism is in demise. Let us hope that Venezuela will soon be able to rid itself of one of its more extreme forms. Return to the center Putting these observations together suggests to me that voters have in fact started to head away from the extremes back to the center. Emmanuel Macron won the French election on an **openly centrist** platform. The state elections in Germany recently boosted Angela Merkel's centrist CDU, but even if the SPD and Martin Schulz were to win in September, this would hardly signal a turn of the electorate in a radical direction. Voters seem to be seeking politicians who offer pragmatic solutions to the complex problems of the day rather than simplistic recipes. The next U.S. president, I dare predict, is quite likely to be an avowed centrist as well. Maybe the **disillusionment with radicalism** – in this case of a truly brutal nature – will even strengthen forces of compromise in the Middle East at some point in the not-too-distant future. All in all, fears of significant political destabilization and systemic disruptions thus seem **overdone**, which may be one reason why markets, equities in particular, have been so **stable and calm** until recently despite rather stretched valuations. Does this mean that we will, after all, experience the unabashed victory of economic and political liberalism that Francis Fukuyama proclaimed? This remains rather unlikely, in my view, for three reasons: First, our multipolar world suggests that national and regional interests will take precedence over those promoting free markets and unfettered globalization. Second, distrust of market solutions has not been overcome, not least due to the "misdeeds" during the financial crisis.

# 2NC

**Common Ownership Adv**

**2nc – defense – collapse**

**Conciliatory policies are more likely**

**Clary 15** – Christopher Clary, former International Affairs Fellow in India at the Council on Foreign Relations, Postdoctoral Fellow at the Watson Institute at Brown University, Adjunct Staff Member @ RAND Corporation, Security Studies Program @ MIT, country director for South Asian affairs in the Office of the Secretary of Defense, former Research Fellow @ the Harvard Kennedy School's Belfer Center for Science and International Affairs, former research associate in the Department of National Security Affairs at the Naval Postgraduate School, BA from Wichita State University and an MA from the U.S. Naval Postgraduate School, 2015 (“Economic Stress and International Cooperation: Evidence from International Rivalries,” Massachusetts Institute of Technology Political Science Department Research Paper No. 2015-­‐8, “Economic Stress and International Cooperation: Evidence from International Rivalries,” http://papers.ssrn.com/sol3/papers.cfm?abstract\_id=2597712)

Do economic downturns generate **pressure for diversionary conflict**? Or might downturns encourage austerity and economizing behavior in foreign policy? This paper provides new evidence that economic stress is associated with **conciliatory policies** between strategic rivals. For states that view each other as military threats, the biggest step possible toward bilateral cooperation is to terminate the rivalry by taking political steps to manage the competition. Drawing on data from 109 distinct rival dyads since 1950, 67 of which terminated, the evidence suggests rivalries were approximately **twice as likely to terminate during economic downturns** than they were during periods of economic normalcy. This is true controlling for all of the main alternative explanations for peaceful relations between foes (democratic status, nuclear weapons possession, capability imbalance, common enemies, and international systemic changes), as well as many other possible confounding variables. This research questions existing theories claiming that economic downturns are associated with diversionary war, and instead argues that in certain circumstances **peace may result from economic troubles**. Defining and Measuring Rivalry and Rivalry Termination I define a rivalry as the perception by national elites of two states that the other state possesses conflicting interests and presents a military threat of sufficient severity that future military conflict is likely. Rivalry termination is the transition from a state of rivalry to one where conflicts of interest are not viewed as being so severe as to provoke interstate conflict and/or where a mutual recognition of the imbalance in military capabilities makes conflict-causing bargaining failures unlikely. In other words, rivalries terminate when the elites assess that the risks of military conflict between rivals has been reduced dramatically. This definition draws on a growing quantitative literature most closely associated with the research programs of William Thompson, J. Joseph Hewitt, and James P. Klein, Gary Goertz, and Paul F. Diehl.1 My definition conforms to that of William Thompson. In work with Karen Rasler, they define rivalries as situations in which “[b]oth actors view each other as a significant politicalmilitary threat and, therefore, an enemy.”2 In other work, Thompson writing with Michael Colaresi, explains further: The presumption is that decisionmakers explicitly identify who they think are their foreign enemies. They orient their military preparations and foreign policies toward meeting their threats. They assure their constituents that they will not let their adversaries take advantage. Usually, these activities are done in public. Hence, we should be able to follow the explicit cues in decisionmaker utterances and writings, as well as in the descriptive political histories written about the foreign policies of specific countries.3 Drawing from available records and histories, Thompson and David Dreyer have generated a universe of strategic rivalries from 1494 to 2010 that serves as the basis for this project’s empirical analysis.4 This project measures rivalry termination as occurring on the last year that Thompson and Dreyer record the existence of a rivalry.5 Why Might Economic Crisis Cause Rivalry Termination? **Economic crises lead to conciliatory behavior** through five primary channels. (1) Economic crises lead to austerity pressures, which in turn incent leaders to search for ways to cut defense expenditures. (2) Economic crises also encourage **strategic reassessment**, so that leaders can argue to their peers and their publics that defense spending can be arrested without endangering the state. This can lead to **threat deflation**, where elites attempt to downplay the seriousness of the threat posed by a former rival. (3) If a state faces multiple threats, economic crises provoke elites to consider threat prioritization, a process that is postponed during periods of economic normalcy. (4) Economic crises increase the political and economic benefit from **international economic cooperation**. Leaders seek foreign aid, enhanced trade, and increased investment from abroad during periods of economic trouble. This search is made easier if tensions are reduced with historic rivals. (5) Finally, during crises, elites are more prone to select leaders who are perceived as capable of resolving economic difficulties, permitting the emergence of leaders who hold heterodox foreign policy views. Collectively, these mechanisms make it much **more likely that a leader will prefer conciliatory policies** compared to during periods of economic normalcy. This section reviews this causal logic in greater detail, while also providing historical examples that these mechanisms recur in practice.

**Off-ramps to war solve**

**Schultz 18** (Kenneth, Professor of Political Science at Stanford University, “Perils of Polarization for U.S. Foreign Policy.” Washington Quarterly, Winter 2018)

From the perspective of the country’s foreign policy, one danger is that **presidents** can respond to this political risk by **shaping** military **operations** in ways that make them less effective. A president who expects to meet opposition may decide not to use force in a case where doing so might further U.S. interests—e.g., plausibly, Syria in 2013—or to **delay getting involved** while a crisis deepens—e.g., Bosnia from 1992–95.22 Presidents may also tailor the military strategy to ensure that an operation incurs **low costs** in terms of American casualties, thereby preventing a political **backlash**.23 For example, the (unauthorized) operations over **Kosovo** and **Libya** were designed to rely on air power only. Although several considerations contributed to those decisions—including the need to reassure worried allies and a skeptical Russia— they also dramatically lowered the risk to American service members. As a result, the **domestic** political **salience** and **risk** of these operations were minimized. The Obama administration even cited the limited nature of the Libya mission to argue that U.S. involvement did not rise to the level of “hostilities” for which Congressional authorization was needed.

**Reject their alarmism – internal checks are resilient**

**Frisén 17** – Håkan, Head of Economic Forecasting at SEB, 2-22-17, "Global economy resilient to new political challenges," https://sebgroup.com/press/news/global-economy-resilient-to-new-political-challenges

The interplay between economics and politics was undoubtedly a dominant feature of analyses during 2016. As we know, it was difficult to foresee both election results and their economic consequences. It was certainly not strange that economists were unable to predict the Brexit referendum outcome or Donald Trump’s victory, when public opinion polling organisations and betting firms failed to do so, but lessons might be learned from the economic assessment impacts they made. Economists probably tend to **exaggerate** the importance of more general political phenomena. While in the midst of elections that appear historically important, it is tempting to present **alarmist projections** about election outcomes that seem improbable and/or unpleasant. But once the initial shock effect has faded, more ordinary economic data such as corporate reports and macroeconomic figures take the upper hand. ¶ Psychological effects often exaggerated¶ One important observation is that **it is difficult to find any historical correlation between heightened security policy tensions and economic activity**. Households and businesses do not seem to be especially sensitive in their consumption or capital spending behaviour. This is perhaps because uncertainty is offset by investments in a defence build-up, for example. Only when the conditions that directly determine profitability and investments are affected, for example via rising oil prices or poorly functioning financial markets, will the effects become clear.¶ Markets also seem to have a general tendency to assume that the economic policy makers can actually **behave rationally in crisis situations**, until this has been disproved. Both during the US sub-prime mortgage crisis of 2007-2008 and the euro zone's existential crisis a few years later, for a rather long time the market maintained its faith that a response would come. Not until after a lengthy period of inept actions by decision makers did these crises become genuinely acute, with large secondary effects as a consequence. This market "patience" is presumably based on a long-time pattern of recurring bailout measures by governments and central banks, which usually benefit risk-taking at the expense of caution or speculation that policy responses will not materialise.¶ It is reasonable to assume that this may also underpin the rather cautious reactions to the risks associated with the Trump administration's agenda. Although one cannot complain about the administration's power of initiative, there is a fairly **high probability** that **in important areas it will not go from words to actions**. There may be various reasons for this, such as the inertia built into the **s**eparation **o**f **p**owers between the White House, Congress and the court system, or expectations that Trump's newly appointed cabinet secretaries and advisors will eventually take their cues from more **established** US positions.

**2nc – growth = war**

**First – resources – states use funds to ensure military build up which creates cycles of aggression – and, asymmetric resources cause war**

**Levy & Thompson 10** (Jack S & William R; Levy is Board of Governors' Professor of Political Science at Rutgers University, former president of the International Studies Association, Affiliate at the Saltzman Institute of War and Peace Studies at Columbia University; Thompson is Distinguished Professor and the Donald A. Rogers Professor of Political Science at Indiana University; 2010; “The Dyadic Interactions of States”; *Causes of War*; pp. 72-75, published by Wiley-Blackwell)

Realist and rationalist critiques Realists, who share the economic nationalism and statist orientation of the old mercantilists, criticize the liberal economic theory of peace on a number of grounds. First of all, they argue (as do some non-realists) that even if it were true that trade has a pacifying effect, the magnitude of the impact of trade on decisions for war and peace is **small relative to** that of **military and diplomatic considerations** (Buzan, 1984 ; Levy, 1989b ). Realists, like mercantilists, argue that states are **motivated** primarily **by power** and that economic opportunity costs of war are **minor** in the context of the long-term struggle for power. Were the Western liberal democracies seriously concerned about the short-term loss of trade when they made decisions to go to war against the hegemonic threats posed by Germany in 1914 and again in 1939? Realists also argue that trade and other forms of economic interdependence can actually **increase the level of** militarized **conflict** rather than reduce it (Barbieri, 2002 ). As Rousseau (cited in Hoffmann, 1963 :319) argued, “…interdependence breeds not accommodation and harmony, but suspicion and incompatibility. ”Among other things, interdependence creates increased opportunities for conflict. The greater the interdependence between states, the greater the number of things to argue about. In addition, whereas liberals argue that economic interdependence creates mutual dependence and incentives to avoid war, realists argue that interdependence may also be **asymmetrical**. Each is dependent on the other, but the degree of dependence is uneven. The less dependent party may be tempted to use economic coercion to exploit the adversary’s vulnerabilities and influence its behavior relating to security as well as economic issues. 32 These can lead to **retaliatory actions, conflict spirals, and war.** 33 The temptation to exploit asymmetries of interdependence is enhanced by the realist view that political leaders are concerned with “relative gains” and that they aim to maximize their power **relative to** that of **their adversaries**. 34 Whereas liberals focus on absolute gains and ask how much states gain from trade, realists focus on relative gains and ask who gains more. Liberals are more interested in the size of the pie, while realists are more interested in who has the larger slice. With respect to economic gains, realists assume that a state can convert any disproportionate economic gains into military power (Huntington, 1993a). Realists argue that in relations between adversaries or rivals, political leaders on at least one side will fear that the adversary will gain more from trade and convert those gains into further economic gains, political influence, and military power. This leads realists to argue that leaders’ concerns about relative gains will lead to reductions in trade in **intense international rivalries** and to the termination of trade if war breaks out between trading partners (Gowa, 1994 ). Concerns about the effects of asymmetric interdependence (and even symmetrical interdependence) are also shared by many rational choice theorists. One analytic problem with the economic opportunity cost model is that its causal logic focuses only on the costs and benefits to individual states and ignores strategic bargaining between states. If states are mutually dependent and fear the economic opportunity costs of escalation and war, it is quite possible that both might make concessions to avoid war, as the opportunity cost model predicts. It is also possible, however, that one side might conclude that its adversary has more to fear from war and more to lose in terms of opportunity costs of war, and that the adversary can be coerced to make concessions to avoid war. This is particularly likely if interdependence is asymmetrical. One state might actually increase its demands during a crisis, and **engage in threats of force** to back those demands, something that is even more likely to occur if one side is more risk acceptant than the other. In a crisis between interdependent states, then, it is unclear whether states will make concessions to avoid the opportunity costs of war or whether they will attempt to exploit their adversary’s fear of war through increased coercion. Depending on the magnitude of the increased demands, war might be more rather than less likely under conditions of interdependence. In the absence of more information, the outcome is indeterminate (Morrow, 2003 :90). This line of argument leads some rational choice theorists to suggest another mechanism through which economic interdependence contributes to peace. The advantage of high levels of economic interdependence is that it provides states with a greater range of options for sending credible signals of their resolve in a dispute. Trade and financial instruments serve as additional mechanisms (economic sanctions, for example) through which states can emphasize their evaluation of the issues at stake and their determination to hold firm, but with less cost and risk of escalation (Morrow, 1999, 2003 ; Gartzke, Li, and Boehmer, 2001 ). Economic sanctions are costly to the initiator as well as to the target. Only states that are highly resolved will be willing to incur those costs, so cutting back on trade or financial flows helps a state to signal its resolve in a dispute. Other states understand this, and the result is to reduce uncertainty about adversary intentions and consequently to reduce the danger of a war through miscalculation. Economic signaling also avoids (or at least delays) the resort to military threats that might also induce compliance but that are also more likely to induce counter-threats and escalation. Realists also question the standard liberal assumption that trade is always more efficient than military coercion in expanding markets and investment opportunities and in promoting state wealth. Realists argue that for much of human history military force has been a useful instrument to **promote state wealth** as well as power. Many liberals concede this point, but argue that as the foundations of wealth and power have historically shifted from territory to industrialization and now to knowledge - based forms of production, the economic value of territorial conquest has diminished, at least for advanced industrial states. The greater the mobility of production and of capital, the less is the utility of war as a means for acquiring wealth (Hirschman, [1945]1980 ; Brooks, 2005 ). Strategies of enhancing wealth through conquest have been replaced by strategies of enhancing wealth through trade, finance, and other forms of economic exchange. This line of argument leads Rosecrance (1986) to argue that the military state has gradually given way to the trading state. 35

**Reverse causal – a “Goldilocks depression” is key – long term crash massively turns case**

\*Resource wars AND debt-oil collapse within a decade make their war impacts inev

**Alexander 19** (Samuel, Simplicity Institute, and Ted Trainer, Melbourne Sustainable Society Institute, “The simpler way: envisioning a sustainable society in an age of limits,” real-world economics review, issue no. 87, <http://www.paecon.net/PAEReview/issue87/TrainerAlexander87.pdf)//NRG>

5. Conclusion There has been insufficient recognition of the way all the major global problems derive primarily from having exceeded the sustainable limits to growth. For instance the damage being inflicted on ecosystems can only increase unless we move to lifestyles and systems involving far lower per capita consumption than we are familiar with in the rich world. The soon to be **7+ billion** people living in poorer countries can only receive a fair share of the planet’s resources if those living in the rich countries reduce their consumption **dramatically**. Most **armed conflict** is to do with **fierce competition** to secure **scarce resources** and **markets**, meaning that if we insist on **remaining affluent** we will **need to remain heavily armed**. And the social cohesion and quality of life even in the richest countries will continue to deteriorate. These problems cannot be defused unless simper lifestyles and systems are willingly embraced. Several analysts have stressed the fragile **house-of-cards** nature of the global economy in our age of financial and ecological limits (see, for e.g., Korowicz, 2012; Morgan, 2013; Greer, 2008). Above all is its dependence on **debt**, now in excess of $250 trillion, **three** or more **times global GDP** and far higher than before the GFC. These considerations align with Marx’s fundamental insight regarding the self-destructive contradictions built into the foundations of capitalism, even though he did not clearly envisage its resource limits. In an oil dependent economy, it is highly likely that if the yield from shale oil production falters in the next decade or so a **global debt crash of unprecedented proportions will suddenly impact**. It might not be the final GFC; some envisage partial recovery initiating a “bumpy road down” or a slow “catabolic collapse” (Greer, 2008). But others foresee the end of civilisation and the die-off of billions. What is to be hoped for is a **“Goldilocks depression**” that falls short of catastrophic breakdown but is serious enough to jolt large numbers into recognising that the growth and greed system is not going to provide for them.

**Second – it creates false confidence to win wars – that mitigates deterrence, because modernization ensures more violence - Chinese and Russian expansionism prove**

**Globalization supercharges our arg**

**Irandoust 17** (Manuchehr Irandoust, Department of Economics and Finance, School of Business Studies, Kristianstad University, “Militarism and globalization: Is there an empirical link?” Quality and quantity, June 16, 2017, Springer Open Access)

[GLOB = globalization index, MIS = militarized spending]

The results of the bootstrap panel Granger causality test are shown in Table 2. The findings show that **GLOB and MIS are causally related** in most of the countries under review. There is a bi-directional causality in UK, US, Saudi Arabia, and Russia. The causality is unidirectional running from GLOB to MIS in Australia, Brazil, India, and China, and running from MIS to GLOB in Turkey. The degree of significance level varies from country to country. There is no any causal relationship between military spending and globalization in France, Italy, South Korea, Germany, and Japan. Overall, this evidence shows a **relatively robust association** between changes in globalization and changes in military expenditure. In other words, countries experiencing greater globalization have relatively **large increases in militarization** over the past 20 years.¶ However, it has been shown that globalization may not lead to more peaceful relations or demilitarization. As we discussed in Sect. 2, bilateral trade increases the opportunity cost of bilateral war and may hinder bilateral war. Globalization (equivalent to multilateral economic openness) **reduces this opportunity cost with any given country** and devitalize the incentive to make concessions during negotiations, and, therefore, **increases the probability of war** between any given pair of country. Thus, an increase in trade or openness between two countries may restore peace between those but may increase the probability of conflict with third countries.¶ 6 Conclusion¶ While previous studies mostly focused on the causal nexus between military expenditure and economic growth, those studies have not considered the role of globalization. This study uses data from the top 15 military expenditure spenders over the period 1990–2012 to examine the relationship between militarism and globalization. The bootstrap panel Granger causality that accounts for both cross-sectional dependence and heterogeneity across countries is utilized to detect the direction of causality. The results show that military expenditures and globalization are causally related in most of the countries under review. Despite the increasing role of globalization, the results show that **military expenditures are growing** and pointing to a strengthening in nationalist sentiments and militarism. This paper suggests that changes in domestic political and economic conditions might hinder the process of globalization. The results are consistent with those of Acemoglu and Yared (2010) who conclude that high military spending endangers globalization. This study also supports the results of Martin et al. (2008) who find that an increase in multilateral trade raises the chance of conflict between states. The policy implication of the findings is that greater military spending by a country increases the likelihood of military conflict in the future, the anticipation of which discourages globalization.

**That explains every war**

Dr. David **Adams, 2002**, former UNESCO Director of the Unit for the International Year for the Culture of Peace, former Professor of Psychology (for 23 years) at Wesleyan University, specialist on the brain mechanisms of aggressive behavior and the evolution of war, “Chapter 8: The Root Causes of War,” The American Peace Movements, p. 22-28, <http://www.culture-of-peace.info/apm/chapter8-22.html>

To take a scientific attitude about war and peace, we must carry the causal analysis a step further. If peace movements are caused by wars and war threats, then we must ask, what are the causes of these wars, both in the short term and in the long term? Before analyzing the causes of wars, **it is necessary to dismiss a false analysis** that has been popularized in recent years, the myth **that war is caused by a "war instinct."** The best biological **and anthropological data indicate that there is no such thing as a war instinct** despite the attempt of the mass media and educational systems to perpetuate this myth. **Instead, "the same species that invented war is capable of inventing peace**" (note 15). Since there are several kinds of war, it is likely that there are several different kinds of causes for war. There are two kinds of war in which the United States has not been engaged for over two centuries. The first are wars of national liberation such as the American Revolution or today's revolutions in Nicaragua and South Africa being waged by the Sandinistas and the African National Congress. The second are wars of revolution in which the previous ruling class is thrown out and replaced by another. In the British and French Revolutions of earlier eras the feudal land-owners were overthrown by the newly rising capitalist class. In the revolutions of this century in Russia, China, Cuba, etc. the capitalists, in turn, were overthrown by forces representing the working class and landless farmers. T**he six wars and threats of war that have caused American peace movements** in this century **have been wars of imperial conquest, inter-imperialist rivalry, and capitalist-socialist rivalry. What are the root causes of these wars** in the short term? For the following analysis, I will rely upon some of America's best economic historians (note 16). **The Spanish-American and Philippine Wars** of 1898, according to historian Walter LaFeber, **were inevitable military results of a new foreign policy devoted to obtaining markets overseas for American products. The new foreign policy was the response to a profound depression that began in 1893 with unemployment soaring to almost 20 percent. Farm and industrial output piled up without a market because American workers, being unemployed, had no money to buy them**. Secretary of State Gresham "concluded that foreign markets would provide in large measure the cure for the depression." To obtain such markets, **the U.S. went into competition with the other imperialist empires such as Britain and Spain. The U.S. intervened with a naval force to help overthrow the government of Hawaii in 1893, intervened diplomatically in Nicaragua in 1894, threatened war with England over Venezuela in 1895, and eventually went to war with Spain in 1898 and invaded the Philippines in 1898**. To quote from the title of LaFeber's book, the U.S. established a "new empire." **American intervention in World War I again rescued the economy from a depression**. In 1914 and 1915, as war between the European imperialist powers broke **out, American unemployment was rising towards ten percent and industrial goods were piling up without a market.** One industrial market was expanding, however, the market for weapons in Europe. The historian Charles Tansill concludes that "**it was the rapid growth of the munitions trade which rescued America from this serious economic situation**." And since the sales went to Britain and France, it committed the U.S. to their side in the war. Finance capital was equally involved: "the large banking interests were deeply interested in the World War because of wide opportunities for large profits." When bank loans to Britain and France of half a billion dollars went through in 1915, "the business depression, that had so worried the Administration in the spring of 1915, suddenly vanished, and 'boom times' prevailed." Of course, German imperialism did not stand idly by while the U.S. profited from arms shipments and loans to their enemies in the war. German submarine warfare against these shipments finally provoked American involvement in the War. The rise of fascism in Europe was the direct result of still another cyclical depression, the Great Depression that gripped the entire capitalist world in the Thirties. In his recent book on the collapse of the Weimar Republic and the rise of fascism, David Abraham has documented **how major capitalists turned to Hitler to fill the vacuum of political leadership when the economy collapsed**. In part, the absence of political leadership "with the collapse of the export economy at the end of 1931...drove German industry to foster or accept a Bonapartist solution to the political crisis and an imperialist solution to the economic crisis. The "Bonapartist solution", as Abraham calls it, was found in Hitler's Nazi Party. As he says, "By mid-1932, **the vast majority of industrialists wanted to see Nazi participation in the government."** For these industrialists, **"an anti-Marxist, imperialist program was the least common denominator on which they could all agree, and the Nazis seemed capable of providing the mass base** for such a program." The appeasement of Hitler's promise to smash the communists and socialists at home and to destroy the Soviet Union abroad expressed a new cause of capitalist war. Up until that time, inter-imperialist wars were simply the response to economic contradictions at home and capitalist competition abroad. In part, World War II was yet another inter-imperialist war. But now a new cause of war was emerging alongside of the old. The rise of socialism was a direct threat to the entire capitalist world. In addition to glutted domestic markets and competition for foreign markets, the capitalists now had to face the additional problem that the overall foreign market itself was shrinking. Thus, they tended to support each other in the face of a common enemy. After World War II, there was a particularly sharp shrinkage in the "free world" for capitalist exploitation as socialism and national liberation triumphed through much of the world. The U.S. and its allies responded by demanding that the socialist countries open their doors to investment by capitalism. According to historian William Appleman Williams, "It was the decision of the United States to employ its new and awesome power in keeping with the traditional Open Door Policy which crystallized the cold war." As Williams explains, "the policy of the open door, like all imperial policies, created and spurred onward a dynamic opposition." **Diplomatic and military confrontation between the U.S. and USSR were used to justify the Cold War and establishment of NATO, but the underlying issues were economic. As** pointed out by historians Joyce and Gabriel Kolko, "**The question of foreign economic policy** **was** not **the** containment of Communism, but rather more directly the **extension and expansion of American capitalism** according to its new economic power and needs." In addition to the new problem of shrinking world markets, there remained the problem of cyclical depressions. Although unemployment was not bad in 1946 because industry was producing to meet the accumulated needs of the war-deprived American people, the specter of another depression was very much a factor in the Cold War. As the Kolkos point out, "The deeply etched memory of the decade-long depression of 1929 hung over all American plans for the postwar era....In extending its power throughout the globe the United States hoped to save itself as well from a return of the misery of prewar experience." **The Vietnam War was a continuation of** the Cold War, as the United States tried to **prevent further shrinkage of the world capitalist economic system**. The U.S. had already fought a **similar war in Korea**. In his chapter, "The U.S. in Vietnam, 1944-66: Origins and Objectives," Gabriel Kolko calls the intervention of the United States in Vietnam, "the most important single embodiment of the power and purposes of American foreign policy since the Second World War." Elsewhere in his book, Kolko goes into detail about **the economic basis of American imperialism: access to raw materials, access to markets for American products, and investment opportunities for American capital.** **The Vietnam War**, he explains, **was not a conspiracy or simply a military decision. It was the natural result of "American power and interest in the modern world."**  Finally **we come to the question of what has caused the massive escalation of the arms buildup** under Presidents Carter and Reagan (and more recently under Bush, father and son). To some extent, it is a response to the old problem of cyclical depressions. Since World War II, **each recession has been deeper than the last, until by 1981 unemployment reached double digits** for the first time since the Thirties. Government spending was needed to put people back to work. Would the government spend the money for military weapons or for civilian needs? A long line of Presidential candidates, standing for the military solution, have been supported in their campaigns by the military-industrial complex against other candidates who were unable to wage a serious campaign for civilian spending instead of military spending. **The growing power of the military-industrial complex is a new and especially dangerous addition to the economic causes of war.** It reflects an economic crisis that goes even deeper than those of the past. In addition to the cyclical depressions and the shrinkage of foreign markets**, there is a new imbalance in the entire structure of capitalism. There is an enormous increase in financial speculation and short-term profit schemes. The military-industrial complex has risen to become the dominant sector of the American economy because through the aid of state subsidies it generates the greatest short-term profits**. Never mind if the U.S. government goes into debt to banks and other financial institutions in order to pay for military spending. The world of financial speculation does not worry about tomorrow. Not only does **this "military spending solution" endanger the security of the planet**, but it also increases the risk of a major financial collapse and subsequent depression. To summarize, we may point to the following causes of American wars over the past century: 1) cyclical crises of **overproduction and unemployment**, 2) **exploitation of poor** colonial and neo-colonial **countries** by rich imperialist countries, 3) **economic rivalry** for foreign markets and investment areas by imperialist powers, 4) the attempt to stop the shrinkage of the "free world" - i.e. the part of the world that is free for **capitalist investment and exploitation**, and 5) financial speculation and short-term profit making of **the military-industrial complex**. In the 1985 edition of this book the argument was made that the socialist countries were escaping from the economic causation of war. In comparison to the capitalist countries, they did not have the same dynamic of over-production and cyclical depression, with periods of enhanced structural unemployment. As for exploitation and imperialism, despite the frequent reference in the American media to "Soviet imperialism," the direction of the flow of wealth was the opposite of what holds true under capitalist imperialism. Instead of the rich nations extracting wealth from the poor ones, which is the case, for example between the U.S. and Latin America, the net flow of wealth proceeded from the Soviet Union towards the other socialist countries in order to bring them towards an eventually even level of development. According to an authoritative source associated with the U.S. military-industrial complex, the net outflow from the Soviet Union amounted to over forty billion dollars a year in the mid-1980's. In one crucial respect, however, the 1985 analysis was incorrect. It failed to take account of the military-industrial complex that had grown to be the most powerful force of the Soviet economy, a mirror image of its equivalent in the West. The importance of this was brought home to those of us who attended a briefing on economic conversion from military to civilian production that was held at the United Nations on November 1, 1990, a critical time for Gorbachev's program of Perestroika in the Soviet Union. The speaker, Ednan Ageev, was the head of the Division of International Security Issues at the Soviet Ministry of Foreign Affairs. He was asked by the Gorbachev administration to find out the extent to which the Soviet economy was being used for military production. Naturally, he went to the Minister of Defense, where he was told that this information was secret. Secret even to Gorbachev. In conversation, Ageev estimated that 85-90% of Soviet scientific researchers were in the military sector. That seems high until you realize that the Soviet's were matching U.S. military research, development and production on the basis of a Gross National Product only half as large. Since about 40% of U.S. research and development was tied to the military at that time, it would make sense that the Soviets would have had to double the U.S. percentage in order to keep pace. How could the Gorbachev administration convert their economy from military to civilian production if they could not even get a list of defense industries? Keeping this in mind, along with the enormous militarization of the Soviet economy, it is not so surprising that the Soviet economy collapsed, and with it the entire political superstructure. The origins of the Soviet military-industrial complex can be traced back to the Russian revolution which instituted what Lenin, at one point, called "war communism". He warned that war communism could not succeed in the long run and that instead of a top-down militarized economy, a socialist economy needed to be structured as a "cooperative of cooperatives." But war communism was entrenched during the Stalin years, carried out of necessity to an extreme during the Second World War, and then perpetuated by the Cold War. The economic causation of the war system is not new. It originated long before capitalism and socialism. From its beginnings in ancient Mesopotamia, the state was always associated with war, both to capture slaves abroad and to keep them under control at home. As states grew more powerful, war became the means to build empires and to acquire and rule colonies. In fact, the economic causation of war probably extends back even further into ancient prehistory. From the best analysis I know, that of Mel and Carol Ember, using the methods of cross-cultural anthropology, it would seem that war functioned as a means to survive periodic but unpredictable food shortages caused by natural disasters. Apparently, tribes that could make war most effectively could survive natural disasters better than others by successfully raiding the food supplies of their neighbors. While particular wars can be analyzed, as we have done above, in terms of immediate, short-term causes, there is a need to understand the war system itself, which is as old as human history. Particular wars are the tip of a much deeper iceberg. Beneath war, there has developed a culture of war that is entwined with it in a complex web of causation. On the one hand, the culture of war is produced and reinforced by each war, and, on the other hand, the culture of war provides the basis on which succeeding wars are prepared and carried out. The culture of war is a set of beliefs, attitudes and behaviors that consists of enemy images, authoritarian social structure, training and arming for violence, exploitation of man and nature, secrecy and male domination. Without an enemy, without a social structure where people will follow orders, without the preparation of soldiers and weapons, without the control of information, both propaganda and secrecy, no war can be carried out. The culture of war has been so prevalent in history that we take it for granted, as if it were human nature. However, anthropologists point to cultures that are nowhere near as immersed in the culture of war, and it is the opinion of the best scientists that a culture of peace is possible. Peace movements have not given enough attention to the internal use of the culture of war. The culture of war has two faces, one facing outward and the other inward. Foreign wars are accompanied by authoritarian rule inside the warring countries. Even when there is no war threat, armies (or national guards) are kept ready not just for use against foreign enemies, but also against those defined as the enemy within: striking workers, movements of the unemployed, prisoners, indigenous peoples, just as in an earlier time they were used against slave rebellions. As documented in my 1995 article in the Journal of Peace Research (Internal Military Interventions in the United States) the U.S. Army and National Guard have been used an average of 18 times a year, involving an average of 12,000 troops for the past 120 years, mostly against actions and revolts by workers and the unemployed. During periods of external war, the internal wars are usually intensified and accompanied by large scale spying, deportations and witch hunts. It would appear that we have once again entered such a period in the U.S. We are hardly alone in this matter. Needless to say, the culture of war was highly developed to stifle dissent in the Soviet Union by Stalin and his successors of "war communism." The internal culture of war needs to be analyzed and resisted everywhere. For example, readers living in France should question the role of the CRS. The internal use of the culture of war is no less economically motivated than external wars. The socialists at the beginning of the 20th Century recognized it as "class war," carried out in order to maintain the domination of the rich and powerful over the poor and exploited. Not by accident, it has often been socialists and communists who are the first to be targeted by the internal culture of war in capitalist countries. And they, in turn, have often made the most powerful critique of the culture of war and have played a leading role in peace movements for that reason. Their historical role for peace was considerably compromised, however, by the "war communism" of the Soviet Union. With its demise, however, there is now an opportunity for socialists and communists to return to their earlier leadership against war, both internal and external, and to insist that a true socialism can only flourish on the basis of a culture of peace. In considering future prospects for the American Peace Movements, I shall begin with trends from the past and then consider different factors for the future? First, let us look back over the economic factors and movements of the previous century to see if the trends are likely to continue. 1**. Wars are likely to continue because,** for the most part**, their economic causes remain as strong as ever**: 1) **cyclical crises of overproduction and unemployment**, 2) **exploitation of poor colonial and neo-colonial countries by rich imperialist** countries, 3) **economic rivalry for foreign markets** and investment areas by imperialist powers, 4) **the attempt to stop the shrinkage of the** "free world" - i.e. the **part of the world that is free for capitalist investment and exploitation**, and 5) **financial speculation and short-term profit making of the military-industrial complex**. The fourth factor is not as prominent since the collapse of the Soviet Union, but there is still evidence of this factor at work: for example, the attempted overthrow of the government of Venezuela in spring, 2002, was apparently linked to its developing ties with socialist Cuba, especially in terms of its oil resources. Although the coup d'etat failed, there was a risk of plunging Venezuela into warfare, especially considering the increasingly internationalized war next door in Colombia. **Although the "war against terrorism" in Afghanistan, Philippines**, etc. and the associated military buildup is usually justified as revenge for the attacks of September 11, **there seems little doubt that there are economic motives involved as well, including the control of oil resources from Central Asia as a supplement to those of the Middle East**. At the same time, **the massive expansion of the military-industrial complex in the U.S. appears at some level to be intended as an increase in government spending to** hedge against declining non-military production, unemployment and financial crises in the stock markets. 2. **The American peace movements have been reactive in the past**, developing in response to specific wars or threats of war, and then disappearing when the war is over or the threat is perceived to have decreased. In fact, this observation at the macro level is mirrored by an observation that I have made previously at a micro level: participants in peace movements have been motivated to an important degree by anger against the injustice of war. This dynamic seems likely to continue. Governments, worried about the reactive potential of peace movements may attempt to engage in very brief wars, just as the U.S. government cut short the 1991 Gulf War after several weeks to avoid an escalating peace movement. In the future, peace movements need to be broadened by linkages to other issues and by international solidarity and unity; otherwise they risk being only temporary influences on the course of history, growing in response to particular wars and then disappearing again afterwards**. The world needs a sustained opposition to the entire culture of war, not just to particular wars.** To be fully successful, the future peace movement needs to be positive as well as negative. It needs to be for a culture of peace at the same time as it is against the culture of war. This requires that activists in the future peace movement develop a shared vision of the future towards which the movement can aspire. I have found evidence, presented in the recent revision of my book Psychology for Peace Activists (note 17), that such a shared, positive vision is now becoming possible, and, as a result, human consciousness can take on a new and powerful dimension in this particular moment of history.

**--- boehmer prodict**

**Prefer Boehmer ev – it uses more and better data**

**Boehmer 10** (Charles R., Associate Professor of Political Science at the University of Texas El Paso, “Economic Growth and violent international conflict: 1875-1999,” Defence and Peace Economics, Volume 21, Issue 3, June)

The hypotheses are tested with a pooled cross-sectional research design utilizing the state-year unit of analysis. Each state in the international system is observed for each year of the data set from 1875-1999. Naturally though, due to missing data and list-wise deletion, some observations are dropped from the statistical models. The sample employed here includes economic growth rate data on 171 states, which is the broadest (number of states) and deepest (across time) data set employed to date to study the effects of economic growth on conflict. The study of state monads is a suitable research design to study the general effects of state attributes on conflict but this does not preclude analyzing this topic with other units of analysis.[4](http://www.informaworld.com/smpp/section?content=a922235442&fulltext=713240928#FN0004) The tests of the hypotheses require five different dependent variables. The data for the first four dependent variables originate from the Militarized Interstate Dispute (MID 3.0) data set compiled by the Correlates of War Project (COW) (Jones *et al*., [1996](http://www.informaworld.com/smpp/section?content=a922235442&fulltext=713240928#CIT0038); Ghosn *et al*., [2004](http://www.informaworld.com/smpp/section?content=a922235442&fulltext=713240928#CIT0025)). A MID occurs when a state threatens, displays, or uses military force against another state in the international system. The first dependent variable measures whether a state initiates a militarized dispute against another state in a given year. *Initiation* equals one when a state is on side A of a dispute in the first year of its onset, or zero otherwise. Similarly, when a state is on side B during the first year of a MID, then *Target* equals one, or zero otherwise. If a state responds militarily to a MID initiation by some other state then it is considered to have reciprocated in a dispute. *Reciprocation* equals one when a state is on side B during the first year of a MID (*Target* equals one) and counters with its own threat, display or use of military force, or zero otherwise.

**2nc – tetrais**

**nuclear use limits nuclear use – taboo**

**Mount 15** (Adam Mount is a Stanton Nuclear Security Fellow at the Council on Foreign Relations, PhD from the Department of Government at Georgetown University, “The Strategic Logic of Nuclear Restraint,” Survival vol. 57 no. 4)//cmr

The effects of a nation abrogating the nuclear taboo are difficult to foresee. It is possible that nuclear use would cause the non-proliferation regime to disintegrate as states rushed to obtain these newly useable weapons. On the other hand, nuclear use might be met with widespread revulsion, **strengthening the taboo** and leading to new restrictions on fissile materials worldwide. As Paul Bracken has written, ‘the question then may be how catastrophes in the second nuclear age can be exploited to create **a much more restricted global nuclear order**’.25 In the event that nuclear weapons are used against US forces or allies, the United States will have a vital interest in re-establishing the nuclear taboo.

**2nc – dedev – ov**

**Magnitude outweighs timeframe**

**Alexander 17**—lecturer at the Office for Environmental Programs, University of Melbourne (Samuel, with Jacob Garrett, “The Moral and Ethical Weight of Voluntary Simplicity,” Simplicity Institute Report 17a, 2017, dml)

What is more, to the extent that overconsumption of the world’s resources is **putting in jeopardy** the **viability of the planet** for **future generations**, then this also provides **utilitarian support** for voluntary simplicity. After all, if we take the happiness of future generations into account and recognise the **vast suffering** that would flow from ecosystemic collapse, then it would seem the moral scales **fall heavily** in favour of voluntary simplicity. By **consuming modestly** and thereby helping **avoid ecosystemic collapse**, this will help **maintain a healthy biosphere** for **millions of years** within which human beings can **flourish**. **Continuing** to consume recklessly, on the other hand, is likely to lead to **unfathomable suffering**, with runaway climate change being one of the greatest humanitarian threats (Gardiner, 2011). In closing it is worth noting that the moral scope of utilitarianism arguably **extends beyond humanity** and should include, as Mill (2012 [1863: 13) argued, ‘the whole of sentient creation’. That is, the entire animal kingdom, not just humans, should be included in the hedonic calculus, for as Bentham (2007 [1789: 311) asked, rhetorically: ‘The question is not, Can they [animals] reason? nor, Can they talk? but Can they suffer?’ And the answer to that final question is obviously yes – animals can suffer – and therefore morality arguably **demands their consideration** (Singer, 2009).

**Survival locked in from aff impacts**

**Denkenberger, et al, 17**—Tennessee State University, Global Catastrophic Risk Institute (David, with D. Dorothea Cole, Mohamed Abdelkhaliq, Michael Griswold, Allen B. Hundley, and Joshua M. Pearce, “Feeding Everyone if the Sun is Obscured and Industry is ~~Disabled~~ [Shut Down],” International Journal of Disaster Risk Reduction 21, (2017), 284–290, dml)

A number of catastrophes could block the sun, including asteroid/comet impact, super volcanic eruption, and **nuclear war** with the burning of cities (**nuclear winter**). The problem of **feeding 7 billion people** would arise (the food problem is **more severe** than other problems associated with these catastrophes). Previous work has shown **this is possible** converting stored biomass to food if industry is present. A number of risks could destroy electricity globally, including a series of high-altitude electromagnetic pulses (HEMPs) caused by nuclear weapons, an extreme solar storm, and a super computer virus. Since industry depends on electricity, it is likely there would be a **collapse of the functioning of industry** and machines. Additional previous work has shown that it is **technically feasible to feed everyone** given the **loss of industry** without the loss of the sun. It is possible that one of these sun-blocking scenarios could occur near in time to one of these industry-disabling scenarios. This study analyzes food sources in these combined catastrophe scenarios. Food sources include extracting edible calories from killed leaves, growing mushrooms on leaves and dead trees, and feeding the residue to cellulose-digesting animals such as cattle and rabbits. Since the sun is **unlikely to be completely blocked**, fishing and growing ultraviolet (UV) and cold-tolerant crops in the tropics could be **possible**. The results of this study show these solutions could **enable the feeding of everyone** given minimal preparation, and this preparation should be a high priority now.

**sustainability**

**locks in biod collapse, AG shortages¸ and chemical pollutants – only dedev solves it**

**Long et al 18**—Department of Sociology, Oklahoma State University (Michael, with Michael Lynch, Department of Criminology, University of South Florida, and Paul Stretesky, Department of Social Sciences, Northumbria University, “The Great Recession, the Treadmill of Production and Ecological Disorganization: Did the Recession Decrease Toxic Releases Across US States, 2005–2014?,” Ecological Economics Volume 146, April 2018, Pages 184-192, dml)

It has long been posited that economic production and the ecological crisis are **connected**. An important perspective on that connection was developed in environmental sociology (Schnaiberg, 1980) and ecological Marxism (Foster, 1992; O'Connor, 1988) and suggests that it is constantly expanding production that is increasing environmental harm. Specifically, an **increased reliance** on **natural resources**, **fossil fuels** and **chemical labor** to **intensify production** is **harming the environment at an accelerating rate** that can only be described as a ‘**treadmill of production**’ or ‘ToP’ (Gould et al., 2008).The intensification of production **generates ecological disorganization** (i.e., a condition that exists when ecosystems **cannot reproduce** and **regenerate** and which has been linked to the detrimental effects of ecological additions and withdrawals on the ecosystem by Schnaiberg). This perspective about the connection between the economy and environment is also consistent with traditional or orthodox assessments in the steady state economics literature (Daly, 1974, 1991), the limits to growth literature (Meadows et al., 1972; Meadows, Randers and Meadows, 2004), the scientific literature (Rockström et al., 2009a, b) and the social analysis of ecological footprints (Jorgenson and Burns, 2007). One area that is understudied in the entwined relationship between economic development and ecological disorganization is impeded economic development. That is, **can inhibited economic development slow ecological disorganization**? In other words, what is also referred to as “**economic degrowth**” (Kallis, 2011) may have **positive effects** with respect to the ecological crisis. Given the extent of the current ecological crisis, those ‘positive effects’ **may not turn back the ecological disorganization clock**, but **can at least temporarily obstruct the expansion** of ecological disorganization, possibly even **temporarily limiting the deleterious impacts** of the ToP on the **extent** or **expansion of ecological disorganization**. Interesting in this regard is the potential effect of the **Great Recession** of 2008–2009 on the **regression of the treadmill of production** and on **ecological disorganization**. The Great Recession, which affected world markets during the early 2000s, was exacerbated by financial crises and the subprime mortgage crises in the US during 2008 and 2009 (Fligstein and Goldstein, 2011). In the US, the Great Recession was marked by a decline in real gross domestic product, rising unemployment, a declining and stagnant stock market, and a fall in household net worth and manufacturing output and productivity (Kotz, 2009). These conditions essentially **establish a natural experiment** in which the effects of slowing the ToP on ecological disorganization can be observed. To do so, we examine the trend in toxic releases by US manufacturers across US states before (2005–2007), during (2008–2009) and after (2010–2014) the Great Recession as measured by the US Environmental Protection Agency's Toxics Release Inventory (TRI). 2. Background The **deleterious effects of economic production** on **environmental stability** and the **disorganization of ecosystems** have **long been recognized**. In our view, there are two primary explanations of this association since the 1970s. The first includes what can be classified as more traditional or orthodox economic analyses of that connection illustrated in the steady state economics literature by Daly (1973), the Club of Rome ‘Limits to Growth’ report (Meadows et al., 1972) and its 30 year up-date (Meadows et al., 2004), and Nicholas Georgescu-Roegen's (1971)The Entropy Law and Economic Process, which led to the development of ecological economics. The second approach characterized as a heterodox or non-traditional economic approach to this subject includes theory and research in environmental sociology and ecological Marxism associated with the work of James O'Connor, John Bellamy Foster, Allan Schnaiberg, and many empirical studies of related arguments by Andrew K. Jorgenson. The first notable empirical effort to address the relationship between economic growth and ecological (in)stability was Meadows et al.'s well known study, The Limits to Growth. Using **computer simulations**, the authors examined **three projections of ecological collapse** using **industrialization**, **pollution**, **ecological resource depletion**, **food production** and **world population data**, while **accounting for the ability of changes in technology** to **offset some of the resource availability problems** that would emerge. Two of the three models predict a **global ecological collapse** after the **middle of the 21st century**, with the third model reaching an equilibrium state. The Report was widely criticized when first released (Bardi, 2011), and was long attacked by radical free-market proponent Simon (2014). However, recent re-analyses (Meadows et al., 2004; Bardi, 2011) and reviews (Nørgaard et al., 2010) have been much more favorable.

**horrible economics – empirically proven**

**Tverberg 16**—M. S. from the University of Illinois, Chicago in Mathematics, and is a Fellow of the Casualty Actuarial Society and a Member of the American Academy of Actuaries, citing Joseph Tainter, Department of Environment and Society at Utah State University, former Professor of Anthropology at the University of New Mexico, and Peter Turchin, professor at the University of Connecticut in the Department of Ecology and Evolutionary Biology as well as in the Department of Anthropology and in the Department of Mathematics (Gail, “An Updated Version of the “Peak Oil” Story,” <https://ourfiniteworld.com/2016/08/08/an-updated-version-of-the-peak-oil-story/>, dml)

Instead of the scenario envisioned by Peak Oilers, I think that it is likely that we will in the **very near future** hit a limit similar to the collapse scenarios that **many early civilizations encountered** when they hit resource limits. We don’t think about our situation as being similar to early economies, but we too are reaching a situation of **decreasing resources per capita** (especially energy resources). The resource we are most concerned about is oil, but there are other resources in short supply, including fresh water and some minerals. Research by Joseph Tainter and by Peter Turchin indicates that some of the issues involved in previous resource-based collapses are the following: **Growing Complexity**. Citizens who discovered they were reaching resource limits typically tried to work around this problem. For example, hunter-gatherers turned to agriculture when their population grew too large. Later, civilizations facing limits added irrigation to raise food output, or raised large armies so that they could attack neighboring countries. Making these changes required greater job specialization and more of a hierarchical system–two aspects of growing complexity. This increased complexity used part of the resources that were in short supply, since people at the top of the hierarchy were paid more, and since building new capital goods (today’s example might be wind turbines and solar panels) **takes resources that might be used elsewhere** in the economy. Eventually, growing complexity **reaches limits** because costs rise **faster than the benefits** of growing complexity. **Growing Wage Disparity**. With growing complexity, wage disparity became more of a problem. I have described this problem as “Falling Return on Human Labor Invested.” Ultimately, this seems to be a **major cause of collapse**. Workers use machines and other tools, so this return on human labor has been leveraged by fossil fuels and other energy resources used by the system. **Spiking Resource Prices**. Initially, when there is a shortage of food or fuel, prices are likely to spike. A major impediment to long-term high prices is the **large number of people** at the **bottom of the hierarchy** (Figure 8) who **cannot afford** high-priced goods. Thus, the belief that prices can permanently rise to high levels is probably false. Also, Revelation 18: 11-13 indicates that when ancient Babylon collapsed, the problem was a **lack of demand** and **low prices**. Merchants found no one to sell their cargos to; no one would even buy human slaves–an energy product. **Rising Debt**. Debt was used to **enable complexity** and to **hide the problems** that people at the bottom of the resource triangle were having in purchasing goods. Ultimately, increased debt was not successful in solving the many problems the economies faced. Ultimately, Failing Governments. Governments need resources for their purposes, whether hiring armies or making transfer payments to the elderly. The way governments get their share of resources is through the use of **tax revenue**. When people at the bottom of the hierarchy were **cut out** of receiving adequate resources (through low wages), the amounts they could afford to pay in taxes **fell**. Governments would sometimes **collapse directly** from **lack of tax revenue**; other times collapses occurred because governments **could no longer afford large enough armies** to defend their borders. Ultimately, Falling Population. With low wages and governments requiring higher tax levels to fund their programs, people at the bottom of the hierarchy found it difficult to afford adequate nutrition. They became more susceptible to plagues. Loss of battles to neighboring countries could at times play a role as well. Lessons We Should Be Learning Even if we made it past peak conventional oil, there is likely a **different**, **very real collapse** ahead. This collapse will occur because the economy **cannot really afford high-priced energy products**. There are **too many adverse feedbacks**, including **increasing wealth disparity** and the likelihood of **not enough revenue** for governments.

**tech**

**Tech can’t surpass growth pressures**

**Alexander 19** (Samuel, Simplicity Institute, and Ted Trainer, Melbourne Sustainable Society Institute, “The simpler way: envisioning a sustainable society in an age of limits,” real-world economics review, issue no. 87, <http://www.paecon.net/PAEReview/issue87/TrainerAlexander87.pdf)//NRG>

The commonly cited “Ecological Footprint” index shows that to provide the average Australian with food, settlement area, water and energy takes about 7gha of productive land (Global Footprint Network, 2018). If by 2050 the expected 9.8 billion people were to have risen to the present “living standard” in Australia, and the planet's amount of productive land remains the same as it is today (which is doubtful), then the amount available per capita would be in the order of 1.25 gha. In other words, Australians today are making ecological demands per capita that are about **six times** what would be possible for all people to make. It follows that the impacts of affluent living standards would need to be reduced by more than 80% to meet the sustainability criteria of the Ecological Footprint analysis.167 Wiedmann et al. (2015a) state an even more striking conclusion: the per person consumption of the ten highest iron ore and aluminum consuming nations is around 80 times that of all the rest. On a finite planet facing ecological limits, these disparities in consumption and impacts are plainly unjust and unsustainable, and they begin to indicate the degree of reductions needed to achieve sustainability and distributive equity. Moreover, what if humanity leaves a fair share of the planet for other species? The “Living Planet Report 2018” (WWF, 2018) concludes that between 1970 and the present, the populations of vertebrate species have declined on average by 60% due to human economic activity, leading to some writers to speak of the “**Sixth Great Extinction**”. However, the problem of **ecological overshoot** is far more disturbing when we consider the **fundamental commitment** (even by rich nations) to **ceaseless growth** in production, consumption, trade, investment, “living standards”, wealth and GDP. If the Australian economy continues to grow by 3% p.a. and by 2050 the global population of 9.8 billion people achieved the same levels of GDP per capita, then total world economic output would be around 18 times the present amount. The Global Footprint Network (2018) finds that the present global economy already overshoots sustainable impacts by 70%, and yet the dominant economic paradigm is aiming to grow economic output many times over coming years and decades. This is, as Edward Abbey once said, “the ideology of the cancer cell.” Rejection of the limits to growth position is usually based on the belief that technical advance will deal with the associated problems by way of “decoupling”; that is, by enabling continued increase in production and consumption globally while bringing environmental impacts down to sustainable levels (e.g. Breakthrough Institute, 2015). It is not difficult to show the extreme implausibility of this **“technofix”** approach. The above figures show the enormity of the reductions that would be required. For the growth economy to operate within the sustainable carrying capacity of the planet and leave a share of the planet for other species, impact rates per unit of GDP would arguably have to be cut by 90% or more by 2050. What makes the decoupling vision even more implausible is that **despite decades** of extraordinary technological advance, global energy and resource use continues to rise steadily, not decline as the decoupling theory would imply. A litany of studies on decoupling show that efficiency gains within a globally growing economy have not led to, and **will not lead to, reduced** overall **impacts**, let alone reduce them sufficiently to achieve sustainability (Wiedmann et al., 2015b; Alexander, 2015; Ward et al., 2016; Trainer, 2016a).

**Growth-based innovations fail or backfire**

**Miller 21** (Samuel Miller-McDonald, interviewing/citing Jason Hickel, economic anthropologist whose research focuses on global inequality and political ecology, “Ecosocialism is the Horizon, Degrowth is the Way,” 2/11/21, <https://www.the-trouble.com/content/2021/2/11/ecosocialism-is-the-horizon-degrowth-is-the-way)//NRG>

SMM: There’s been discussion about the utopian imaginary of degrowth. It seems so often that the only two visions of futuristic society we’re regularly presented with are either 1) progressively high-tech society with killer (or helper) robots and space colonies or 2) low-tech visions of what industrialized people think of as “primitivism,” maybe with returns to foraging or agrarian serfdom. Less Is More and **degrowth**ism more broadly seem to be striking a totally different path that incorporates high-tech solutions to build low-tech, low-harm economies. Does that assessment ring true, or do you see it going in a different direction? JH: Yes, that’s the way I see it. I am **not anti-tech** at all. The truth is that capitalism constrains innovation, rather than enabling it. Consider the fact that so many of our brightest minds are focused on getting people to click on **ads** and buy stuff they don’t need, or even want. That is literally the cutting edge of US capitalism. Not surprisingly, capitalism prioritizes innovations that will further the interests of **capital accumulation**, rather than innovations that we actually need to solve social and ecological problems. Then there’s the **intellectual property regime**; imagine the innovations that would happen if knowledge was shared freely, rather than being locked up in corporate patents for **decades**? The second problem is that, under capitalism, innovations that deliver efficiency improvements lead not to a reduction of energy and resource use, but rather to more energy and resource use, because the gains are reinvested to expand the process of production and consumption. In other words, **growth**ism **wipes out** our most impressive **improvements**. When it comes to confronting ecological breakdown, we must realize that it’s not our technology that’s the problem, it’s growth. In a post-growth or post-capitalist economy, this wouldn’t be a problem. Efficiency improvements would work as expect them to, and enable us to reduce our impact on the Earth.

**Biomass sequestration destroys AG and accelerates species loss**

**Reville 21** (William, emeritus professor of biochemistry at UCC, “Aggressive de-growth needed to avoid climate nightmare,” **4/20**/21, <https://www.irishtimes.com/news/science/aggressive-de-growth-needed-to-avoid-climate-nightmare-1.4542632)//NRG>

Apparently the roadmap specified in the historic 2016 Paris climate agreement, designed to prevent global warming from exceeding pre-industrial temperatures by 1.5 to 2 degrees (our world is now about 1.1 degree warmer than pre-industrial times), relying on data supplied by the Intergovernmental Panel on Climate Change (IPCC), cannot succeed even if all greenhouse gas (GHG) emission-reduction targets are met. Achieving the Paris temperature target depends on technology, principally bioenergy with carbon capture and storage (known as BECCS), that sucks CO2 from the air. But it cannot be applied on the huge scale required, as explained by Eric Toensmeier and Dennis Garrity in Scientific American, August 2020. BECCS essentially means growing massive amounts of woody plants (biomass) that absorb CO2 from the air during growth, then harvesting and fermenting the plants to create biofuels (eg alcohol) or burning them to generate electricity and permanently sequestering from the atmosphere the emissions from these fermentations and burnings, eg by trapping emitted CO2 in underground rocks. Replacement trees are planted and the cycle repeats. Arable land Most IPCC BECCS scenarios make the unwarranted assumption of **unlimited availability of biomass**. The landmark IPCC global warming of 1.5-degree report of 2018 estimates that large-scale BECCS requires land area about **three times the area of India**. Most land suitable for BECCS is now used for agriculture and large-scale BECCS would use up **one third of the earth’s arable land**, making it impossible to feed the world’s population. It also calls for replacing existing forests with monocultures of high-wood-yielding trees such as eucalyptus. These vast monocultures would **destroy ecosystems**. Deploying large-scale BECCS to arrest global warming is not feasible, although smaller scale BECCS can make a contribution.

**decoupling**

**Decoupling is wrong. Best studies go neg. Aff data ignores *offshoring***

**Sandberg 18** (Maria Sandberg, Hanken School of Economics, Department of Marketing; Kristian Klockars, Social and Moral Philosophy, Faculty of Social Sciences, University of Helsinki; Kristoffer Wilén, Hanken School of Economics, Department of Marketing, “Green growth or degrowth? Assessing the normative justifications for environmental sustainability and economic growth through critical social theory”, Journal of Cleaner Production, 2018, DOI:10.1016/j.jclepro.2018.09.175)

Green growth, and in particular, decoupling, has been criticized for being unsuccessful in stopping environmental degradation (Fletcher and Rammelt, 2017; Jackson, 2016; Kallis, 2017a; Wiedmann et al., 2015). Jackson (2016) analyzed historical data on greenhouse gas emissions, material footprints, and resource extraction. He concluded that there is **no evidence** an absolute decoupling of economic growth from the use of natural resources is taking place. Calculating the material footprint of nations, Wiedmann et al. (2015) showed that no decoupling, absolute or relative, has been achieved in the last **two decades** in developed countries; any previous indications of decoupling were shown to be due to calculations that failed to incorporate the **full environmental impact of increased offshore production**.

Furthermore, Jackson (2016) calculated the required future reductions in resource use per unit of economic activity for a number of different scenarios, showing that absolute decoupling in a growth economy would require improvements in efficiency take place at **unprecedented rates**. Even the most conservative estimates indicated a required rate of at least ten times what has historically been achieved. Jackson concluded that improvements in efficiency are highly unlikely to reach rates high enough to achieve absolute decoupling in the future. It has been argued that efficiency improvements alone are unlikely to reduce the use of natural resources to the extent necessary and at the required time scale (IPCC, 2014) to stop environmental degradation.

**2nc – transition – ov**

**Core elements of growth are avoidable – property rights, market creation, capital accumulation are *imposed* on most of the world by the US – none of it is natural**

**Mindset shift is necessary and sufficient – now is key**

**Uren 21** (Sally Uren, CEO, and Caroline Ashley, Global Programmes Director, Forum for the Future, “We can’t ignore mindsets if we want to reset capitalism,” 1/13/21, https://businessfightspoverty.org/we-cant-ignore-mindsets-if-we-want-to-reset-capitalism/)//NRG

Does the disruption created by Covid-19 create opportunities to reset capitalism in the long term, or will inertia prevail? That is the key New Year question as we look beyond the Covid crisis to possible future pathways. Our contention is that mindsets will determine whether this disruption catalyses deeper change, or is just a swing of the pendulum before the status quo kicks back in. **Mindsets**, the stories we tell ourselves, our values and our assumptions, are rarely explicit, but they shape how we see the world and what counts as success. There are three reasons why the terrible chaos created by Covid provides triggers to reset capitalism. Firstly, the state has stepped up. Where publicly funded recovery packages exist, they provide opportunities for public investment on many fronts, from clean energy and infrastructure to retraining workers. Even where funds are short, there are widespread expectations of a greater role for **state action** to shape recovery. Secondly, the havoc wreaked by the pandemic means some costs of the transition are **already**, sadly, **being paid**. A deep reset of our fuel, travel, fashion and food sectors would have caused massive disruption, but as it is now, workers, firms and shareholders are already experiencing turmoil. Thirdly and more fundamentally, the onset of the COVID-19 crisis is challenging assumptions about **how the economy works** and who it works for. This may be good news for the mission to reset capitalism. In traditional mindsets, economic growth is the aim. People, **natural resources**, and fossil fuels are put to work to grow production and consumption at maximum efficiency and speed. We impose limits at the edges by outlawing modern slavery and imposing core environmental standards. But in this mindset, people and the environment serve the economy. Assumptions are made that people are separate from nature; that decisions are rational and unemotional; and that resources should be allocated where they achieve the highest return. But when governments and businesses reacted swiftly to COVID-19, they unwittingly **reversed this logic** by putting the economy at the service of people. Companies stopped operations, pivoted their factory production, offered services online for free, postponed or cancelled shareholder dividends. Government and business alike flipped their previous assumptions of what success looks like. Profits were sacrificed for health and society.

**Cartel Adv**

**disease**

**Unfettered growth pushes biophysical limits to extinction**

**Pegram 21** (Tom, Associate Professor in Global Governance and Deputy Director of UCL Global Governance Institute, and Julia Kreienkamp, Researcher at the Global Governance Institute, “Global obsession with economic growth will increase risk of deadly pandemics in future,” 3/5/21, <https://theconversation.com/global-obsession-with-economic-growth-will-increase-risk-of-deadly-pandemics-in-future-156509)//NRG>

Importantly, **COVID**-19 **was not a “black swan” event** – an event that cannot be reasonably anticipated. As Mike Ryan, executive director of the World Health Organization’s emergencies programme, made clear in an impassioned address in February, COVID-19 is very much a human-made emergency. By continuing to privilege **economic growth** over environmental and social sustainability, “we are creating the conditions in which epidemics flourish … and taking huge risks with our future”. Human civilization is on a **collision course** with the laws of ecology. Experts have long warned of **zoonotic diseases** jumping the species barrier as a result of growing human encroachment on nature. A 2019 landmark global biodiversity assessment showed that species and ecosystems are declining at rates “**unprecedented** in human history”. **Biodiversity loss** is accelerating, driven by multiple interrelated forces, all of which are ultimately produced or greatly amplified by practices that push **economic growth**. These include **deforestation**, **ag**ricultural **expansion** and the **intensified consumption** of wild animals. Climate change often steals the headlines, but it is becoming increasingly clear that the prospect of mass biodiversity loss is just as **catastrophic**. Crucially, these two challenges are **deeply interlinked**. Global warming is putting massive pressure on many of our most diverse natural ecosystems. In turn, the decline of these vital ecosystems weakens their ability to **store carbon** and provide protection from **extreme weather** and other climate-related risks.

**chemical sector**

**chemical sector is our dedev impact**

Julian **Cribb 17**, Fellow of the Australian Academy of Technological Sciences and Engineering, 2017, “The Poisoner,” in Surviving the 21st Century, p. 113-117

There are two essential points about the Earthwide **chemical flood**. First it is quite **new**. It began with the industrial revolution of the late nineteenth century, but expanded dramatically in the wake of the two world wars—where chemicals were extensively used in munitions—and has exploded in deadly earnest in the past 50 years, attaining a new crescendo in the early twenty-first century. It is something our ancestors never faced—and to which we, in consequence, lack any protective adaptations which might otherwise have evolved due to constant exposure to poisons. ¶ Second, the toxic flood is, for the most part, preventable. It is not compulsory—but **is an unwanted by-product of economic growth**. Though driven by powerful industries and interests, it still lies within the powers and rights of citizens, consumers and their governments to demand it be curtailed or ended and to encourage industry to safer, healthier products and production systems. ¶ The issue is whether, or not, a wise humanity would choose to continue poisoning our children, ourselves and our world. ¶ Regulatory Failure ¶ Despite the fact that around 2000 new chemicals are released onto world markets annually, most have not received proper health, safety or environmental screening—especially in terms of their impact on babies and small children. Regulation has so far failed to make any serious curtailment of this flood: only 21 out of 144,000 known chemicals have been banned internationally, and this has not eliminated their use. At such a rate of progress it will take us more than 50,000 years to identify and prohibit or restrict all the chemicals which do us harm. Even then, bans will only apply in a handful of well-regulated countries, and will not protect the Earth system nor humanity at large. Clearly, national regulation holds few answers to what is now an out-of-control global problem. ¶ Furthermore, the chemical industry is relocating from the developed world (where it is quite well regulated and observes its own ethical standards) and into developing countries, mainly in Asia, where it is largely beyond the reach of either ethics or the law. However, its toxic emissions return to citizens in well-regulated countries via wind, water, food, wildlife, consumer goods, industrial products and people. The bottom line is that it doesn’t matter how good your country’s regulations are: you and your family are still exposed to a growing global flood of toxins from which even a careful diet and sensible consumer choices cannot fully protect you. ¶ The wake-up call to the world about the risks of chemical contamination was issued by American biologist Rachel Carson when she published Silent Spring in 1962, in which she warned specifically about the impact of certain persistent pesticides used in agriculture. Since her book came out, the volume of pesticide use worldwide has increased 30-fold, to around four million tonnes a year in the mid-2010s. Since the modern chemical age began there has been a string of high-profile chemical disasters: Minamata, the Love Canal, Seveso, Bhopal, Flixborough, Oppau, Toulouse, Hinkley, Texas City, Jilin, Tianjin. Most of these display a familiar pattern of unproductive confrontation between angry citizens, industry and regulators, involving drawn-out legal battles that deliver justice to nobody. By their spectacular and local nature, such events serve to distract from the far larger, more insidious and ubiquitous, universal toxic flood. ¶ Chemists and chemical makers often claim that their products are ‘safe’ because individual exposure (e.g. in a given product, like a serve of food) is too low to result in a toxic dose, a theory first put forward by the mediaeval scholar Paracelsus in the sixteenth century. This ‘dose related’ argument is disingenuous, if not dishonest—as modern chemists well know—for the following reasons: Most chemicals target a receptor or receptors on certain of your body cells, to cause harm. There may be not one, but hundreds or even thousands of different chemicals all targeting the same receptor, so a particular substance may contribute an unknowable fraction to an overall toxic dose. That does not make it ‘safe’. Chemicals not known to be poisonous in small doses on their own can combine with other substances in water, air, food or your body to create a toxin. No manufacturer can truthfully assert this will not happen to their products. Chemical toxicity is a function of both dose and the length of time you are exposed to it. In the case of persistent chemicals and heavy metals, this exposure may occur over days, months, years, even a lifetime in some cases. Tiny doses may thus accumulate into toxic ones. Most chemical toxicity is still measured on the basis of an exposed adult male. Babies and children being smaller and using much more water, food and air for their bodyweight, are therefore more at risk of receiving a poisonous dose than are adults. ¶ Chemicals and minerals are valuable and extremely useful. They do great good, save many lives and much money. No-one is suggesting they should all be banned. But their value may be for nothing if the current uncontrolled, unmonitored, unregulated and unconscionable mass release and planetary saturation continues.¶ Chemical Extinction ¶ Two billion years ago, excessive production of one particular poisonous chemical by the inhabitants of Earth caused a colossal die-off and threatened the **extermination of all life**. That chemical was oxygen and it was excreted by the blue-green algae which then dominated the planet, as part of their photosynthetic processes. After several hundred million of years, the planet’s physical ability to soak up the surplus O2 in iron formations, oceans and sediments had reached saturation and the gas began to poison the existing life. This event was known as the ‘oxygen holocaust’, and is probably the nearest life on Earth has ever come to complete disaster before the present (Margulis and Sagan 1986). Since it developed slowly, over tens of millions of years, the poisonous atmosphere permitted some of these primitive organisms to evolve a tolerance to O2—and this in time led to the rise of oxygen-dependent species such as fish, mammals and eventually, us. The takehome learning from this brush with total annihilation is that it is possible for living creatures to **pollute themselves into oblivion**, if they don’t take care to avoid it or rapidly adapt to the new, toxic environment. It’s a message that humans, with our colossal planetary chemical impact, would do well to ponder. ¶ While it is unlikely that human chemical emissions alone could reach such a volume and toxic state as to directly threaten our entire species with extinction (other than through carbon emissions in a runaway global warming event) or even the collapse of civilization, it is likely they will emerge as a serious contributing factor during the twenty-first century in combination with other factors such as war, climate change, pandemic disease and ecosystem breakdown. Credible ways in which man-made chemicals might imperil the human future include: **Undermining the immune systems**, physical and mental health of the population through growing exposure to toxins Reducing the intelligence of current and future generations through the action of nerve poisons on the developing brains and central nervous systems of children, rendering humanity less able to solve its problems and adapt to major changes; and by increasing the level of violent crime and conflict in society, which is closely linked to lower IQ. Bringing down the economy through the massive healthcare costs of having to nurse, treat and maintain a growing proportion of the population disabled by lifelong chronic chemical exposure. By poisoning the ecosystem services—clean air, water, soil, plants, insects and wildlife—on which **humanity depends for its own survival** and thereby contributing to potential global ecosystem breakdown By augmenting the global arsenal of weapons of mass destruction and hence the risk of their use by nations or uncontrollable fanatics.

# 1NR

## Bedoya

### A2: Ag Add-on

**Financialization and unsustainable international agricultural practices make global crisis inevitable**

**Tilzey 18** (Mark, Senior Research Fellow in Governance of Food and Farming Systems, Centre for Agroecology, Water and Resilience at Coventry University, *Political Ecology, Food regimes, and Food Sovereignty*: *Crisis, Resistance, and Resilience*, “The Neoliberal Food regime in crisis” (Chapter 7), 197-225, https://doi.org/10.1007/978-3-319-64556-8\_3)

Until the turn of the new millennium, neoliberalism appeared to be carrying all before it, without serious contradiction for this regime of accumulation. The collapse of state communism and the opening up of China and other centres of super-cheap labour as manufacturing zones for Northern transnational corporations enabled the attack on labour in the imperium to be mitigated by the import of ‘cheaps’ from the global South. As we have seen, this served a crucial legitimation function as well as maintaining satisfactory consumption levels in the global North. Environmental contradictions of productivist agriculture, of manufacturing, and of energy production in the imperium could also be mitigated through shifting these activities to the periphery. As the first decade of the new millennium progressed, however, a variety of contradictions, in terms of capital accumulation, in terms of the supply of basic needs to the global majority (perhaps most notably food), and in terms of the biophysical fabric of the planet and resource supply (all the while representing contradictions of capital for the subaltern classes and extra-human nature), began to ‘come home to roost’ as mounting contradictions for capital, and for neoliberalism in particular.

From the perspective of the ‘classes of labour’, the contradictions of neoliberalism are those **of wage stagnation**, increasing **job insecurity**, and increasing **indebtedness** (global North), and increasing **poverty and hunger**, **lack of access to land** and other **basic necessities** (food, water, shelter, healthcare) (global South). From the perspective of ‘ecology’, the contradictions are those of increased extraction of non-renewable resources, depletion of renewable resources, loss of biodiversity, and global climate change due to capital’s profligate consumption of fossil fuels. In short, from the biophysical perspective, this represents the generalized overconsumption of commodities to feed capital’s ‘treadmill of production’. From the perspective of capital, however, the contradictions for neoliberalism comprise, firstly, an under-consumption (over-accumulation) of commodities arising from competitive pressure to lower wages globally— capital, in other words, cannot sell the commodities that it needs to in order to survive by means of the treadmill of production. We can see clearly, therefore, that the aims of ecological sustainability and the aims of capitalist reproduction are **diametrically opposed**. Perversely, however, under-consumption leads to a further competitive downward spiral of labour shedding through automation, wage stagnation, and the search for ever-cheaper labour sources in order to lower prices so that market share can be retained. Meanwhile consumption, located largely in the global North, is sustained only by increasingly **risky credit-lending** and by never-ending product innovation and **premature obsolescence**. These dynamics can be explained only by reference to the ‘political’, Level 4, in our model, since they are essentially questions of class struggle in the authoritative domain.

But while capital needs to produce and sell more and more commodities to infinity, this unavoidable impulse constitutes a looming and potentially fatal second contradiction for capital in terms of the necessarily finite supply of energy and raw materials required for their manufacture. With the major means of keeping the cost of commodities down, and available in abundance—fossil fuel—**having now passed the point of peak supply**, the future prospect is one of dwindling stocks, and secularly **increasing cost**, of these crucial energy sources. Since renewable energy, despite the claims of ‘green capitalists’, cannot generate the cheap, abundant, and continuously expanding supply of energy required to feed capital’s insatiable appetite, the demise of fossil fuel would appear to constitute an insuperable obstacle to capital’s reproduction, unless some equivalent substitute can be found. These are ‘ecological’ or Level 3 dynamics where the ‘political’ dynamics of capital are enabled or constrained by biophysical affordances. At the same time, environmental contradictions for capital as reflexive political response, usually at the level of the state, in terms of regulatory climate change mitigation, generates constraints on capital through tendential restrictions on fossil-fuel consumption and greenhouse gas emissions. This leads, in turn, to the search for, and implementation of, fossil-fuel ‘substitutes’ in the form of, inter alia, **the ‘bio-economy’**. Since the ‘bio-economy’ requires land, in contrast to the ‘subterranean forest’ of fossil fuel, this inevitably leads to **conflicts with food production**, particularly in the global South, generating further reflexive political resistance by subaltern classes. These dynamics comprise a dialectic between Level 3 and Level 4.

The issue of land therefore assumes an importance in the current conjuncture that it appeared to have lost during the era of apparently limitless fossil-fuel production and consumption. Thus, as neoliberalism’s expansionary dynamic encounters the looming constraint represented by the exhaustion of the ‘subterranean forest’ of fossil fuel, so land, as in the pre-industrial era, again becomes the principal focus of contention as the basis for either the production of renewable energy, or for the production of food. And the contention is also focused on questions of ‘energy for whom?’ and ‘food for whom?’ Should energy and food be directed towards profligate consumption by the global minority in the North, or towards basic need satisfaction by the global majority in the South? In land, therefore, the different strands of the ‘political’ and ‘ecological’ contradictions of neoliberalism **coalesce**, culminating in strained social relations and struggles over land, between social classes within the global South, and between the global South and North. This is reflected in the revival of issues long eclipsed during the heyday of neoliberalism (and still largely eclipsed in the global North for the reasons earlier explained), such as land inequality, redistributive land reform, the organization of agriculture, its role in the social division of labour, and its relationship to non-agricultural sectors.

Contradictions for Neoliberalism in General

As we have seen, the crisis of the Keynesian regime of accumulation comprised a supply-side (under-accumulation) crisis, stimulating the turn to neoliberalism. The latter has, in turn, generated the current underconsumption (over-accumulation), or demand side crisis. These are ‘political’ or ‘internal’ contradictions, although enabled concurrently by ‘ecological’ or ‘external’ conditions of production. ‘Internal’ supply-side crisis tends to stimulate technological innovation and the exploitation of new and cheaper conditions of production to exert downward pressure on prices in order to sustain and enhance the rate of profit—hence the impulse towards globalization from the 1970s. The present conjuncture is characterized by the juxtaposition of demand-side crisis, due to the power of capital over labour (Level 4), with a supply-side crisis in the conditions of production, defined by increases in the cost of conditions of production, most particularly oil (Level 3), and the ramifications of political attempts to curb greenhouse gas emissions (together with knockon effects for fossil-fuel-based agriculture and consequent rise in the cost of food) (Level 3 and 4). The demand-side crisis is exacerbated by the supply-side crisis in the conditions of production, representing structural contradictions, compounded by the conjunctural tendency of monopoly finance capital to profit from speculation in newly de-regulated futures commodities such as food (Ghosh 2010; Isakson 2014). The result is a paradoxical situation in which financial surplus continues to increase even as the under-consumption crisis deepens, and the conditions of production exhibit a secular, if uneven, rise in cost.

The current plethora of commodities on the market is the product of global competition to produce masses of products on the basis of low wages and ever-lower costs in the biophysical conditions of production (the ‘cheaps’ of labour power in capitalist production and the ‘zone of appropriation’ that lies behind this). There is a frantic race to introduce new commodities in order to sustain sales, such that supply has become divorced from demand, resulting in major imbalances between the two. The outcome is a frenzied search for consumers that encounters the insurmountable constraint of limits to absorption. This comprises the perennial dilemma for capitalism of seeking reductions in wage costs whilst simultaneously desiring expanded consumption. It also comprises the characteristic capitalist paradox of poverty, or lack of ability to pay, in the midst of abundance. The rise in global trade above production reinforces global competition, while productivity growth in excess of wage increases hinders the realization of the value of goods through sales. The short-term imbalances caused by over-accumulated capital, over-produced commodities, and asymmetrically exchanged goods between South and North are inscribed in the contradictions that culminated in the financial crisis of 2007/8. These imbalances take the form of two fundamental contradictions for neoliberalism in the sphere of demand and in the rate of profit. This means that these contradictions of neoliberalism take place in two spheres, namely, the realization of the value of commodities, and the valorization of capital.

With respect to the crisis of realization, there are, as noted, **severe imbalances between production and consumption**. By reducing salaries and increasing unemployment and poverty, neoliberalism has eroded the purchasing power of the ‘classes of labour’ (of primary significance in the global North). This has created impediments to the realization of the value of commodities and has led, therefore, to a re-emergence of difficulties in realizing the surplus value that capitalists extract from their labour force. While the Fordist model included, as we have seen, a link between wage and productivity increases, the neoliberal model, by contrast, is premised on the prioritization of competition to reduce wage costs, thereby creating a widening gap between increases in production and purchasing power. The impacts of this have been most severe in the global South, as we have seen, where the labour force plays an insignificant role in global consumption but is vital in reducing costs of production. In addition to the removal of people, wholly or partially, from the land, the superexploitation of workers employed in capitalist production in the periphery is one of the main reasons for the food crisis that erupted almost simultaneously with the financial crisis. As we have seen, superexploitation is compounded by extractivism, founded on ‘accumulation by dispossession’. ‘Neoliberal capitalism has **amputated** the basic sources of subsistence for **one-sixth** of the global population’ (Katz 2015, 283).

Significantly, however, these effects have been mitigated in the global North by a number of compensatory mechanisms which have been of benefit even for the ‘working classes’. However, the latter’s ability to purchase even luxury items, in addition to essentials, produced in the global South, is now linked not to improvements in income, but rather to **debt**. In other words, the realization crisis of neoliberalism has been kept within certain bounds through recourse to credit-lending, that is, to debt. This countervailing factor allowed purchasing power to be maintained despite wage stagnation, the creation of a ‘precariat’, and the spread of unemployment. Workers drew on credit relief, with this credit sustaining consumption levels until debt liabilities reached such a level that default became inevitable. **Financial crisis**, as we have seen, **was the consequence**. Clearly these structural proclivities **have not been removed,** so it seems **only a matter of time** before another financial crisis descends on the global North. (The financial crisis did not impact as severely on the global South simply because its workers are too poor for larger banks to consider lending to.)

It should be evident, then, that consumption is based on a highly polarized distributive structure at the global level based on the imperium as main consumer, and the periphery as main producer. Thus, 80 per cent of the planet’s population engages in just 14 per cent of private consumption (Katz 2015). In other words, 20 per cent of the global population (overwhelmingly in the global North) consumes 76 per cent of commodities produced. This casts doubt on assertions by alter-globalists such as Hardt and Negri that Marxian class analysis based on the labour theory of value is dead, and that the ‘pain’ of neoliberalism is distributed equally among the ‘multitude’, whether North or South.

With respect to the crisis of valorization, it is the case, as Marx foresaw, that the dynamic of accumulation increases the organic composition of capital, which, in turn, tends to reduce the rate of profit based on the surplus value extracted from the labour force. There are three indications that there has been an increase in the organic composition of capital under neoliberalism. Firstly, there were very significant increases in investment in Asian economies, particularly, most notably China, from the 1980s, which became the new ‘workshops of the world’. High rates of exploitation, particularly of semi-proletarian migrants from rural areas, made the average level of investment in China, particularly, extremely high in relative terms (see case study below). Secondly, despite increased rates of labour exploitation, there has been a uniform process of capitalization (the use of machinery in preference to labour) across all regions and sectors, North and South, associated with the activity of transnational capital. These capitals have sought to increase productivity, even in combination with super-cheap labour, by means of intense computerization of the production process. This has brought about a reduction in the surplus value created by living labour. Increasingly, there is little difference in productivity between labour in the global South and in the global North, but, despite this, wage differentials between the two remain huge. This is the key to super-exploitation in production in the South and the confinement of consumption to the global North. This phenomenon is known as ‘labour arbitrage’ (Smith 2016). Thirdly, the loss of jobs generated by capitalization has generated structural unemployment.

These three processes—high foreign investment by transnational capital, the information revolution, and structural unemployment—have increased the organic composition of capital, resulting in a relative deterioration of the rate of profit. As in the case of the realization imbalances, declining valorization of capital has generated countervailing tendencies. The prevailing countervailing tendency is that identified as number two earlier—driving wages down below the reproductive cost of labour power through an increased rate of exploitation. This is the principle mechanism identified by Smith (2016) in his unification of Lenin’s theory of imperialism with Marx’s labour theory of value. Herein lies the essence of neoliberal imperialism in its authoritative dimension.

Hitherto, these countervailing tendencies of a ‘political’ or ‘internal’ kind in the ‘zone of exploitation’ have been complemented by another, ‘ecological’ or ‘external’, tendency in the ‘zone of appropriation’—that is, a secular decline in the cost of raw materials. But the first decade of the new millennium began to witness a reversal of this countervailing tendency as the cost of the conditions of production exhibited an upward, if uneven, trend. Thus, neoliberalism’s ‘internal’ over-production crisis is compounded by an ‘external’ under-production crisis in the supply of the cheap and abundant energy and raw materials required to sustain the ever-enlarging scale of capital’s production and productivity.

Contradictions for the Neoliberal Food Regime

These relationships between ‘internal’ and ‘external’ contradictions of neoliberalism are exemplified particularly well by the food crisis of 2007/8. The ultimate, or structural, causes of the food crisis may be attributed to the basic accumulation dynamic of the class alliance of disarticulated capital described in the previous chapter, predicated, in the global South, upon a deepening process of primitive accumulation, engendering semi-proletarianization or proletarianization, and the superexploitation of labour. Alternatively, extractivism, through accumulation by dispossession, renders the expropriated work force surplus to requirements from capital’s perspective. Neoliberalizing agriculture has, through its symbiotic relationship with the disarticulated alliance, favoured and reinforced strongly skewed patterns of land distribution and production in much of the global South, particularly in Latin America and Asia, whereby agri-industrial producers, as a small minority, occupy much of the land and produce the bulk of export crops through the socio-naturally alienating techniques of market productivism (Kay 2006; Tilzey 2006; Weis 2007). As an outcome of such skewed land tenure structures, however, the majority of the rural population occupies insufficient land to meet its own food needs (the semi-proletarians), or has no access to land at all (the proletarians). Structurally, such populations therefore occupy a spectrum of class positions. These range from semi-proletarian, producing as much as they can on their small plots, usually for themselves and any surplus for the home market, and selling their labour on the large estates, or in the urban centres (see de Janvry 1981), to fully proletarian. Such ‘classes of labour’ comprise the growing numbers who now depend on the sale of their labour power for their own daily reproduction (Bernstein 2009). Such lack of adequate access to land, a direct consequence of class structures both supporting and supported by neoliberalism, therefore generates market dependence and **vulnerability to price volatility**.

Following the era of developmentalism, the neoliberal food regime has been characterized by the prising open of Southern markets through the bilateral class interests of neoliberalism, and further exacerbated by reductions in, or elimination of, support for domestic agricultural production, and other entitlement structures, by structural adjustment policies. Structural adjustment policies created new opportunities for the South to become increasingly export-oriented (Petras and Veltmayer 2001), favouring the agro-export fractions of capital in supplying cheap food and facilitating downward pressure on global labour from the 1980s. This has entailed the marginalization of other, sub-hegemonic, capitalist class fractions in favour of the agri-food oligarchy. Bilateral neoliberalization has thus enabled reconstruction of a global food regime that bears certain similarities to the Imperial food regime of the late nineteenth century, to the extent that cheap food is again siphoned off from the periphery to the consumption hubs of the global North (Araghi 2009b).

The consequence for growing numbers of rural producers in the global South has been increased poverty and an enforced process of semiproletarianization, or permanent rural–urban migration and consequent proletarianization. The consequence has been chronic levels of unemployment and under-employment throughout the burgeoning cities of the global South, together with their rural hinterlands (Davis 2006), leading to severe vulnerability and exposure to global market volatility, increasingly manipulated by the power of financialized transnational capital. The corollary is the displacement of local farming systems, the **loss** **of** associated **biodiversity**, and the general **degradation of ecosystems** and the biophysical resource base. As Araghi has noted, the [neoliberal] enclosure food regime, as the agrarian programme of a reenergized, re-globalizing capital, represents a reversal of the suspension of global value relations [of the state developmentalist era], with drastic consequences for the masses of agrarian direct producers who become redundant on a daily basis, and who are thrown out of collapsing national divisions of labour into the vortex of globalization as masses of surplus labour in motion. (2009b, 135).

This neoliberal ‘enclosure’ food regime, comprising the symbiosis of transnationalized fractions of Northern agri-food capital with extroverted class fractions of the South, has entailed a systematic emasculation of the developmentalist state in much of the periphery. This has involved a concomitant dismantling of government credit and protection for nationally oriented agriculture, together with progressive abandonment of public structures to ensure appropriate domestic food distribution and availability of strategic food staple reserves (Moyo and Yeros 2005). Heavily indebted states, now confronted by increasingly volatile international markets in food commodities and dominated by re-energized agroexport fractions of capital, are **unable**, **or unwilling**, **to counteract such volatility** since they are themselves, due to imperialist rent, privatization and contraction of the tax base, **constrained** **by** internal and external **fiscal deficits** (Ghosh 2010). The consequence is that many states in the global South are today characterized by a triple crisis of increasing semiproletarianization or proletarianization, increased international price volatility for food staples, and decreased capacity, or willingness, to address the consequences of such enhanced vulnerability.

The foregoing affords an ultimate explanation for the **structural and immanent** **vulnerability of the majority of rural** (and urban) poor to globalized market ‘forces’, and therefore to **food crisis**, through their sundering, wholly or partially, from the means of production, and through the consequent generation of market dependence. This constitutes an ‘internal’ (Level 4) contradiction of capital, although one that is inherently conjoined to the exploitation of ‘external’ socio-natural affordances in the generation of ecological surplus as a second structural, ‘external’ contradiction. This second contradiction arises both from the direct impacts of, and indirect and reflexive responses to, the ever-increasing **metabolic rift** between accumulation and the environmental conditions of production (Araghi 2009a). In this way, the increase in oil prices, and their consequences for global warming, led the ‘automobile-oil complex’, for example, to initiate investment of large sums of capital in the production of agro-fuels, especially in the production of sugar cane and maize for ethanol, and soybean, peanut, rapeseed, and oil palm for vegetable oil. This resulted in ‘an unmitigated attack by financial capital and transnational companies on Southern tropical agriculture’ (Stedile 2015, 37). This structural contradiction in the contraction of ‘ecological surplus’ through secular increase in the cost of fossil energy, combined with more conjunctural and reflexive responses by capital, to generate the causes of the food crisis in 2007/8. These Level 3 to Level 4 dynamics may be summarized as follows: (1) anthropogenic **climate-change-induced declines in** agricultural **output**, arising from the impacts of capital’s treadmill of production; (2) **oil price rises**, impacting upon agro-chemically based agriculture and leading to food price rises, as a result of impending peak oil, compounded by neoliberalism’s reluctance to invest in extractive infrastructure; (3) the diversion of land for the production of agro-fuels as a response to climate change and energy insecurity, again leading to food price rises as the area under food grains declines and, in the global South, peasant production is displaced by productivist, or extractivist, agro-fuel plantations.

Another proximate, or conjunctural, cause of food crisis derived from one of the more specific impacts of global financialization as an internal contradiction—the deregulation of commodity futures markets (Ghosh 2010). The resultant trend towards greater market volatility in agri-food and fuel commodities was compounded by a further ramification of the financial crisis in the global North. Northern finance capital sought a more ‘secure’ home in peripheral economies through investment in fixed assets such as land, minerals, agricultural raw materials, water, agricultural production in addition to the control of renewable energy sources such as hydroelectric power and ethanol plants (Stedile 2015). This ‘internal’ contradiction has served further to reinforce agri-food productivism, or extractivism, in the global South, to marginalize subaltern classes, and to **create immanent and actual conditions for food crisis**.

This analysis suggests, then, that both the ultimate, structural, and proximate, conjunctural, causes of food crisis arise from the dynamics of the neoliberalizing agri-food system within a disarticulating coreperiphery structure, and are linked intimately to the wider crisis of underconsumption in world accumulation. Thus, the newly disarticulating structure of transnationalized accumulation has facilitated downward pressure on labour costs and conditions of production, leading to underconsumption crisis and enhanced accumulation by neoliberal class fractions as financial surplus. This is the key ‘internal’ contradiction, as the generation of a huge reserve army of labour through primitive accumulation, and accumulation by dispossession, has kept wages low, leading to realization crisis. This is a crisis now increasingly both of and for capital, marking, at a minimum, a signal, and possibly also a developmental, crisis for neoliberalism. But while the cost of labour power has stayed down due to primitive accumulation and super-exploitation, counteracting increases in the cost of wage foods, selective and strategic conditions of production costs have risen progressively, basically through approaching/attained peak oil but also reflexive responses to global warming (agrofuels), manifest in steadily increasing energy and food prices. Thus, the first crisis is one of under-consumption through low wages; the second is through increasing costs in the conditions of production, representing an unusual and significant juxtaposition of demand-side crisis with supplyside crisis in the conditions of production.

**De-growth solves sustainable global ag**

**Tilzey 18** (Mark, Senior Research Fellow in Governance of Food and Farming Systems, Centre for Agroecology, Water and Resilience at Coventry University, *Political Ecology, Food regimes, and Food Sovereignty*: *Crisis, Resistance, and Resilience*, 2018)

Agro-ecological systems, by contrast, are predicated upon **much higher inputs of human labour**, such that the demise of fossil fuels carries with it the imperative to re-ruralize society, re-populate the countryside, break down functional and spatial dichotomies between city and countryside, and work with, rather than against, ecological processes. Together, **agro- ecology** and **food sovereignty** have the capacity both to **feed the world sustainably** (Badgley et al. 2007; Tittonell 2014) and provide **appropriate livelihoods** for the great majority as peasants, now re-united with the means of production through conferral of land sovereignty on devolved community authorities. If the widespread adoption agro-ecology and food sovereignty depend upon such a final resolution, then this, in turn, must rest upon reclaiming the land from the classes of the disarticulated alliance and from neo-developmentalism, in other words, through claims of land sovereignty and the redistribution of rights in land. And land sovereignty, in its turn, can realistically come about only through a process of reclaiming the nation (Moyo and Yeros 2011), in which new assertions of national sovereignty utilize the key jurisdictional authority of the state to transform class relations away from state centricity to the benefit of the semi-proletarian, landless, and indigenous majority. As Amin (2015, 30) suggests, ‘a land tenure reform conceived from the perspective of the creation of a real, efficient and democratic alternative supported by prosperous peasant family production must define the role of the state (principal inalienable owner) and the institutions and mechanisms of administering access to land and the means of production.’ This social relational transformation, re-asserting the political authority of community (commons) as solidarity, or moral, economy, and subverting the institutional separation of the ‘economy’ and ‘polity’ of the modern state, finally **removes the market** (capitalism) **as essential mediator between people and their means of livelihood.**

This suggests that the state, through a ‘dual powers’ strategy, can be a critical target to steer social relations in progressive directions towards agro-ecologically based food and land sovereignty. The political obstacles to such social relational transformation are, needless to say, **daunting**. We have stressed capitalism’s remarkable power to co-opt opposition and to turn crises to its advantage, spawning further ‘varieties’ of capitalism. Nonetheless, as McKeon (2015, 3) has noted ‘**this time it may be different**. Boundless hunger for profits is running up against the finite resources of the planet.’ It may well be, therefore, that, as the socially mediated ecological contradictions of and for these variegated capitalisms persist, grow, and coalesce, strategic relational responses will gradually turn the tide of history in favour of agro-ecology and food sovereignty.

### A2: Pharma Add-on

**Growth-driven tech innovation proliferates and advances the technology necessary to conduct bioterrorism.**

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Whatever the actual potential of these technologies, it is clear that a **powerful technological imaginary** exists among policy makers, technologists, and economists that contributes to an **unshakeable faith in innovation** and human ingenuity to **solve the decoupling challenge**. Degrowth proponents have so far mainly challenged this optimism by emphasizing the limited potential of renewable energy due to its intermittency and high land and raw material demands (e.g. Kallis, 2018). However, this may downplay the (at least theoretical) potential for **convergent breakthroughs** in **nanotech**nology, **synthetic biology**, and AI to **vastly improve** renewable **energy efficiency** and storage systems while designing new materials to substitute for depleting minerals (Diamandis and Kotler, 2014). More broadly, while degrowthers have to some extent considered individual FIR technologies (particularly AI and biotechnology) (e.g. Kallis, 2018; Kerschner et al., 2018), they have yet to address their convergent and mutually amplifying character, which leaves them vulnerable to the arguments of techno-optimists. Of course, the revolutionary promise of these technologies may fail to materialize, and, given the magnitude of the decoupling challenge, degrowth advocates are right to be skeptical. However, due to irreducible uncertainty combined with the ‘exponential’ and ‘revolutionary’ potential of the FIR (Schwab, 2017), even more rigorous critical assessments would always be insufficient in the eyes of the techno-optimists. Therefore, an alternative line of response should also be pursued: what if the FIR **does succeed** in **decoupling economic growth** from **total environmental impact?** What unintended consequences then might this give rise to?3 Dual-use technologies and the democratization of violence First, we must consider that all these are ‘dual-use technologies’, or technologies with potential both for economic productivity and violence. As Blum and Wittes (2015, p. 2) explain, these technologies are driving a trend referred to as the ‘democratization of violence’ in which the ‘destructive power once reserved to states is now the potential province of individuals’. Rather than simply a matter of creating new individual weapons, Blum and Wittes (2015, pp. 39, 7-8) emphasize that convergent FIR technologies are generating ‘whole technological fields – a series of breakthroughs in basic science and engineering’ that ‘generate creativity in their users to build and invent new things, new weapons, and new modes of attack’. And to compound the problem, while FIR technologies empower individuals to **kill** and **provoke systemic chaos** unlike any other time in history, they also empower states to monitor the minute details of private and public life and potentially constrict individual and collective freedoms, while the unprecedented threats enabled by these same technologies will likely reinforce governmental efforts to intensify securitization as deeply as is technologically feasible. Blum and Wittes summarize the emerging predicament as follows: How should we think about the relationship between liberty and security when we both rely on governments to protect us from radically empowered fellow citizens around the globe and also fear the power those same technologies give to governments? (Blum and Wittes, 2015, p. 13) Blum and Wittes do not consider how the earth system crisis will intersect with these threats, either as a positive or negative feedback. But it should be clear that, in a world of FIR-driven **sustainability solutions**, they would **inevitably intensify**, and it is thus necessary to consider what new problems and governmental responses they would engender.4 Without claiming to exhaustively describe the security risks created by the FIR, I will focus on three emerging areas of concern: biosecurity, cybersecurity, and state securitization, and will then discuss how they may collectively generate a spiral of insecurity and securitization. Biotechnology and the emerging terrain of biosecurity To begin with biosecurity, both the promise and peril of biotechnology – particularly the still nascent field of synthetic biology – is its immense creative potential. As a recent report from the National Academies of Sciences (NAS) describes: **synthetic biology** is expected to (1) **expand** the range of what **could be produced**, including making bacteria and viruses **more harmful**; (2) decrease the amount of time required to **engineer** such organisms; and (3) **expand the range of actors** who could **undertake such efforts**. (NAS, 2018, p. 4) For example, manipulating DNA structures in microorganisms can make certain agents **more virulent**, improve their resistance to **antibiotics** and **vaccines**, make them **less detectable** by already limited surveillance systems, transform **harmless** microorganisms into **deadly** ones, and make pathogens **more resilient** to diverse atmospheric conditions, thus increasing their lifespan (Charlet, 2018; NAS, 2018). At present these capabilities **remain limited** and dependent on **highly advanced techniques** and **laboratory equipment,** which is **why** most experts believe there have to date been **no mass casualty bioterror attacks** (NAS, 2018). However, the NAS notes that improvements in synthesis technology have followed a **‘Moore’s Law–like’ curve** for both reductions in costs and increases in the length of constructs that are attainable’, and that ‘these trends are **likely to continue**’ (NAS, 2018, pp. 18–19). Moreover, automated **DNA synthesis techniques** remove much of the time-consuming and technically difficult aspects of manipulating DNA, further **reducing** barriers to access (Wintle et al., 2017). And in the future, experts warn that ‘**convergent capabilities**’ between synthetic biology, information technology, nanotechnology, and 3D printing may enable **‘sudden’ breakthroughs in bioweaponization** (e.g. by improving bio-agent **stability** and **delivery**, providing advance[d]s **aerosolization capability**, and **accelerating** the ‘Design-and-Build’ cycle) (NAS, 2018, p. 87). The possibilities of bio-weaponization will **expand** as these techniques **diffuse**, which are already enabling the formation of a ‘DIYbio’ movement in which amateur scientists, inventors, and others are increasingly ‘capable of doing at home what just a few years ago was only possible in the most **advanced** university, government or industry **laboratories**’ (Bennett et al., 2009, p. 1109). The new CRIPSR/Cas9 gene editing technique **further expands** the range of **genomic tinkering** available to individuals, which has been widely embraced by the DIYbio community as a powerful tool that ‘makes it easy, cheap, and fast to move genes around – any genes, in any living thing’ (Maxmen, 2015). The capacities of DIY biohackers **remain limited in important ways**, though the trends described above suggests they will **continue to increase** as barriers to advanced bio-weaponization **fall** (NAS, 2018). And while the risks are evident, the democratization of these techniques may also facilitate the **diffusion** and **customization** of local solutions to **environmental** and health **challenges** while enhancing popular participation in the direction of **biotechnological evolution** away from **transnational corporate dominance** (Bennett et al., 2009). We can therefore say that these emerging technologies pose a unique kind of ‘security dilemma’: while their development and diffusion may strengthen local and global capacities to solve **environmental challenges**, they may also **imperil global security** by **unleashing** uniquely **powerful** and **complex violence capabilities**. Synthetic biology is only in its **early stages**, and governments from the UK to China aim to ‘accelerate [its] industrialization and commercialization’ in order ‘to drive economic growth’ and ‘develop solutions to key challenges across the bioeconomy, spanning health, chemicals, advanced materials, energy, food, security and environmental protection’ (Synthetic Biology Leadership Council, 2016, pp. 13, 4). If calls for emergency action to **exponentially expand the green economy** indeed **accelerate** these trends (Falk et al., 2018), then by 2030 (and more so by 2040) we will live in a world where genetically engineered **biofuels** dramatically increase, **genetic tinkering** with crop varieties is **normalized** to enhance agricultural resilience, and **gene drives** are deployed to **control** old and new **disease vectors** intensified by climate change (among other potential applications), which would **exponentially expand** the number of individuals with **biotech expertise** and **access to the needed equipment**. Therefore, while we have yet to experience a catastrophic bioterror attack, rapid advances in synthetic biology are nonetheless creating a ‘**black swan waiting to happen**’ (Bennett et al., 2009, p. 1110), and the risk is that such black swans could become **increasingly ‘normal’** if this technology becomes a **key engine of economic growth and green technological innovation**.

## T

### 2NC - OV

#### Topical affs need to expand Sherman and Clayton --- key to neg ground:

#### 1st --- forces the aff into a topic controversy --- Treble damages is key to distinguish antitrust from neg CPs

CRANE 74 --- MARK CRANE, Hopkins, Sutter, Owen, Mulroy & Davis, Chicago, Ill. Member of the Criminal Practice and Procedure Committee, Antitrust Section, American Bar Association, “REFORM OF THE FEDERAL CRIMINAL LAWS: A MAJOR CHANGE IN CRIMINAL ANTITRUST LIABILITY”, Antitrust Bulletin, 19 Antitrust Bull. (1974), https://journals.sagepub.com/doi/abs/10.1177/0003603X7401900301

The right to treble damages distinguishes antitrust offenses from most other offenses, since the treble damage remedy is not widely available to the victims of crime. Even the Securities Act of 193361 and the Securities Exchange Act of 1934 6 ' 2 -two statutes comparable to the antitrust laws in the amount of private litigation they have fostered-do not have treble damage provisions. The private right to sue for violations of those statutes is a judge-created right to single damages.6 3

#### 2nd --- neg uniqueness --- Dividing ground between Sherman/Clayton for Aff and Section 5 for Neg forces the Aff to be a departure from the SQ in a way that generates unique disad links --- Section 5 for the Aff allows them to defend “SQ but with more enforcement” (examples or story telling)

Buchanan 11 --- Buchanan Ingersoll & Rooney is a national law firm with a proven reputation for providing progressive, industry-leading legal, business, regulatory and government relations advice to our regional, national and international clients, PC, “FTC Files New Section 5 Suit Against Intel, Broadening the Scope of Federal Antitrust Enforcement”, April 5th 2011, https://www.bipc.com/ftc-files-new-section-5-suit-against-intel,-broadening-the-scope-of-federal-antitrust-enforcement

The FTC Act also has a few important limitations. It applies only to for-profit institutions, meaning that nonprofit hospitals and other nonprofit entities are not subject to suit under Section 5, even if they would be under the Sherman Act. It also applies only to interstate commerce, and excludes some foreign commerce. Most importantly, Section 5 contains no private right of action, and treble damages are not available. Instead, Section 5 is enforced exclusively by FTC action. It is this difference that accounts for the FTC's renewed interest in Section 5.

As the Commissioners make clear in their published statements on the Intel proceeding, the FTC's renewed interest in Section 5 in Intel and other recent cases is in part a reaction to recent decisions by the federal courts, such as Twombly, 550 U.S. 264, and Credit Suisse, 551 U.S. 264, that the Commissioners see as "'shrinking' the ambit of the Sherman Act both procedurally and substantively." Statement of Commissioner J. Thomas Rosch, at 4. Concerned with the rising number and cost of private treble damages suits, the courts have been raising additional barriers to antitrust enforcement, barriers that also apply to government enforcement under the Sherman Act. These restrictions will not apply to Section 5 actions; as Section 5 is enforced only by the FTC and is not subject to what some courts may see as abusive or frivolous private actions, the courts have not and likely will not feel the need to restrict Section 5 actions in the same way they have Sherman Act actions.

This Section 5 action represents the FTC's bid to claw back the restrictions that the courts have applied to the Sherman Act, allowing it to continue pursuing public enforcement under a statute that, as the Commissioners wrote in Intel, "extends beyond the borders of the antitrust laws," despite the courts' crackdown on abusive private enforcement actions. In the Commissioners' Statement, they make this explicit by suggesting that, in light of these recent developments, "it is more important than ever that the Commission actively consider whether it may be appropriate to exercise its full Congressional authority under Section 5." This means that even cases which, like Intel, might have previously been litigated under the Sherman Act are more likely to be enforced instead by the FTC.

### 2ac 1 – w/m

#### So does their solvency card – says DOJ will make a list, but FTC will enforce via FTCA section 5 (MSU = green)

Posner et al., Kirkland & Ellis Distinguished Service Professor, 17

(Eric, at the University of Chicago Law School, Fiona Scott Morton, the Theodore Nierenberg Professor of Economics at the Yale School of Management, and E. Glen Weyl, Senior Researcher at Microsoft Research and Visiting Senior Research Scholar at the Yale University Department of Economics and Law School, “A PROPOSAL TO LIMIT THE ANTICOMPETITIVE POWER OF INSTITUTIONAL INVESTORS”, Antitrust Law Journal, Vol. 81, No. 3 (2017), pp. 669-728, <https://www.jstor.org/stable/26425577>) AJW

II. OUR PROPOSED POLICY We now fully state our policy and discuss a range of its potential effects, beyond addressing the core competitive concerns that led us to the policy in the previous Part. A. Full Statement We begin by stating our policy, which depends on several terms that, them selves, need to be operationalized (in italics). No institutional investor or individual holding shares of more than a single effective firm in an oligopoly may ultimately own more than 1% of the market share unless the entity holding shares is a free-standing index fund that commits to being purely passive. We now define the terms above. • An institutional investor is said to hold or be invested in the set of firms representing the aggregate holdings of the entire investment company reporting to or under the corporate control of the same firm. Different "institutions" run by the same management company are treated as part of the same set of holdings and whenever we refer to an "institution," a "fund," or an "institutional investor," we mean the broad fund holding company (e.g., Vanguard, BlackRock, Fidelity, etc.), not the specific fund offered by these companies (e.g., Vanguard S&P 500 Admiral Shares). An institutional investor is invested in more than a single effective firm if it is invested in more than one firm, and the total market share of all firms it holds any stake in is greater than HHII\0,000 in the oligopoly. The effective firm definition allows an institutional investor to hold multiple competing sufficiently small fringe firms instead of a large firm. Prior to the start of each calendar year, the DOJ and FTC would make a list of industries constituting oligopolies and company market shares based on the standards discussed in Part I.C above. There would be some mechanism to solicit comments from any interested parties. The DOJ and FTC would then finalize the list with at least a month before the beginning of the new year to allow the institutional investors time to rearrange their holdings to comply with the policy. The market share ultimately owned by an institution or individual i is the sum over all firms j of the product of the share that institution has in that firm ßy and the market share of firm sp XjßySj. An index fund that is purely passive commits to engage in no communication with top managers or directors,98 to vote its shares in proportion to existing votes so that it has no influence in any corporate governance decision, and to own and trade stocks only in accordance with clear and non-discretionary public rules, such as matching an index as closely as possible. While we have generally assumed that our policy should take the form of an enforcement policy issued by the DOJ and the FTC analogous to the Guidelines, there are other possible approaches. It is possible that the FTC could issue formal rules under Section 5 of the FTC Act." In addition, the policy could be enacted as legislation. There are different advantages to each of the approaches. The DOJ and FTC could adopt an enforcement guideline at their discretion, while a regulation would require notice-and-comment rulemaking and be subject to judicial review under the Administrative Procedure Act, and legislation would require an act of Congress. Thus, it would be easiest to put in place an enforcement guideline, relatively difficult to issue a regulation, and (we suspect) nearly impossible to enact legislation, at least in the near term. However, the major disadvantage of an enforcement guideline is that it might not block the complex and uncertain private litigation that we are concerned about. That outcome would depend on the courts, which might—or might not—interpret the statute considering the enforcement guidelines.100 If varied court rulings caused difficulty for the business operations of institutional investors, they might prefer a formal rule to this policy. A regulation would result in greater judicial deference, and legislation the greatest.

### 2ac 2 – C/I

#### Their ev proves DOJ is the only one that can do treble damages and draws a distinction b/w consumer protection and antitrust (MSU=green)

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U.S. antitrust law is defined by federal and state statutes, as interpreted by the courts. The core federal statutes are the Sherman Act,1 passed by Congress in 1890, and the Federal Trade Commission2 and Clayton Acts,3 both passed in 1914. The United States Department of Justice (“DOJ”) and the Federal Trade Commission (“FTC” or “Commission”) (together the “agencies”) share enforcement of most areas of federal antitrust law but with some differences in the scope of their authority. The FTC has sole authority to enforce Section 5 of FTC Act, which prohibits (1) unfair methods of competition and (2) unfair or deceptive acts or practices. The FTC almost always pursues claims for anticompetitive conduct as unfair methods of competition and reserves charges of unfair or deceptive acts or practices for consumer protection violations. Though the FTC's authority to challenge unfair methods of competition goes beyond conduct prohibited by the Sherman and Clayton Acts, in practice the FTC brings most unfair methods of competition cases under the same standards that courts apply to Sherman Act claims. The most prominent exception is the invitation to collude offense, which falls outside the scope of the Sherman Act (if the invitation is not accepted, there is no agreement). The FTC challenges invitations to collude as so-called “standalone” violations of Section 5.4 The DOJ has sole authority to pursue criminal violations of the antitrust laws. Most states have their own state antitrust and unfair competition statutes. State law follows federal law to some extent, though as discussed below, may differ from federal law in meaningful ways that vary state to state. State attorneys general and private parties can also typically file suit to enforce both federal and state antitrust law.

#### Ignore colloquial references to “core antitrust” as including FTCA --- Courts have consistently identified a distinction --- precision o/w’s

**Raphael 16** – Litigation partner in the San Francisco office of Munger, Tolles & Olson Justin P. Raphael, Motion to Dismiss and Memorandum in Support filed by Defendant, Thompson, et al. v. 1-800 Contracts, Inc., et al., US District Court for the District of Utah, November 2016, LexisNexis

The FTC administrative action was not brought “to prevent, restrain, or punish violations of any of the antitrust laws.” Rather, it was brought under Section 5 of the FTC Act, 15 U.S.C. § 45. The term “antitrust laws” is defined in the Clayton Act to encompass a specific list of federal antitrust statutes, 15 U.S.C. § 12(a), which the Supreme Court has held is exclusive. Nashville Milk Co. v. Carnation Co., 355 U.S. 373, 376 (1958) (“[T]he definition contained in § 1 of the Clayton Act is exclusive. Therefore it is of no moment that [a statute not listed therein] may be colloquially described as an ‘antitrust’ statute.”). That definition does not include Section 5 of the FTC Act, and multiple courts have acknowledged that the FTC Act is not an “antitrust law.” See Pool Water Prods. v. Olin Corp., 258 F.3d 1024, 1031 n.4 (9th Cir. 2001) (analyzing “prima facie” weight provision of Clayton Act, 15 U.S.C. § 16(a), and noting that “prima facie weight is given only to violations of the ‘antitrust laws’ as defined by the Clayton Act,” which “does not include violations of the FTC Act”); Yamaha Motor Co. v. FTC, 657 F.2d 971, 982 (8th Cir. 1981) (noting that Section 5 of the FTC Act is not “one of the ‘antitrust laws’ within the meaning of Sections [16(a) and 16(i)] of the Clayton Act”).

Thus, an action brought under Section 5 of the FTC Act is not a proceeding “to prevent, restrain, or punish violations of any of the antitrust laws,” and does not toll the statute of limitations. See Laitram Corp. v. Deepsouth Packing Co., 279 F. Supp. 883, 891 (E.D. La. 1968) (“Since the FTC proceeding against [the defendant] was for violation of Section 5 of the FTC Act, not for violation of one of the antitrust laws within the meaning of Section 5 of the Clayton Act, the FTC proceeding does not toll the running of the statute of limitations.”).

#### Core antitrust laws are Sherman and Clayton --- Including FTCA expands conduct to include deceitful behavior and standard setting

LEIBOWITZ 06 --- JON LEIBOWITZ, FTC Chair, 2009-2013, FTC Commissioner 2004-2013, “CONCURRING OPINION OF COMMISSIONER JON LEIBOWITZ IN THE MATTER OF RAMBUS, INC. DOCKET NO. 9302”, August 2006, https://www.ftc.gov/sites/default/files/documents/cases/2006/08/060802rambusconcurringopinionofcommissionerleibowitz.pdf

It would be equally apt, though, to characterize Rambus’s conduct as an “unfair method of competition” in violation of Section 5 of the FTC Act. Section 5 was intended from its inception to reach conduct that violates not only the antitrust laws1 themselves, but also the policies that those laws were intended to promote.

\*\*FOOTNOTE 1 INSERT\*\*

1 15 U.S.C. § 12 (a) (2006). The antitrust laws include the Sherman Act and the Clayton Act (as modified by the Robinson-Patman Act). The FTC Act is not an antitrust law.

\*\*END FOOTNOTE 1\*\*

At least three of these policies are at issue here. From the FTC’s earliest days, deceitful conduct has fallen within Section 5's province for its effects on competition, as well as on consumers.2 Innovation – clearly at issue in this case – is indisputably a matter of critical antitrust interest.3 In addition, joint standard-setting by rivals has long been an “object[] of antitrust scrutiny” for its anticompetitive uses, notwithstanding its great potential also to yield efficiencies.4 In this case, Rambus’s deceptive conduct distorted joint standard-setting decisions and innovation investments in ways that seriously injured the operations of the competitive market to the detriment of consumers; it thereby transgressed the policies and spirit of the antitrust laws in all three respects. While respondent’s behavior before JEDEC might well have been challenged solely as a pure Section 5 violation, Complaint Counsel did not litigate this theory before the administrative law judge. Thus, I write separately to discuss and reemphasize the broad reach and unique role of Section 5.

#### More ev

Spengler 19 --- Teo Spengler, J.D, U.C. Berkeley's Boalt Hall, assistant attorney general in Juneau, “Consumer Laws: California Consumer Rights & Responsibilities”, December 27, 2019, https://legalbeagle.com/13720462-consumer-laws-california-consumer-rights-responsibilities.html

The core antitrust laws are federal – the Sherman Act and the Clayton Act. California's complementary laws are found in the Cartwright Act, Business and Professions Code Section 16720 and following sections. These laws bar agreements among competitors that would fix prices or allocate customers or markets. California law offers a more detailed list of forbidden actions than that included in the federal law's general prohibitions against restraints of trade. The California Attorney General enforces antitrust laws by reviewing business mergers, investigating violations of the law and litigation.

### A2: Predictability

#### Every court votes neg

Zwisler & Reeves 13 --- Margaret M. Zwisler, Senior Partner and immediate past Global Co-Chair of the Antitrust and Competition Practice, Latham & Watkins LLP, and Amanda P. Reeves, a Partner in the Antitrust and Competition Practice, Latham & Watkins LLP, “ANTITRUST JUDGMENTS IN BENCH TRIALS AS EVIDENCE: THE UNINTENDED CONSEQUENCES OF SECTION 5(A)”, THE SEDONA CONFERENCE JOURNAL, 2013, https://thesedonaconference.org/sites/default/files/publications/113-122%20Zwisler.pdf

The best illustration of why Section 5(a) reflects bad policy is its differing application to FTC and DOJ proceedings. The statute treats FTC and DOJ findings differently in two respects. First, the prima facie standard only applies to government actions brought “under the antitrust laws.”31 This was of no moment when Congress enacted Section 5(a) in 1914 because Congress had yet to create the FTC let alone enact Section 5 of the FTC Act, which is the agency’s principle statute for challenging anticompetitive conduct. When Congress enacted Section 5 in 1914, it elected not to amend the definition of “antitrust law” provided in Section 1 of the Clayton Act. 32 As a result, courts have uniformly held that FTC orders based on Section 5 of the FTC Act are not brought “under the antitrust laws” and are therefore outside of Section 5(a)’s scope. 33 This carve out proves significant because the FTC’s principle authority for challenging anticompetitive conduct is Section 5 of the FTC Act. Section 5(a)’s prima facie standard essentially has no effect when it comes to FTC’s challenges to anticompetitive conduct. 3