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## 1

#### Ag monopolies and vertical integration are necessary to an efficient food system.

Nordhaus '21 - founder and executive director of the Breakthrough Institute  
[Ted and Dan Blaustein-Rejto; Apr 18; "Big Agriculture Is Best;" https://foreignpolicy.com/2021/04/18/big-agriculture-is-best/]

Much of the criticism of big agriculture focuses on the monopolistic power of food processors like Archer-Daniels-Midland and Tyson Foods. But the bigger problem is arguably that there is too little vertical integration of food processors with food producers and landowners. Today, big food processors are able to take an outsized share of the profits from the food system while pushing the economic risk onto those further down the supply chain. Many large farmers, meanwhile, lease rather than own much of the land they farm, with much of America’s farmland owned by absentee landowners.

The resulting economic arrangements are rife with what economists call principal-agent problems. Many farmers don’t have incentives to invest in the long-term productivity of the land they farm because they don’t own it nor do they have the means to invest in cutting-edge capital equipment and technology.

These problems are exacerbated by the fact that many farms are family-owned but have no prospect for generational succession, as children continue to choose to pursue greener non-pastures off the farm. So for farmers who don’t own the land they farm, don’t have heirs to pass the farm on to, or both, investing time and money in technology and practices to improve land productivity over the long term does not make sense.

The prospect that a few large corporations could ultimately not only process but own much of America’s farmland and grow much of its food will strike many as fundamentally wrong. But it is likely where we are heading one way or another, as farming has always been a tough business to stay in, much less get into, and fewer and fewer Americans have any interest in doing so.

Vertical integration might bring significant benefits. Big agricultural corporations would have significantly greater incentive to invest resources into the long-term improvement of the land they own and farm, implement evidence-based farming practices, and spend on capital-intensive technology.

Large companies are also, counterintuitively, more responsive to demands for social responsibility, not less so. It is large, multinational corporations, not smaller regional operators, for instance, that have been willing to make zero-deforestation commitments in places like Brazil. That’s because, even though they can leverage their size and economic power to thwart reform, they are also easier to target, pressure, and regulate than more decentralized industries.

For these reasons, a food system that is bigger, more consolidated, and more vertically integrated might actually deliver better social and environmental outcomes than the one we have today. Either way, big farms and big agriculture are here to stay. They are a fundamental feature of global modernity, not a conspiracy by capitalists and corporations to poison people or the land.

Ultimately, improving the U.S. food system will require, first, appreciating it for the social, economic, and technological marvel that it is. It feeds 330 million Americans and many millions more around the world. It has liberated almost all of us from lives of hard agricultural labor and deep agrarian poverty. It has allowed forests to return across much of the United States while also sparing forests in many other parts of the world. It does all this while being extraordinarily efficient environmentally. A better food system will build on these blessings, not abandon them.

#### Only intensification can prevent zoonotic disease outbreaks and preserve biodiversity.

Smith '20 - Food and Ag Analyst @ Breakthrough   
[Alex; Apr 13; "To Combat Pandemics, Intensify Agriculture;" https://thebreakthrough.org/issues/food/zoonosis]

A number of activists and opinion writers have recently argued that SARS-CoV-2, the virus that causes COVID-19, can be traced back to “industrial” and “intensive” agriculture. In a Sierra Magazine piece titled “Blame It on the Farm Too,” Ashia Ajani points a finger at “Western-influenced farming practices” as a main cause of our current zoonotic outbreak and possible further outbreaks.

But these claims offer no explicit argument for how a different form of agriculture — outside of calls to completely eliminate meat consumption — would reduce risk, and they often conflate intensive animal agriculture with intensive agriculture writ large. More fundamentally, these claims point in the wrong direction. If anything, intensification is the solution to reducing the risk of zoonotic disease, not the problem, mainly because it addresses the real underlying causes of zoonosis: land-use change and food insecurity.

First, we should put to rest the argument that COVID-19 has direct ties to factory farming. As most of us know, SARS-CoV-2 has been connected to a wet market in Wuhan, China where wildlife like pangolins, civets, and more were sold alongside butchered meat and other foods. Like SARS before it, the novel coronavirus is assumed to have its origins in bats, but was spread from bats to an intermediary host — potentially a pangolin — before infecting humans.

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Many point to the conditions of the wildlife at the wet market — cages of live animals stacked on top of other live animals — as a perfect storm for zoonotic disease outbreaks, but the underlying cause is the consumption of wildlife. And as Elizabeth Maruma Mrema, the acting executive secretary of the UN Convention on Biological Diversity, explained to The Guardian, the hunger — often literally starvation — that drives consumption of wildlife ought to be cut off at the source, and until we can provide alternatives to wildlife trade and consumption, the problem will persist.

For some, the practice of wildlife consumption in China has direct links to the rise of industrial agriculture in the last quarter of the twentieth century. But the consumption of wildlife and exotic animals in China is historically rooted in food insecurity and, in fact, a failure to industrialize agriculture. According to journalist Brian Barth, Chinese consumption of wildlife stems from the 1970s decision to conclude the Maoist collective farming experiment — an experiment that saw severe famine and food shortages over the previous decades. The goal, instead, was to industrialize agriculture, but a lack of resources and funding meant that the state could not supply rural farmers with the means to industrialize and take advantage of economies of scale. Instead, those farmers who could not benefit from agricultural industrialization took up exotic animal farming as a new source of income.

As Chinese agriculture intensified throughout the following decades, exotic animals remained a part of certain regional diets. Up until the outbreak of the novel coronavirus, these animals were eaten both because of their cultural significance for traditional Chinese medicine, and as a means of demonstrating upward mobility and wealth.

The most important factor in the development of new zoonotic diseases is land-use change.

There is broad agreement in the epidemiological and virological studies of zoonoses that the most important factor in the development of new zoonotic diseases is land-use change. The development of wild lands, whether caused by agricultural extensification, mining, or other factors, simultaneously shrinks the habitat of wildlife and brings that wildlife in close proximity to human settlements. The combination of shrinking habitats, human-wildlife interactions, and food insecurity is a recipe for zoonosis. In West Africa, these three factors combined were responsible for HIV/AIDS and the slew of recent Ebola outbreaks.

Even when food insecurity and the consumption of wildlife are taken out of the equation, land-use change is a powerful driver of zoonotic disease, and has resulted in outbreaks of zoonotic diseases like malaria, yellow fever, dengue fever, Nipah virus, West Nile virus, Zika virus, and Lyme disease. Often, these diseases are transmitted from animals to humans through an intermediary, sometimes an insect (mosquitoes or ticks) and sometimes through livestock that live too close to wildlife populations, as was the case with Nipah.

Because the biggest driver of land-use change is agriculture, “intensive” high-yield agriculture often takes the blame, but the alternative — extensive, low-yield farming — would be worse. To prevent further pandemics, we must do as much as we can to stop land-use change while improving food security. We must, in other words, improve agricultural yields, allowing us to grow more food on less land. So, contrary to what many have asserted, a vital lever for limiting land-use change and providing cheap food for all is not to abandon intensive agriculture, but to intensify it further, especially in the developing world where food insecurity is greatest and where growing populations means rising food demand.

It is thanks to rising yields that farmers, globally, produce about three times the amount of crops while only using 13% more land than in 1950. For example, if yields from cereal production hadn’t increased since 1961, the global agricultural footprint would be 24% larger than it is today — increasing from roughly 50% at current levels to 62% of total habitable land — and would likely have resulted in even deadlier zoonotic outbreaks.

Figure 1, Our World In Data - “Crop Yields”

Alongside reducing deforestation and land-use change and improving food access and security, sustainably intensifying agriculture across the globe would benefit biodiversity by protecting habitats and keeping them from agricultural development. While monoculture means less biodiversity on farmland, the productivity gains of monocropping — and other intensive agricultural practices — allow for the sparing of far greater land that can be used as habitat for wild flora and fauna. Certainly, agricultural intensification alone is not enough to maximize land-sparing benefits, as improved conservation and land policy is needed to minimize rebound effects. But greater productivity is likely the longest lever for achieving ambitious conservation goals.

The spread of intensive agriculture has come with rising nitrogen run-off, methane emissions, and other environmental impacts. These are real problems, but their solution is the continued improvement of intensive systems. In fact, we are already seeing reductions in many environmental impacts from agriculture in countries where intensive agriculture is prevalent, such as the US.

In addition to intensifying agriculture generally, we must manage the risk from animal agriculture in particular. Activists and scientists are correct that reducing animal agriculture, or even eliminating it, would drastically reduce risk of zoonoses. But because the likelihood of a global switch to a plant-based diet is low and would in fact harm the hundreds of millions of smallholder farmers reliant on animal agriculture, we must seek out ways to both intensify animal agriculture and make it safer.

Worries about increased virulence of influenza strains and antibiotic resistance due to poorly managed low-dose usage of antibiotics on intensive animal agriculture are well-founded and downright scary. Alternatively, and potentially more importantly, animal agriculture, even the most intensive forms, requires huge amounts of land for either grazing animals or growing feed. In fact, beef production may be the largest driver of Amazonian deforestation. And, when animal agriculture encroaches on previously unmanaged wildlands, the risk of zoonotic diseases drastically increases as viruses can jump from wild to domesticated animals.

Technology has already helped improve the efficiency, sanitation, and health of cattle, pork, and chicken in the United States — for example, advances in veterinary and farm engineering have greatly reduced disease rates among american pigs — but there are many stones left unturned. Increased R&D, improved regulatory practices, and greater transparency are all clearly needed to ensure global meat production can be efficient, sustainable, and biosecure.

With our global population set to increase by close to 3 billion by 2050, we must strive to construct a world that can provide food, shelter, and livelihoods to all 10 billion people, while reducing risk of pandemics akin to what we see today. Simply, the only way forward is forward. We must continue to develop agricultural innovations that can allow for increased intensification, and we must give these innovations global reach. It does not work to just intensify agricultural production in developed countries, given the dual role of land-use change and food insecurity. To combat the main drivers of zoonotic diseases, we must sustainably intensify our food system, not pine for a romanticized and inefficient production system that brings people and wild animals in closer contact.

#### Reducing the amount of land needed for farming is necessary to prevent extinction.

Lynas ‘16 - visiting fellow at Cornell University’s College of Agriculture and Life Sciences   
[Mark, "Peak farmland is an ecological imperative," Dec 18, https://thebreakthrough.org/index.php/issues/the-future-of-food/responses-is-precision-agriculture-the-way-to-peak-cropland/peak-farmland-is-an-ecological-imperative]

Along with rapidly reducing greenhouse gas emissions, reaching 'peak farmland' is probably the world's most important environmental objective. However, it is far less well-known, and is not advocated as a target to my knowledge by any major environmental organization. The reason for this is doubtless because most of the agricultural policies long advocated by the green movement would serve to take us further away from peak farmland rather than towards it. It should be fairly obvious why peaking farmland expansion is important. Biodiversity loss ranks alongside climate change as an existential threat to the Earth's ecological systems, and conversion of land to agriculture and the resultant loss of habitat is in turn the greatest single threat to biodiversity. There is no prospect of sparing large areas of wilderness from the curse of the plough without halting the conversion of nature to human-oriented agriculture. It's either peak farmland or zero rainforest: our choice. And it is not just biodiversity on the line. When a team of scientists led by Johan Rockstrom in 2009 proposed a set of 'planetary boundaries' for avoiding damaging interference in the operations of the Earth system, they noted that majority of these proposed boundaries were significantly affected by farming: biodiversity, climate, nitrogen, water use, and so on. Making farming sustainable is therefore critical for planetary health in a wider sense than just climate or wildlife. Unfortunately, ideology—most clearly in the religion of organic and the cult of the 'natural'—serves mainly to obscure what needs to be done to achieve peak farmland. Organic farming has some direct soil and ecological benefits, but these are far outweighed by the fact that yields are significantly lower than in conventional systems: more farmland must therefore be brought into cultivation to produce the same overall harvest of food. There is a robust scientific consensus about this finding, which is supported by numerous meta-reviews. One recent innovation might have served to make organic agriculture viable—the harnessing of the power of biology, via crop genetics, as a disruptive technology to replace external inputs from agrochemicals. However, organic believers at an early stage decided that genetic engineering was an 'unnatural' technological innovation and therefore should be ruled out a priori. Ever since, various organic enthusiasts have tried to stop any cultivation of genetically modified crops elsewhere on the supposed basis that these crops might 'contaminate' their supposedly pure and natural (but lower-yielding) harvest. Genetic engineering can be thought of as biological precision agriculture. A single DNA sequence can be added to the genome of a crop to confer resistance to insect pests or fungal infections. This means, all other things remaining equal, that the insecticides or fungicides that would otherwise have been sprayed to protect the crop are no longer necessary. Drought tolerance as a trait can reduce the need for irrigation, while nitrogen efficiency can reduce fertilizer inputs. It was an epochal mistake for the organic movement to reject this technology. In a rational world, GMOs and organic would have made perfect bedfellows. In a 2010 paper in the journal PNAS, Jennifer Burney and colleagues calculated the greenhouse gas savings achieved by modern farming by comparing emissions with a counterfactual low-yield scenario that held technology constant at 1961 levels. They concluded that "the net effect of higher yields has avoided emissions of up to 161 gigatons of carbon since 1961". This is an enormous saving, equivalent to a third of the entire stock of human carbon emissions put into the atmosphere since the industrial revolution. And the land savings were equally stunning, equivalent to 1.7 billion hectares of cropland, an area twice the size of the contiguous United States. Genetic modification in its 'GMO' sense has only contributed a small latter portion to this improving picture—most of the gains were achieved through the earlier Green Revolution and the steady yield additions achieved thereafter. The challenge now is to build on this to both shrink the yield gaps that still bedevil developing countries, keeping them trapped in rural poverty, and to make conventional farming more sustainable in terms of soil conservation, reducing inputs and direct emissions and so on. This means dropping the romantic fantasies so beloved of urban foodies. Instead, in the words of Mark Watney in the movie The Martian, we need to "science the shit out of this".

## 2

#### The fifty states and relevant subnational entities should expand the scope of Section 16 of the Clayton Act to allow for an antitrust injury to include the threat of loss of profits due to possible price competition following a merger.

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

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

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

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

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

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

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

## 3

#### Biden slaps backs to pass infrastructure.

López ’9-16 [Burgess Everett and Laura Barrón-López; 2021; reporters, citing Senate Majority Whip Dick Durbin, Sen. Richard Blumenthal, Andrew Bates, a spokesperson for Biden, and Celinda Lake, a pollster on Biden’s campaign; Politico, “Dems call in big gun as they face huge Hill tests,” https://www.politico.com/news/2021/09/16/biden-influence-capitol-democrats-511952]

The next few months will push President Joe Biden to wield every drop of his influence over Congress.

Democrats are plunging into messy internal debates over social programs from child care to drug pricing as they try to beat back GOP resistance on voting rights while steering the United States away from economic catastrophe. And in order to avert a government shutdown, avoid a debt default and fight ballot access restrictions passed in some GOP states, Democratic lawmakers are urging Biden to get more directly involved.

Senate Majority Whip Dick Durbin said that Biden, “more than anyone,” maintains sway over his caucus’s 50 members: “There is no comparable political force to a president, and specifically Joe Biden at this moment.”

Biden appears to be answering the call. The president is getting increasingly involved in Congress’ chaotic fall session as he battles sagging approval ratings, heightened concerns around the pandemic and some internal criticism over his withdrawal from Afghanistan. On Thursday, he'll speak to Senate Majority Leader Chuck Schumer and Speaker Nancy Pelosi ahead of a critical week for funding the government and lifting the debt ceiling.

Rebounding as the midterms draw nearer will depend on whether his big social spending ambitions are realized and if his party can dodge a government shutdown and credit default. But even if he has success on those fronts, he still needs to maintain momentum on Democrats’ elections legislation, which Republicans look certain to torpedo.

“I have full faith and confidence in Joe Biden in all of this,” said House Majority Whip Jim Clyburn, who's pressed Biden to endorse a filibuster carve out for voting rights legislation. “He is working this … and that’s how it should be.”

Biden met with two key Democratic holdouts on his domestic spending agenda on Wednesday, part of a sustained push to keep Sens. Joe Manchin (D-W.Va.) and Kyrsten Sinema (D-Ariz.) on board with his legislative program. Biden’s met with Sinema four times this year, in addition to telephone calls made between the two, and has spoken to Manchin a similar number of times.

“Now is the time” for Biden to jump full-force into the reconciliation conversation, said Sen. Tim Kaine (D-Va.). And the White House made clear that Biden is diving into the series of tricky issues.

Andrew Bates, a spokesperson for Biden, said that Biden and his administration "are in frequent touch with Congress about each key priority: protecting the sacred right to vote, ensuring our economy delivers for the middle class and not just those at the top, and preventing needless damage to the recovery from the second-worst economic downturn in American history.”

To help corral all 50 Senate Democrats for the social spending bill, the president and his party need to create an “echo chamber” around its substance, said Celinda Lake, a pollster on Biden’s campaign. But that won't be easy. Manchin has told colleagues he’s worried about whether the bill’s safety net, climate action and tax reforms will be popular in his state, according to one Senate Democrat. He's also said he won't support a measure at the current spending level: $3.5 trillion.

If Biden can hammer home the popular aspects of the spending plan, it may help assuage Manchin and improve his whip count in Congress. Underscoring the degree to which he's become the face of the multi-trillion dollar reconciliation bill, a Democratic aide said the party is increasingly seeking to frame it as Biden’s agenda, not that of Sen. Bernie Sanders (I-Vt.) or any single Democrat.

“People think they like the reconciliation package, but they really don't know what's in it,” said Lake, who added that her polling shows popularity for the measure, particularly among women and seniors.

The coming months will also challenge Biden’s relationship with Republicans, who are threatening to block a debt limit hike after many of them supported a suspension or increase three times under former President Donald Trump. Biden campaigned as a Democrat who could work with Republicans, and he succeeded this summer by rounding up 19 Senate GOP votes for a $550 billion infrastructure bill.

Yet he’s running into a brick wall in convincing Senate Minority Leader Mitch McConnell to provide at least 10 GOP votes to lift the nation's borrowing limit. Republicans say Biden’s dip in the polls isn’t driving their strategy on the debt ceiling. But it’s not helping either.

“I don’t think anything in the last month has increased the likelihood that he can now create an atmosphere of: Let’s work together,” said Sen. Roy Blunt (R-Mo.), who voted for the infrastructure bill and debt ceiling increases under Trump.

The White House is, so far, sticking by its plan to try and call McConnell’s bluff. Aides in the West Wing consider attaching a debt ceiling suspension or increase to a government funding measure the best way to pressure Republicans on the routine step required by law. Should that approach fail, they may be forced to separate the two fiscal measures to avert a shutdown.

On the debt limit, congressional Democrats are in lockstep with the administration's strategy. But they're looking for Biden to exhibit more of his arm-twisting and back-slapping skills on their social spending plan and their bid to shore up voting rights protections.

Biden “knows better than anyone the power of the United States [presidency] in persuading and sometimes cajoling the key members of Congress, when push comes to shove,” said Sen. Richard Blumenthal (D-Conn.).

#### Antitrust requires PC, knocking out competing domestic initiatives.

Carstensen ’21 [Peter; February 2021; Fred W. & Vi Miller Chair in Law Emeritus at the University of Wisconsin Law School; Concurrences, “The ‘Ought’ and ‘Is Likely’ of Biden Antitrust,” <https://www.concurrences.com/en/review/issues/no-1-2021/on-topic/the-new-us-antitrust-administration-en#carstensen>]

14. Similarly, despite bipartisan murmurs about competitive issues, the potential in a closely divided Congress that any major initiatives will survive is limited at best. In part the challenge here is how the Biden administration will rank its commitments. If it were to make reform of competition law a major and primary commitment, it would have to trade off other goals, which might include health care reform or increases in the minimum wage. It is likely in this circumstance the new administration, like the Obama administration’s abandonment of the pro-competitive rules proposed under the PSA, would elect to give up stricter competition rules in order to achieve other legislative priorities.

15. Another key to a robust commitment to workable competition is the choice of cabinet and other key administrative positions. Here as well, the early signs are not entirely encouraging. In selecting Tom Vilsack to return as secretary of agriculture, the president has embraced a friend of the large corporate interests dominating agriculture who has spent the last four years in a highly lucrative position advancing their interests. Given the desperate need for pro-competitive rules to implement the PSA and control exploitation of dairy farmers through milk-market orders, the return of Vilsack is not good news. Who will head the FTC and who will be the attorney general and assistant attorney general for antitrust is still unknown, but if those picks are also centrists with strong links to corporate America the hope for robust enforcement of competition law will further attenuate!

16. In sum, this is a pessimistic prognostication for the likely Biden antitrust enforcement agenda. There is much that ought to be done. But this requires a willingness to take major enforcement risks, to invest significant political capital in the legislative process, and to select leaders who are committed to advancing the public interest in fair, efficient and dynamically competitive markets. The early signs are that the new administration will be no more committed to robust competition policy than the Obama administration. Events may force a more vigorous policy—I will cling to that hope as the Biden administration takes shape.

#### Plan is controversial.

Alemany ’19 -- Jacqueline Alemany, author of Power Up, an early morning newsletter featuring news critical to the nation’s many power centers, including the White House, Capitol Hill, government agencies, the Pentagon and more. [“Power Up: Democrats Are Not Only Itching to Break Up Big Tech. Big Ag is Also a Focus of Antitrust Plans,” *The Washington Post,* 10-3-2019, <https://www.washingtonpost.com/news/powerpost/paloma/powerup/2019/09/03/powerup-democrats-are-not-only-itching-to-break-up-big-tech-big-ag-is-also-a-focus-of-antitrust-plans/5d6d456488e0fa7bb93a88d7/>] KS

But not everyone is rooting for breakups. Former Agriculture secretary and Iowa Gov. Tom Vilsack has railed against the focus on monopolies, telling Iowa Starting Line the antitrust sentiment is being pushed by “folks in think tanks in urban centers who have had very little experience, if any, with rural places.”

“The problem is that a lot of this technology that these companies have is patented,” Vilsack told Power Up, who is now president and CEO of the U.S. Dairy Export Council. “If you take that seed company and divide it into a thousand small seed companies one or more of those seed companies is going to control the patent.”

Among the potential concerns about antitrust action is the future impact on Big Ag.

“Nobody really knows what’s on the other side of that,” Cullen said about what might happen if a company like meatpacking giant Tysons was forced to break up. “First of all, how does it rearrange markets? And what does it mean for the 3,000 families who work in meatpacking in Storm Lake, Iowa?”

#### Infrastructure passage lowers clean energy costs globally and solves existential climate change.

Bordoff ’21 [Jason; March 15; J.D. from Harvard Law School, co-founding dean of the Columbia Climate School, Professor of Professional Practice in International and Public Relations at Columbia University; Foreign Policy, “The Time for a Green Industrial Policy Is Now,” https://foreignpolicy.com/2021/03/15/biden-climate-energy-transition-green-new-deal-industrial-policy/]

Now that U.S. President Joe Biden’s $1.9 trillion plan for economic stimulus and pandemic relief has become law, his administration will turn its attention to a multitrillion-dollar plan to rebuild the United States’ ailing infrastructure. Its scope goes far beyond roads and bridges. Viewed in combination with other parts of Biden’s economic agenda, it reflects a new openness on both sides of the aisle to what has traditionally been known as industrial policy. Critics deride industrial policy as protectionist and as the government picking “winners,” but when it comes to clean energy—a top priority for Biden—a push by his administration to build new and innovative clean energy sectors using industrial policy may actually be the greatest contribution it can make to combating climate change.

Industrial policy, long anathema to mainstream economic policymakers in Washington, is back in vogue. The Biden administration’s Build Back Better economic plan includes targeted support for specific industries to make them more competitive with Asia and Europe and government procurement provisions to boost domestic manufacturing with “Buy America” requirements. As White House economist Jared Bernstein wrote in Foreign Policy, “the rationale for industrial policy is as strong as ever.” Biden’s national security advisor, Jake Sullivan, similarly wrote in Foreign Policy that “advocating industrial policy … should be considered something close to obvious.” Even Republicans, such as Sen. Marco Rubio, have been willing to deviate from the free-market’s gospel by endorsing industrial policy.

The push for industrial policy has been particularly strong for clean energy—as a way to combine battling climate change with building strategically important parts of the economy. The Green New Deal in 2019 drew the link between achieving net-zero emissions and creating millions of jobs by investing in the “industry of the United States.” Biden’s top economic advisor, Brian Deese, said, “some of the biggest opportunities” in climate policy right now are “what some people would call straight-out industrial policy.”

Industrial policy is a phrase used to mean different things. Broadly speaking, it refers to government intervention in the economy to promote and protect targeted sectors, often those considered strategically important. The term is therefore instinctively distasteful to those schooled in the laissez-faire, free-market orthodoxy of Adam Smith’s “invisible hand.” They worry about a creeping state capitalism that favors well-connected companies, stifling innovation and competition.

In reality, of course, the energy sector has never been free of government intervention. Nearly every source of energy receives some degree of favorable tax treatment. Nuclear energy receives government liability protection. Government investment and research gave rise to the shale revolution. As Robert McNally points out in his book, Crude Volatility: The History and the Future of Boom-Bust Oil Prices, the Texas Railroad Commission was the most successful oil cartel in history in setting prices, and even a Republican president like Dwight D. Eisenhower protected the domestic oil industry from the threat of imported oil.

To be fair, there are good reasons for government intervention in the energy market. Energy use and production can impose harm on others, such as through air pollution and carbon emissions. Energy innovation delivers benefits to all of us beyond the economic gains the innovator can capture. Energy infrastructure investment, such as pipelines, transmission lines, and electric vehicle chargers, may be hampered if any one firm’s investments benefit all their competitors or if it risks monopolistic market power of energy delivery mechanisms.

The argument for government’s role in the energy sector is even stronger today. First, the world faces an existential threat from climate change. With time running short to begin sharply curbing emissions, market forces will not deliver the pace of transition needed without robust government intervention. Second, the scale of that transition creates enormous economic opportunity to build new energy sectors. With the economy in a deep hole from the pandemic, leading in these new sectors can spur significant job growth. Finally, given the strategic importance of energy—critical to every citizens’ economic and physical well-being and safety, as the recent crisis in Texas reminded us—there is a strong national security rationale to develop these technologies and capabilities in the United States. As the energy system transitions to cleaner alternatives, there will be new risks associated with the critical minerals’ supply chains required for renewable energy and batteries, cybersecurity, and global trade chokepoints, which argues for reinforcing the domestic U.S. industrial base in these technologies.

To tackle the problem of climate change, Sullivan and Biden’s China advisor, Kurt Campbell, persuasively argued that the United States must pursue not only cooperation but also economic competition with China, for example. Noting that both Democrats and Republicans “are making a convincing case for a new U.S. industrial policy,” they called for more government investment in infrastructure and research in clean energy, among other areas, to confront such a “challenging economic competitor” as China.

The argument against industrial policy to combat climate change is that the government cannot anticipate which technologies will deliver the cheapest solutions. Yet, as the International Energy Agency explained, most of the key technologies the energy sector needs to reach net-zero emissions are known today. Market forces are still powerful—when properly directed by a carbon price—to give firms and consumers the right incentives to adopt and develop those technologies and to determine which ones emerge as the best solutions in different energy sectors.

Moreover, critics of industrial policy argue that if the goal is to reduce emissions as fast as possible, it should matter less whether the technology is made in the United States than whether it is as cheap as possible so more people will adopt it. Germany’s Energiewende, a comprehensive plan to shift the country to renewable energy, has been criticized for its high cost per ton of emissions avoided, which economists have estimated to be between $600 and $1500, much costlier than most other policy interventions. (To put the German numbers in context: The Obama administration estimated the total harm caused by one ton of carbon dioxide to be around $50, although there are good arguments to revise that figure higher.) Jason Furman, a Harvard professor and former Obama administration economic advisor, said “if you think climate change is the biggest challenge facing the country … you should want to make sure a lot of solar and wind energy is produced in the United States. You shouldn’t care nearly as much where panels and turbines are produced.”

Furman’s view is correct if the goal is to cut emissions in the United States as fast as possible. But what if the goal is to decarbonize the entire world’s emissions as fast as possible? What if the goal is to show climate leadership by helping all nations achieve net-zero emissions? In that case, the measure of U.S. climate policy should be less about how fast it brings down domestic emissions, only 15 percent of the world’s annual total, than about how fast it brings down the cost of clean technologies needed for the rest of the world to decarbonize.

Some clean energy technologies, such as solar and wind power or electric vehicles, are fairly cost competitive today relative to their carbon-intensive counterparts. Yet as Bill Gates explained in his new book, the cost difference between carbon-emitting and carbon-free production—what he calls the “green premium”—remains exceptionally high for many sectors and technologies, such as cement and steel, air travel and shipping, long-duration energy storage to cope with the intermittency of renewable energy, and steady sources of electricity like nuclear power or natural gas with carbon capture and storage. These technologies may not be needed to make a large dent in emissions by 2030, but they will absolutely be needed to achieve net-zero emissions by mid-21st century. Consider that the largest source of global greenhouse gas emissions comes from what Gates calls “making things,” such as the production of cement, steel, and plastics—sectors that will almost certainly need nascent technologies to decarbonize.

To promote domestic industries developing technologies for such hard-to-decarbonize sectors, policies should boost demand for such products, spur their deployment, and lower production costs. As first U.S. Treasury Secretary Alexander Hamilton famously explained: “In matters of industry, human enterprise ought, doubtless, to be left free in the main, not fettered by too much regulation; but practical politicians know that it may be beneficially stimulated by prudent aids and encouragements on the part of the Government.”

What might such a clean energy industrial policy look like? Dramatically increasing clean energy research and development funding can accelerate needed innovation. Subsidies can lower the cost of clean energy technologies, and a carbon price can increase the cost of carbon-intensive alternatives. The government can use its procurement power to create more demand or reduce risk for developers by signing long-term energy purchase agreements or guaranteeing them a certain price by paying the difference to prevailing market prices (the “contract for difference” model used in the United Kingdom). Low-cost loans and loan guarantees can support projects by lowering the cost of capital and the barriers to accessing private capital because of perceived technological risk. Infrastructure investment and streamlined permitting can boost demand and overcome chicken-and-egg problems. For example, there may be little incentive to develop zero-carbon hydrogen or install carbon-capture technology on power plants if there are no pipelines to transport fuel or carbon dioxide—but firms will not build the infrastructure until the new technology is commercialized. Trade and economic policy can align U.S. competitiveness with a global clean energy transition, such as through export finance to help clean energy companies compete with Chinese and other competitors in emerging markets. Some argue industrial policy should also protect U.S. firms through import tariffs or “Buy America” provisions, but such protectionist tools risk backfiring if retaliatory measures by other countries close export markets to these new domestic industries.

There are three reasons a U.S. clean energy industrial policy makes particular sense today. First, the technologies needed for sectors that are hard to decarbonize also offer many of the biggest economic opportunities for growth. According to the International Energy Agency, almost half of the cumulative emission reductions needed to achieve net-zero emissions by 2050 come from technologies that are not yet commercially available. China already dominates the market for solar panels and batteries, a result of government decisions taken more than a decade ago, so it would be very difficult for the United States to displace China in these technologies, which China already produces very cheaply. By contrast, the United States is well-positioned to build a strong industrial base to produce and export zero-carbon energy in the form of hydrogen and ammonia, fuel cells to produce zero-carbon electricity, or carbon-capture and removal technologies.

Second, these technologies will be needed to decarbonize globally, and by bringing the cost of these technologies down through government investments, Washington can help accelerate their deployment outside the United States as well. In this way, a U.S. industrial policy to promote clean energy can serve not as protectionism but as one of the country’s greatest contributions to global efforts to combat climate change. In the future, roughly 95 percent of all greenhouse gas emissions will come from outside the United States. Yet developing market countries, which are poorer and use much less energy per capita than developed countries do, will not adopt low-carbon solutions unless they are affordable.

Third, industrial policy that drives down the cost of clean energy “green premiums” while also putting U.S. citizens to work can be among the most effective ways to account for the United States’ historic responsibility for the climate change problem. Climate change results from the cumulative total of all carbon emissions over time, and as of 2019, the United States has contributed 25 percent. By contrast, the entire continent of Africa represents only 2 percent. One way to address this inequity is for wealthy countries to send cash to poorer countries. For example, the Biden administration has pledged that the United States will fulfill its 2014 commitment to provide climate-related assistance to poorer countries, of which $2 billion is still outstanding. But making it affordable for developing countries to grow their energy use and prosperity in climate-friendly ways can be a far greater contribution.

At present, U.S. climate policy ambition is being framed around what commitment Biden will make to reduce domestic emissions by 2030. Yet the steps the Biden administration takes to invest in nascent clean energy technologies and research can be even more important to long-term temperature stabilization goals, even if most of the dividends come after 2030 because of the time it takes for hydrogen, long-duration power storage, carbon capture, advanced nuclear power, and other emerging technologies to scale.

#### Key to prevent infrastructure disaster – Texas is part one.

**PPG, 3/4**/2021 (MAR 4, 2021 9:00 PM, Pittsburgh Post-Gazette Editorial Board. Invest in infrastructure. March 4, 2021. <https://www.post-gazette.com/opinion/editorials/2021/03/05/Invest-in-infrastructure/stories/202102270028>, recut by JMP)

Now is the time for a reckoning, a realization: While it’s important to study the past to avoid repeating the same mistakes, the country must also look to its future and see the obvious — that America’s infrastructure as a whole needs some **serious upkeep**.

Democrats and Republicans alike have flirted with the idea of a sweeping infrastructure bill in recent years, and President Joe Biden’s team is working to outline such legislation. These efforts should **proceed swiftly** — now is the time for Congress to invest in infrastructure, not only to help **prevent crises**, but also to jump-start an economy mired in the coronavirus pandemic.

Despite being one of the richest countries in the world, the U.S. **seems constantly** to **hover on the edge of disaster**, with news of natural forces smashing through power grids and levies and fire prevention strategies on a yearly or monthly basis. Texas is only the most recent state to have been **pushed over the edge**.

The American Society of Civil Engineers just this week gave America’s infrastructure an overall grade of C-minus in its quadrennial report card. The last grade was D-plus and that report cited decades of underfunding and unheeded recommendations. C-minus is an improvement but deserves not just federal attention but actual intervention. The report notes “we are heading in the right direction, but a lot of work remains.”

There is opportunity in the recent economic and environmental devastation that grabs headlines and breaks hearts. In the aftermath of the Great Depression, the government put millions to work improving parks and building roads and bridges and airports. President Dwight Eisenhower’s interstate highway system remains the life veins of interstate travel.

A new and vigorous infrastructure package for America would fix what needs to be fixed and offer the promise of an economic boon.

The purpose of the federal government is to address the needs of American society in a way that **can’t be tackled by states in a piecemeal fashion**. What has happened in recent days within The Lone Star State demonstrates keenly that this is the time — actually past the time — that our federal leaders must shore up the foundations of our federation. Congress should act swiftly to lead states in reversing the **entropy chewing away at America’s foundations**. Until this happens, **society stands on shifting sands**.

#### Grid collapse causes extinction.

**Greene ’19** [Sherrell R.; Nuclear Engineering M.S. degrees from the University of Tennessee, recognized subject matter expert in nuclear reactor safety, nuclear fuel cycle technologies, and advanced reactor concept development, worked at the Oak Ridge National Laboratory (ORNL) for over three decades, as Director of Research Reactor Development Programs and Director of Nuclear Technology Programs; “Enhancing Electric Grid, Critical Infrastructure, and Societal Resilience with Resilient Nuclear Power Plants (rNPPs),” Nuclear Technology 205(3), <https://ans.tandfonline.com/doi/pdf/10.1080/00295450.2018.1505357?needAccess=true>]

There are a variety of events that could deal **crippling blows** to a nation’s **Grid**, **Critical Infrastructure**, and **social fabric**. The types of catastrophes under consideration here are “**very bad day” scenarios** that might result from severe GMDs induced by **solar CMEs**, **HEMP attacks**, **cyber attacks**, etc.5

As briefly discussed in Sec. III.C, the probability of a GMD of the magnitude of the 1859 Carrington Event is now believed to be on the order of 1%/year. The Earth narrowly missed (by only several days) intercepting a CME stream in July 2012 that would have created a GMD equal to or larger than the Carrington Event.41 Lloyd’s, in its 2013 report, “Solar Storm Risk to the North American Electric Grid,” 42 stated the following: “A Carrington-level, extreme geomagnetic storm is almost inevitable in the future…The total U.S. population at risk of extended power outage from a Carrington-level storm is between 20-40 million, with durations of 16 days to 1-2 years…The total economic cost for such a scenario is estimated at $0.6-2.6 trillion USD.” Analyses conducted subsequent to the Lloyd’s assessment indicated the geographical area impacted by the CME would be larger than that estimated in Lloyd’s analysis (extending farther northward along the New England coast of the United States and in the state of Minnesota),43 and that the actual consequences of such an event could actually be greater than estimated by Lloyd’s.

Based on “Report of the Commission to Assess the Threat to the United States from Electromagnetic Pulse (EMP) Attack: Critical National Infrastructures” to Congress in 2008 (Ref. 39), a HEMP attack over the Central U.S. could impact virtually the entire North American continent. The consequences of such an event are difficult to quantify with confidence. Experts affiliated with the aforementioned Commission and others familiar with the details of the Commission’s work have stated in Congressional testimony that such an event could “kill up to **90 percent of the national population** through **starvation**, **disease**, and **societal collapse**.” 44,45 Most of these consequences are either **direct** or **indirect impacts** of the **predicted collapse** of virtually the entire U.S. **Critical Infrastructure system** in the wake of the attack.

Last, recent analyses by both the U.S. Department of Energy46 and the U.S. National Academies of Sciences, Engineering, and Medicine47 have concluded that **cyber threats** to the U.S. Grid from both state-level and substatelevel entities are likely to grow in **number and sophistication** in the coming years, posing a **growing threat** to the U.S. Grid.

These three “very bad day” scenarios are not **creations** of **overzealous science fiction writers**. A variety of mitigating actions to reduce both the vulnerability and the consequences of these events has been identified, and some are being implemented. However, the fact remains that events such as those described here have the potential to change life as we know it in the United States and other developed nations in the 21st century, whether the events occur individually, or simultaneously, and with or without coordinated physical attacks on Critical Infrastructure assets.



## 4

#### The United States federal government should

#### substantially increase international food aid, investment in agricultural research, and technical assistance to developing countries pertaining to agricultural capacity, including strategic grain reserves and regional food balance sheets

#### reshape their cyber posture by modernizing the grid, increasing network visibility, increasing information sharing with the private sector, and implement cross-domain deterrence

#### R&D solves food shortages.

Keefe ’15 (Meagan; assistant director of global agriculture and food at The Chicago Council on Global Affairs, former Mickey Leland International Hunger Fellow at the International Food Policy Research Institute, MS in natural resource management from the University of Minnesota, Associate Director of the Program of African Studies at Northwestern University; May 2015; “Leveraging Innovation to Feed the Future”; <https://www.thechicagocouncil.org/sites/default/files/GlobalAg_ResearchBrief_v4.pdf>; The Chicago Council on Global Affairs; accessed 7/6/18; TV)

The United States should double investments in agricultural and food research over the next 10 years. The United States needs to double investments in agricultural and food research over the next 10 years to help meet these challenges. Research funds should be focused on priorities that will be most important to meeting future demand: equipping agriculture both domestically and in low-income countries to be resilient to climate change and weather variability; aligning agricultural production and nutrition goals; and ensuring agricultural production builds rather than harms the natural resource base. Public agencies— such as USDA, the new Foundation for Food and Agricultural Research, and National Science Foundation— the US Congress, and research universities will be game-changing players in increasing the investment in agricultural research and reshaping national priorities. Given the lag time between the research funding and the eventual uptake of technologies, R&D investment decisions need to be taken with a long-term perspective and a funding horizon of at least a decade. Forge a new science of agriculture Agriculture’s mandate should be expanded beyond simply increasing production. Agriculture must increase production in a way that uses fewer resources and optimizes nutrition outcomes while providing solid incomes to food producers. Experts from all scientific disciplines are needed to increase nutritious food production sustainably. Proven approaches and innovations should be transferred to farmers everywhere, but especially to women and underproducing farmers in Sub-Saharan Africa and South Asia. A new multidisciplinary science of agriculture is needed and should be based on increasing outputs—production, nutrition, and incomes—while using less land and water resources.14 This requires improving human health through accessible nutritious food, improving food safety, and reducing food waste along the supply chain. The US Congress should consider convening a national, bipartisan commission that draws from the policy, university, business, and civil society sectors to develop a research agenda for how to overcome future food challenges sustainably, nutritiously, and economically. Build research capacity Because the challenges facing the food system will be both global and local, international research institutions need increased support. At the same time, there is a need for transforming university and research institutions in developing countries so that they conduct the research that is critical to their location, context, and people. The US government has ramped up this type of training over the past five years, but it is nowhere near the level of support the US provided in the 1970s and ’80s at the height of the Green Revolution.15 These efforts should be expanded to develop local institutions in developing countries. This can be done through public-private partnerships, educational exchanges, and connecting universities around the world. The US university system is well positioned to contribute to this, but increased funding is needed to facilitate partnerships and educational exchanges between universities in the United States and institutions in the developing world. Bolster research on climate change Climate change is already beginning to threaten the global food supply. Recent scientific reports predict that the hotter temperatures and natural disasters already undermining food production will be increasingly common. The effects from climate change are expected to slow the growth of food production by 2 percent each decade for the rest of this century.16 The US government must increase funding for research to build resilience and address the threats to the food system posed by climate change. In order to prepare for climate change, more research is needed on increasing tolerance to higher temperatures, building resilience to extreme weather events, and combating pests and diseases. While it’s becoming increasingly clear that the consequences of climate change will be severe, there are significant gaps in the current understanding of the effects along the value chain, from farmers’ fields to consumers. Better models are needed to help understand the effects of climate change. Food producers cannot prepare effectively and researchers and businesses cannot innovate without better data. Data on weather, water resources, crop performance, land use, and consumer preferences are necessary to adequately prepare. Better models and data are crucial for increasing productivity, enhancing nutrition, and increasing resilience to the effects of climate change.17 Expand nutrition-sensitive agricultural research Malnutrition—from undernourishment to obesity—is already affecting every country on earth and placing nearly one-half of the world’s population at serious health risk.18 Although nutrition interventions such as therapeutic foods to manage severe acute malnutrition and supplements to address micronutrient deficiencies are necessary, good health is driven largely by access to overall nutritious diets.19 The US government should make nutrition a key priority in agricultural research to increase access to healthy foods, drive economic growth in poor countries, and improve the livelihoods of small-scale farmers. The current fruit and vegetable supply is far from sufficient for everyone to meet recommended nutrient intakes, especially in low-income countries. Research across the entire food value chain is critical in order to increase production; reduce costs; and improve the storage, processing, and transport of horticultural crops.20 In addition, food safety is an often neglected but essential component at the nexus between nutrition and agriculture that requires additional research. Aflatoxin contamination is one of the most pressing food safety challenges in developing countries, affecting one-quarter of harvests worldwide. Reduce food waste An estimated one-third of all food produced globally is wasted. In developed countries, consumers throw too much food away. In developing countries, food often rots before it can be processed or brought to market because of poor infrastructure that allows pests and other contaminants to run rampant. Innovations in reducing food waste are desperately needed. Because fruits and vegetables as well as fish spoil more quickly and are more difficult to transport than grains, they are wasted in greater quantities—along with the valuable nutrients they contain.21 In addition, the higher temperatures and humidity brought by climate change will cause even more food to be wasted without innovations in cold storage and transport. Finding innovative ways to reduce food waste and bringing them to scale would help meet the increasing demand for food without necessarily growing more food. Innovation from the private sector could help significantly in addressing this challenge. US leadership is crucial for meeting the challenges to the global food system. As the rate of agricultural productivity growth continues to slow both in the US and globally, it is clear that a change in the global research enterprise is essential to meet the future challenge of feeding two billion more people by 2050. The United States is a global leader in agricultural research, holding almost 15 percent of the world’s public agricultural knowledge stock. US leadership is crucial for revitalizing the research institutions and investments needed to increase productivity, produce more nutritious food, use fewer resources, and adapt to climate change. Investing in agricultural research and taking a more comprehensive approach to utilizing existing knowledge would help safeguard the productivity gains made in the United States over the past century while meeting the future challenges facing the global food system.

## 5

#### Hospital monopolization balloons healthcare costs --- meta-analyses prove

**Feyman 16** [Yevgeniy Feyman is a senior research assistant at the Department of Health Policy and Management at the Harvard School of Public Health; previously, he was a fellow and deputy director of health policy at the Manhattan Institute for Policy Research and Jonathan Hartley is an economics writer and researcher and an MBA candidate at the Wharton School of the University of Pennsylvania, “The Perils of Hospital Consolidation,” *National Affairs*, Summer 2016, https://www.nationalaffairs.com/publications/detail/the-perils-of-hospital-consolidation]

One approach that can help minimize bias and cherry-picking in economic studies is to take advantage of so-called systemic reviews or meta-analyses. In these kinds of studies, researchers evaluate a body of literature rather than only one or two analyses, to make more generalizable claims. The Robert Wood Johnson Foundation has sponsored two such reviews of the literature on hospital consolidation — one in 2006 and more recently in 2012.

The overall results from 2006 — that horizontal consolidation leads to worse outcomes and higher prices — were mostly unchanged in 2012. The 2012 review concluded that, across a variety of geographic markets and different data sources, hospital consolidation results in higher prices. In particular, when hospitals merge in already heavily consolidated areas, price increases can surpass 20%.

One recent study by Berkeley health economist James Robinson (which was not included in the 2012 review) doubles down on these findings. Based on data from 61 different hospitals, and using a metric of hospital consolidation known as the "Herfindahl-Hirschman Index" (the higher the HHI, the more concentrated the market), it finds that hospitals in concentrated markets with above-median HHI charge 44% higher prices than hospitals in more competitive markets with below-median HHI, even though the two hospital groups have only a 6% difference in underlying costs. In plain English, this means higher profits for hospitals with more market power.

Post-hoc analyses of unsuccessfully challenged mergers have generally come to similar conclusions. The Sutter-Summit merger in California was challenged by the state's attorney general, but the courts allowed it to proceed. A 2008 Federal Trade Commission working paper evaluating the price effects of the merger found that, due to the increase in market concentration resulting from the merger, price increases were 23% to 50% greater than those in a control group.

But it's not just about costs. Researchers from the Dartmouth Institute for Health Policy and Clinical Practice found that, among Medicare patients, "greater competition leads to higher quality in heart attack patients," though with mixed results for dementia patients. Nevertheless, the reviews from 2006 and 2012 both conclude that, generally, even in administrative-pricing systems like Britain's National Health Service or Medicare in the United States, competition results in better quality for patients. The most concentrated Medicare markets, for instance, have mortality rates about one and a half percentage points higher than the rest.

The mixed results may be due to the fact that, where there are market-determined prices, hospitals can compete on both quality and price, but may choose to compete more intensively on one. It's safe to conclude, however, that consolidation is still typically associated with lower quality.

volume and outcomes

As for vertical consolidation — hospitals acquiring physician groups or outpatient centers, for instance — the evidence is more mixed. Recent experiences with this kind of integration suggest that there may be some possible benefits for patients, though cost savings are few and far between. Medicare's experiment with ACOs, though generating muted success, has found better quality among physician-led ACOs.

In a 2013 analysis of the Medicare Advantage market using public data from the Centers for Medicare and Medicaid Services and private data from one large insurer, Austin Frakt, Steven Pizer, and Roger Feldman discovered that vertically integrated plans charge higher premiums even after controlling for quality. That same year, however, health economists David Cutler of Harvard and Fiona Scott Morton of Yale found that there can be advantages to consolidated health systems (these are the oft-cited Kaiser-like entities), including the ability to coordinate care across different practitioners and sites of care. Yet more recent analysis has found that greater physician-hospital financial integration also results in faster spending growth, which may erase any of these benefits.

One particularly convincing explanation for why we typically don't observe the supposed benefits of scale or scope is our tendency to confuse clinical with financial integration. In a commentary published in the Journal of the American Medical Association, health-policy researchers Thomas Tsai and Ashish Jha from Harvard point out that the benefits of care coordination don't require financial integration. Integration of IT systems, the ability to share clinical data, and communication between hospitals is key here.

There is little evidence, for instance, that larger facilities are doing a better job adopting electronic health records than are smaller facilities. Similarly, Tsai and Jha point out that evidence of better outcomes as a result of volume is limited to a small subset of technically difficult surgeries. More broadly, the causal relationship may be misinterpreted — hospitals with significant volume may have that volume because they are known for being high-quality facilities. If this is the case, increasing volumes at lower-quality hospitals would simply subject more patients to lower-quality care.

Reducing duplicative testing and sharing patient data have significant benefits. But doing so requires competent management and engaged physicians, not a large volume of patients. A large hospital can have poor management and a small hospital can have a world-class team: confounding the two would be a big mistake.

#### Squo antitrust enforcement solves

**Feyman 16** [Yevgeniy Feyman is a senior research assistant at the Department of Health Policy and Management at the Harvard School of Public Health; previously, he was a fellow and deputy director of health policy at the Manhattan Institute for Policy Research and Jonathan Hartley is an economics writer and researcher and an MBA candidate at the Wharton School of the University of Pennsylvania, “The Perils of Hospital Consolidation,” *National Affairs*, Summer 2016, https://www.nationalaffairs.com/publications/detail/the-perils-of-hospital-consolidation]

As demonstrated above, the consensus of economists is that hospital consolidation (particularly the acquisition of competing facilities) is harmful — almost always raising costs and rarely improving quality. But even if consolidation offered some measurable benefits to patients, we should still be skeptical. As Thomas Tsai and Ashish Jha, the health-service researchers at Harvard, put it in their commentary, "Higher health care costs from decreased competition should not be the price society has to pay to receive high-quality health care." American health care is already uniquely expensive and immensely wasteful. Rather than acquiescing to the demands of hospital administrators, we should instead demand more for what we're already paying. And here, well-designed policy can be crucial.

Generally, the appropriate policy responses fall into one of two buckets — either supply-side or demand-side reforms. Reforms that address the supply side focus on removing barriers to entry or otherwise making the landscape directly more competitive. Demand-side changes don't directly affect competition, but instead seek to improve the dynamics that take advantage of a competitive market. For either type of reform, much of the responsibility for policy changes lies with states.

Regarding policy responses, antitrust is perhaps the most traditional tool in the pro-competitive toolkit. At both the federal and state levels, antitrust enforcement is critical. Proper review of potentially harmful mergers can have important effects.

Some initial progress is already being made. In December 2015, the FTC announced that it planned to block the combination of two large Chicago-area hospital systems, Advocate Health Care (already the state's largest health system) and NorthShore University HealthSystem. The merger would have created a 16-hospital powerhouse that would have dominated the hospital market in the North Shore area of Chicago.

#### The impact’s manufacturing

**Meidinger 20** [Roy Meidinger, “Healthcare Costs Are Killing US Manufacturing,” September 22, 2020, https://www.industryweek.com/the-economy/public-policy/article/21142527/healthcare-costs-are-killing-us-manufacturing]

U.S. payment of healthcare costs by employers causes the loss of U.S. manufacturing companies and manufacturing jobs. Health care costs, both primary and secondary, are passed during each step to the next contributor in the manufacturing process; think of it as value-added tax, moving the health care benefit costs to the next purchaser of services or goods. But each time the cost is passed on to another manufacturer in the supply chain, there is an additional markup for profit; therefore, manufacturing employers’ portion of the $3.6 trillion spent annually on healthcare in the United States is included in manufacturing costs. No other industry has as many links in the supply chain for cost markups or have international competition.

A manufactured good is made through several steps to get to finished product, with each step adding the subsequent employee healthcare benefits cost to the finished product. These costs are referred to as the indirect healthcare costs. For instance, Step One, in the manufacture of a car, the miners of the ore have healthcare costs, which are marked up and passed along in the cost of the ore, Then, Step Two, the ore is purified and shaped in the steel mills, which adds more healthcare costs, that are passed on. Then, Step Three, all the various components are assembled by the auto mobile manufacturers, adding more healthcare costs, then finally, Step Four, the retail auto salesforce sells the cars and adds their healthcare costs. Each individual group mus t sell its products above its break-even point of costs to stay in business and then add another layer of costs to cover profits and taxes.

#### Global nuclear escalation

**Eaglen et al. 12** [Mackenzie, resident fellow in the Marilyn Ware Center for Security Studies at the American Enterprise Institute, Rebecca Grant, IRIS Research Robert P. Haffa, Haffa Defense Consulting Michael O'Hanlon, The Brookings Institution Peter W. Singer, The Brookings Institution Martin Sullivan, Commonwealth Consulting Barry Watts, Center for Strategic and Budgetary Assessments “The Arsenal of Democracy and How to Preserve It: Key Issues in Defense Industrial Policy January 2012,” <https://www.brookings.edu/wp-content/uploads/2016/06/0126_defense_industrial_base_ohanlon.pdf>]

Yet there are severe challenges that could result to the nation’s security interests even with 10 percent cutbacks. Despite the likely potential of lesser resources, the demand side of the equation does not seem likely to grow easier. The international security environment is challenging and complex. China’s economic, political and now military rise continues. Its direction is uncertain, but it has already raised tension, especially in the South China Sea. Iran’s ambitions and machinations remain foreboding, with its nuclear plans entering a new phase of both capability but also crisis. North Korea is all the more uncertain with a leadership transition, but has a history of brinkmanship and indeed even the occasional use of force against the South, not to mention nuclear weapons related activities that raise deep concern. And the hopeful series of revolutions in the broader Arab world in 2011, while inspiring at many levels, also seem likely to raise uncertainty in the broader Middle East. Revolutions are inherently unpredictable and often messy geostrategic events. On top of these remain commitments in Afghanistan and beyond and the frequent U.S. military role in humanitarian disaster relief. Thus, there are broad challenges for American defense planners as they try to address this challenging world with fewer available resources. The current wave of defense cuts is also different than past defense budget reductions in their likely industrial impact, as the U.S. defense industrial base is in a much different place than it was in the past. Defense industrial issues are too often viewed through the lens of jobs and pet projects to protect in congressional districts. But the overall health of the firms that supply the technologies our armed forces utilize does have national security resonance. Qualitative superiority in weaponry and other key military technology has become an essential element of American military power in the modern era—not only for winning wars but for deterring them. That requires world-class scientific and manufacturing capabilities—which in turn can also generate civilian and military export opportunities for the United States in a globalized marketplace.

## 6

#### Growth will rebound due to self-sustaining corporate performance.

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

Title:

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

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

[Author and summary omitted].

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

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

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

Capex intentions

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

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

Fiscal dominance

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

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

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

Big spending plans

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

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

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

Tobin’s Q looks good

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

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

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

Supply-side constraints

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

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

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

Less reliance on labor

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

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

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

Capex will lengthen the earnings cycle

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Shared Economic Prosperity Is a National Security Asset

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

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

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

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

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

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

The Case for an Inclusive Recovery

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

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

## Case

### Cyber

#### It won’t escalate

**Jensen & Banks 18** Benjamin Jensen holds a dual appointment as a scholar-in-residence at American University, School of International Service and as an associate professor at the Marine Corps University, & David Banks, professorial lecturer at the American University's School of International Service. [Cyber warfare may be less dangerous than we think, 4-26-2018, https://www.washingtonpost.com/news/monkey-cage/wp/2018/04/26/what-can-cybergames-teach-us-about-cyberattacks-quite-a-lot-in-fact/]//BPS

We agree. However, our research suggests that, although states like Russia will continue to engage in cyberattacks against the foundations of democracy (a serious threat indeed), states are less likely to engage in destructive “doomsday” attacks against each other in cyberspace. Using a series of war games and survey experiments, we found that cyber operations may in fact produce a moderating influence on international crises. Here’s why: Cyberspace offers states a way to manage escalation in the shadows. Thus, cyber operations are more akin to the Cold War-era political warfare than a military revolution. Would you like to play a game? To understand how actors use cyber operations to achieve a position of relative advantage, we designed a series of analytical war games. This methodology lets us assess how multiple factors could combine in a competitive environment, and helps identify recurrent strategic preferences associated with cyber operations. We ran military officers and university students through these war games. Next, we turned the war games into survey experiments via Amazon Mechanical Turk (MTurk) — so randomized respondents answered questions about how to respond to an international crisis. War games offer a time-tested means of assessing the changing character of crisis and competition. Following scripted scenarios, players are assigned to different “teams” and armed with resources to meet their objectives. They earn points based on their choices, with referees guiding the play and military/security analysts interpreting the results. [There’s more to Russia’s cyber interference than the Mueller probe suggests] As players seek to win the game, they may choose previously unconsidered options or draw on or combine resources in unexpected ways. By observing these games, recording their results, repeating the plays and redesigning the scenarios, analysts can understand the nature of the complex and highly contingent problems the scenarios represent. And political scientists use war games to create survey experiments to test hypotheses about strategic preferences. Our study of over 100 military officers and students, for instance, gave players a crisis scenario and a range of response options, all of which included the ability to escalate in cyberspace — as well as more traditional diplomatic, economic and military instruments. Players could also choose to de-escalate. What would a great power cyber crisis in East Asia look like? In our first round, “Island Intercept,” we sought to identify whether states escalated using cyber capabilities. Players took on the role of China or the United States in an escalating dispute in the South China Sea. Over the course of multiple war games, we found our mix of military officers and university students often sought to de-escalate the crisis and rarely used offensive cyber operations. Players assigned to the Chinese side often combined cyber espionage and more traditional intelligence activities to identify the U.S. players’ intentions and capabilities. Players replicating strategic decision-making in Beijing seemed to prefer a “wait and see” approach involving increased intelligence and diplomatic lobbying, rather than escalatory offensive cyber operations. [Did the U.S. ‘hack back’ at Russia? Here’s why this matters in cyber warfare.] The broader survey experiment replicated these findings. The 800 MTurk respondents revealed a bias toward not escalating into the cyber domain. Specifically, about 52 percent chose to de-escalate while 30 percent opted for minor escalation in the diplomatic or economic arena. Only 18 percent of respondents preferred escalatory offensive cyber operations. These findings support other studies demonstrating that states do not prefer escalatory responses to cyber intrusions. How will states employ cyber capabilities against their domestic populations? In a second round, we shifted to examine intrastate conflicts. In our “Netwar” game, players took on the role of either the government, a paramilitary organization, a multinational company or a transnational group of hackers and activists, all attempting to achieve their interests in a weak and corrupt state. This scenario sought to replicate the complex, often proxy, multiparty competition in cyberspace. In these games, the results were more mixed. Players replicating the state tended to use offensive cyber operations as a means of targeting domestic opposition groups — while opposition groups used cyber to blackmail the state by leaking sensitive information. In an MTurk survey experiment involving 800 respondents, we found that states still preferred not to jump into the cyber domain, opting about 43 percent of the time to limit escalation. Yet these results appeared to be a function of regime type. When we controlled for regime type in a second round of surveys involving 800 respondents, we found that democracies had a higher than expected count of de-escalatory measures (53 percent). But authoritarian regimes escalated to cyber measures 35 percent of the time, vs. 18 percent for democracies. Where is the escalation? [The Netherlands just revealed its cybercapacity. So what does that mean?] Our findings suggest that cyber weapons may be far less destabilizing than many assume. First, we found that actors in crisis situations were restrained in their use of cyber weapons. Indeed, actors were more likely to use military, economic or diplomatic alternatives before escalating into the cyber domain. How might this work in the real world? We might interpret the Russian shift to cyber operations to be one of desperation, rather than evidence of a calculated strategy. Our findings suggest that actors are uncomfortable in the cyber domain and only operate there when they lack relative influence in other areas — or seek to limit the risk of escalation, likely due to attribution issues associated with cyber operations. Second, fears of large-scale cyber operations are likely overblown due to cyber’s unique “use it and lose it” character. Individual cyberattacks could potentially wreak considerable damage, but any such exploits could — once deployed — be quickly reverse-engineered and the vulnerability in target networks patched. Here’s the catch: Once you convert network access and cyber espionage into an attack payload, you signal your capabilities and lose the ability to conduct similar attacks. There is a unique shadow of the future in cyber statecraft. States have to assess whether they want to jeopardize an exploit in the short term — and lose long-term coercive options against rivals.

### Climate

#### The plan results in a global shift away from intensification – this turns all of their environment internals.

Swain ‘16 - Senior Analyst @ the Breakthrough Institute   
[Marian, "An Outlook on Omnivorism and the Environmental “Hoofprint” of Livestock," Dec 14, https://thebreakthrough.org/index.php/issues/the-future-of-food/the-future-of-meat]

Given the sheer scale of global livestock production, how we produce and consume meat in the future will have a significant impact on our environmental future. However, trends in global demand for meat cannot be disentangled from the production systems used to meet that demand. Extensive systems depend on locally available crop residues for feeds, or natural forage production in grazing areas, which limits their ability to scale up production. As the FAO explains, “Extensive systems are incapable of meeting the surging urban demand in many developing countries, not only in terms of volume but also in sanitary and other quality standards.”72 Intensive systems offer higher productivity and scalability, and as a result, rising demand for meat has historically been coupled with increasing intensification. Certainly, shifting from extensive to intensive livestock production introduces new challenges, and the pace and management of the intensification process will be critical to ensuring positive results for producers and the environment. But if well-managed, intensification in the livestock sector has the capacity to leverage productivity gains that also generate environmental savings, helping to boost protein output while minimizing impacts. Intensification, however, is not automatic or inevitable. Governments can and do promote intensification to increase production as well as improve oversight and management of environmental impacts and health risks. China, for example, has been rapidly intensifying its livestock sector as the country’s population grows and incomes rise.73 The shift towards concentrated production has been actively encouraged by government subsidies, in part to better manage local environmental and health impacts. The experience of bird flu in China demonstrated the manageability of disease control in larger intensive operations, as the majority of bird flu cases occurred in extensive systems.74 Producers running intensive livestock operations have shown remarkable ability to adopt new techniques to boost productivity and reap environmental savings in the process. In the United States, for one, innovations in veterinary science, animal nutrition, and genetics have allowed for major improvements in the environmental performance of modern intensive beef production. Between 1977 and 2007, the land needed for beef production decreased 33%, water use decreased 12%, and the carbon footprint fell 16%.75 These improvements largely resulted from the continued shift towards feedlot finishing as well as from productivity enhancements like selectively breeding for larger animals and using improved feed formulations.76 Farmers and scientists are still working on ways to reduce impacts in commercial livestock production—for example, by experimenting with feed additives to reduce methane emissions from cattle.77 Accelerating the transition from extensive to intensive production should be prioritized in some cases to address environmental concerns. In Brazil, for instance, an explicit policy of intensification for the beef sector could help relieve pressure on land conversion. Most beef production there remains extensive (grazing only), so finishing beef cattle in feedlots would reduce the overall land demand from the cattle sector. Even if the cattle were fed soy grown in Brazil, the overall land use would be smaller than pasture-only cattle rearing. Considering that demand for pasture land is a key driver of deforestation in the Amazon, this shift could have a dramatic impact.78 Trade-offs and environmental impacts will vary by region, so context-specific solutions will be necessary. While feedlot finishing may prove a good option for the United States and Brazil, an arid region like Australia may deem it environmentally preferable to continue with a grazing-based system. Increased intensification in pork and poultry production will increase demand for dedicated feed crops in turn, which will require land-use and agricultural planning to minimize pressure on land conversion and competition with food supply. Managing the concentrated local impacts from intensive systems, like water pollution, will require responsible producers and robust regulation. Looking ahead to the coming decades, continued intensification is likely as developing countries respond to rising demand. Thus, efforts to accelerate the adoption of best practice techniques from intensive management systems will be crucial to boost protein output and leverage environmental savings. No-regrets interventions like optimized breeding, nutrition, and veterinary care can improve animal survival, shorten time to slaughter, and increase productivity, benefiting both producers and the environment. In industrialized countries, ongoing innovations are needed to continue raising the bar for environmental performance in modern intensive systems.

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

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

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

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## Cp

#### Technical assistance for developing state’s agriculture programs prevents global food wars

Hendrix 16, PhD, Associate Professor, Josef Korbel School of International Studies, Affiliated with the Sié Chéou-Kang Center for International Security & Diplomacy, (Cullen S., “When Hunger Strikes: How Food Security Abroad Matters for National Security at Home,” April, https://www.thechicagocouncil.org/sites/default/files/Report\_When\_Hunger\_Strikes\_1604.pdf)

Feeding the world and teaching the world to feed itself is not just a humanitarian endeavor. It is vital to US national security. Food price– related unrest can have an immense impact on the stability of countries vital to US interests. Fortunately, the United States is well positioned to lead the fight against food insecurity across the globe. Even with increases in agricultural productivity, Africa and Asia have become increasingly dependent on global markets to satisfy their growing domestic demand for food. For example, Africa’s 20 most populous countries are all net grain importers. This import dependence has made these countries more sensitive to food price volatility than ever before. Food price shocks can act as a catalyst for both nonviolent and armed conflict. Particularly in urban areas of lower- and middle-income countries, high food prices and reduced access can trigger protests and rioting. For example, food price–related protests toppled governments in Haiti and Madagascar in 2007 and 2008. In 2010 and 2011, food prices and grievances related to food policy were one of the major drivers of the Arab Spring. Unrest in the Middle East and North Africa has led to upheaval in some of the most strategically significant regions to the United States. From 2007 to 2011, instability in key oil-producing regions led to fluctuations in global energy markets and fears the unrest would spread to other major oil exporters in the Gulf. Instability in the region has also exacerbated the ongoing civil war in Syria, contributing to growing US-Russia tensions and a massive refugee crisis in Europe. Because food insecurity can be strongly linked to political instability, the United States should rededicate itself to a program of research, knowledge transfer, and assistance in developing agricultural capacity abroad and support national governments in pursuing strategies that proactively address food price stability in order to decouple food systems from violent unrest. This brief offers proactive policy recommendations, including: – Improving our understanding of the relationship between food insecurity and political instability. This field is nascent, and a deeper comprehension of the linkages is important to build a policy platform. – Leveraging US knowledge to support improvements in strategic grain reserves in key regions. – Facilitating commodity hedging by importing governments. – Addressing export bans, which often have devastating impact on regional markets. – Encouraging the adoption of regional food balance sheets. – Helping foreign governments navigate the transition from general food subsidies to targeted, means-tested food assistance.

#### Prevents grid intrusions and deters attacks.

Buchanan and Sulmeyer ’16 (Ben and Michael; 12/13/2016; post-doctoral fellow at the Belfer Center’s Cyber Security Project, director of the Belfer Center’s Cyber Security Project; “Russia and Cyber Operations: Challenges and Opportunities for the Next U.S. Administration,” <http://carnegieendowment.org/2016/12/13/russia-and-cyber-operations-challenges-and-opportunities-for-next-u.s.-administration-pub-66433>; Date Accessed: 7/10/2017; DS)

To better position the United States against increased Russian cyber operations, an approach designed to improve American operations in three areas is essential: **defense, detection, and deterrence**. Implementing these recommendations in these areas will enable U.S. policymakers to have **greater confidence** in the baseline level of security in key networks, a better chance of quickly **identifying and thwarting** Russian intrusions when they do occur, and a clearer posture for limiting Russian behavior. The standard of baseline defenses must improve, both in government networks and in privately operated critical infrastructure. Network defenders should prioritize deploying audited code—software that has been **checked for vulnerabilities**—and applying security updates in order to **minimize the opportunities for intrusion** as much as possible. Ideally, such efforts will minimize the percentage of successful intrusion attempts, enabling defenders to focus their time on more sophisticated threats, such as those potentially posed by Russia. This will likely involve **replacing older so-called legacy systems** that were not built with security in mind. In the case of federal networks, Congress should **authorize the modernization** of important information technology infrastructure; the 2016 budget request from President Barack Obama contains initiatives that are a useful starting point.21 A related component of defense is detection. The faster adversaries can be spotted and removed from a network, the **less damage** the adversaries will be able to do. Better perimeter defenses are a fundamental part of cybersecurity, but they are not by themselves sufficient. Within both the private and public sector, networks should be designed or, where applicable, redesigned to **increase the visibility** defenders have into all activity taking place. With better network visibility, defenders should monitor their own networks for anomalous activity that could indicate the presence of an intruder.22 Older systems will likely have to be replaced over time in order to achieve this; President Obama’s proposal for information technology modernization in government is also a good start.23 To aid this effort, the United States government should **increase its information sharing** with the private sector. It should prioritize efforts to declassify as much as possible threat intelligence on sophisticated foreign actors, including Russian operators, and share this data with the relevant sector-specific information sharing and analysis organizations. When this threat intelligence is married with better network architecture, ongoing detection of malicious activity becomes a more tractable problem. Where appropriate, the United States should **increase its intelligence collection** in order to inform this effort. In addition, the U.S. government should lead or encourage a **widespread effort to detect adversaries** already lurking in American critical infrastructure. This mission, which will likely involve a private-public partnership in some areas, should seek to identify intrusions that have already taken place and remove them from the affected networks. The goal should be to reduce, as much as possible, the Russian ability to perform ongoing collection and to hold key U.S. targets at risk. Decontamination of networks is a challenging and resource-intensive undertaking, but it is vital. The last recommendation relates to deterrence. The United States should make it clear that there are costs for intrusive cyber operations, especially when those operations exceed acceptable norms of behavior. In order to make this deterrent credible, the United States must be **prepared to retaliate** for activities it deems inappropriate. But this response does not need to be limited to cyber operations. Indeed, there is already a precedent for non-cyber-operation responses to intrusions, a concept known as **cross-domain deterrence**. In response to cases like the hacking of campaign officials and the leaking of their personal emails, the United States should identify the perpetrators and consider an unambiguous public rejoinder. The Department of Justice has obtained indictments against Chinese and Iranian cyber operators; where appropriate, it should consider using that tool against Russian actors. This **naming and shaming**, combined with the possible restrictions on travel—due to fear of arrest—that accompany indictments indicates to operators that the United States is capable of doing attribution and that there perhaps **will be consequences** for their actions. In addition, sanctions in response to cyber activity may also be merited. The 2015 executive order signed by President Obama enables the United States to impose sanctions on other nations for their behavior in cyberspace. With Russia, there are already sanctions in place due to the conflict in Ukraine, but additional targeted sanctions for cyber activity may be warranted.24

## Climate

#### No food conficts - Countries that matter will solve escalation with institutions

Sarah **Cliffe 16**, Director of the Center on International Cooperation at New York University, 3/29/16, “Food Security, Nutrition, and Peace,” http://cic.nyu.edu/news\_commentary/food-security-nutrition-and-peace

However, current research **does not** yet indicate a clear link between climate change, food insecurity and conflict, except perhaps where rapidly deteriorating water availability cuts across existing tensions and weak institutions. But a series of interlinked problems – changing global patterns of consumption of energy and scarce resources, increasing demands for food imports (which draw on land, water, and energy inputs) can create pressure on fragile situations. Food security – and food prices – are a highly political issue, being a very immediate and visible source of popular welfare or popular uncertainty. But their **link to conflict** (and the wider links between climate change and conflict) is indirect rather than direct. What makes some countries more resilient than others? **Many** countries face food price or natural resource shocks **without falling into conflict**. Essentially, the two important factors in determining their resilience are: First, whether food insecurity is combined with **other stresses** – issues such as unemployment, but most fundamentally issues such as political exclusion or human rights abuses. We sometimes read nowadays that the 2006-2009 drought was a factor in the Syrian conflict, by driving rural-urban migration that caused societal stresses. It may of course have been one factor amongst many but it would be **too simplistic** to suggest that it was the primary driver of the Syrian conflict. Second, whether countries have strong enough institutions to fulfill a social compact with their citizens, providing help quickly to citizens affected by food insecurity, with or without international assistance. During the 2007-2008 food crisis, developing countries with low institutional strength experienced more food price protests than those with higher institutional strengths, and more than half these protests turned violent. This for example, is the difference in the events in Haiti versus those in Mexico **or the Philippines** where far greater institutional strength existed to deal with the food price shocks and **protests did not spur deteriorat**ing **national security** or widespread violence.

#### No warming impact---claims of extinction are alarmist and based more on social media and headlines than scientific journals. Even most pessimists don’t believe in runaway warming or the possibility of extinction. Best estimates point towards modest increases in the temperature that adaptation is sufficient to solve---that’s Nordhaus

#### No impact, adaptation solves, and alt causes

#### Overwhelming literature consensus

**Seidov 14**—Researcher at NOAA and PhD in Geophysics, Fluid Dynamics, and Thermodynamics [Dan, “Are you aware of any peer-reviewed paper that explicitly classifies current global climate change as an existential risk (risk of human extinction)?” Research Gate, 4 Nov 2014, http://tinyurl.com/jrnfafu, accessed 6 Sep 2016]

The current global climate change **does not have a potential to cause human extinction**. Past severe climate changes were critical for many ancient civilizations, yet our existence proofs that they were not potent enough to cause entire termination of the humankind. The projected changes, even in the worst case scenarios, can cause many dramatic local changes. For example, change in rainfall patterns in agricultural countries may lead to possible famine and other dramatic events. However, any imaginable climate changes based on modern climate science **cannot generate existential risks for the entire human civilization**. In my view, a paper predicting such a catastrophe in any foreseeable future, at least on the time scale of human civilization, that is, thousands of years, has no chance of being published in any serious research journal.

#### No methane impact

**Kamis 15** (James Edward, geologist, member for 41 years of American Association of Petroleum Geologists, “Media Ignores Pertinent Geological Data to Promote Methane Time Bomb Hysteria”, http://www.climatechangedispatch.com/media-ignores-pertinent-geological-data-to-promote-methane-time-bomb-hysteria.html)

Methane gas bubbling up from the ocean's seafloor off the coast of Washington and Oregon recently made national media headlines, and they were called extremely **unusual** and **caused by man-made global warming**. Scientists favoring the theory of man-made global warming contend that a CO2-heated atmosphere (via radiative forcing) has acted to warm a tiny region of the ocean that's adjacent to Washington State and Oregon. This warmed ocean water then destabilizes methane hydrate formations on the seafloor, which begin emitting methane gas into the ocean (and then the atmosphere). As first reported in a recent CCD article, these alarmist media reports neglected to tell the public about the **underlying geology** of that area. That's because previously mapped offshore **fault zones** (a complex deformation associated with the fractured surface of the fault) located in the Washington State and Oregon region **are the likely culprits behind any increased methane bubbling**, and **not man-made global warming**. After reviewing even more detailed, local offshore Washington and Oregon geological maps, it can now be stated with a **high level of confidence** that faults are the **proven cause** of the Washington / Oregon **ocean methane bubbling**. Here's why: Let’s begin by discussing one of the alarmist media statements, that ocean methane bubbling off the coast of Washington and Oregon is extremely unusual. From a very broad prospective we live on a water covered planet (Figure 2). Seems like an obvious statement, except the significance of this statement is not even remotely appreciated by the public, and shockingly not by climate scientists advocating the theory of global warming. Our planet is nearly 70 percent water and 30 percent dry land (97 percent of the water on the Earth is salt water). In fact, there is more dry land on the surface of our moon than on Earth. Based on these percentages, it would seem logical that humans would have concentrated a maximum effort on exploring every inch of the oceans and the ocean seafloors because they comprise the majority of their planet. Despite a lot of documentaries on NatGeo, we haven't. Human eyes have only viewed about 1% of the Earth’s oceans and seafloors. Yes, we have obtained remote images of the seafloor using sonar, but these images are at best poor substitutes for human eyes and recreated using computer modelling programs. Increasingly during the last 15 to 20 years, scientists have employed deep-diving submarines and robots armed with cameras to begin unlocking the secrets of our seabeds. On most of these missions they have discovered what have been called bizarre new species of fish, corals, and geological features. Actually these new discoveries are only bizarre to humans as they begin to decipher the unexplored ocean environment. We now realize that it is quite common to find differing types of fish, corals, and geological features living on or around our vast seabeds. There is actually more deep-sea coral unseen by human eyes then all the shallow-level coral along the coastlines of most continents. We only know it's there because of sonar and other measuring methods. Now let's look at the methane emissions coming from deep-ocean hydrothermal vents, cold seep vents, methane hydrate rock layers, and faults. When discovered in 1977, these geological features were thought to be **one of a kind** and **bizarre**. They are now known to be **very common**, some say so common that they may be Earth’s **dominant methane emitters**, **far greater than all human emissions combined** (refer to this previous CCD post). Methane geological seafloor emissions have been occurring for **eons**. Many geologists ascribe to the notion that very ancient deep-ocean methane sites were the birthplace of life on earth. So ocean methane emissions are in fact quite **common** and **not** at all extremely **unusual**. They occur at many deep-ocean locations around the world, **turn on and off regularly**, and most importantly, are often associated with both **local** and **major** fault systems. These faults act to break open a vertical pathway for upward migration of methane gas, facilitate local non-catastrophic heating of adjacent methane hydrate rock layers, and act to tap deeper pockets of pure methane. **This is all very normal geological stuff.** Virtually the same thing can be said about methane hydrate layers: they are **natural** and **common** throughout geological time. They are best described as: “rock layers with large amounts of methane trapped within a crystal structure of water, forming a solid similar to ice. They are common constituents of the shallow marine rock layers and occur in deep sedimentary structures and form outcrops on the ocean floor. Methane hydrates are believed to form by migration of gas from deep regions along geological faults, followed by precipitation or crystallization, on contact of the rising gas stream with cold sea water.” When a fault moves or becomes a little warmer it acts to **melt** some of the **frozen methane** which makes its way vertically up the fault and into the ocean. **This is a very normal geological process.** There is still more to learn about the geological nature of deep-ocean methane gas emissions, but finding methane gas bubbles off any ocean coastline is **not** a reason to become **alarmed**, **hysterical**, or **prompt** some people to ask their Representatives **to enact global carbon taxes**. Now let’s take a closer look at what is the real cause of the Washington / Oregon methane gas bubbles. Figure 3 illustrates known faults off the coast of Washington. It becomes immediately obvious that the seafloor methane bubble locations form a straight line that matches the trend of several know faults. That's the real headline here. These methane gas bubbles are not due to regional heating of the ocean from man-made global warming, as they are clearly related to local faulting. Methane emissions from other seafloor faults off the Washington coast have been well documented in numerous research papers, as shown in the image atop this article showing just such a fault, the Cleft fault segment of the Juan De Fuca Ridge fault system. This is a proven methane-emitting fault segment (Also see References at end of article). Next let’s review the Oregon offshore methane bubble locations (Figure 4). Again, the methane bubble locations form a straight line that matches the trend of nearby known faults. This is extremely strong proof that local faults are the real cause behind methane bubbling. Another interesting aspect of both the Washington and Oregon methane bubble locations is that they are not evenly or randomly distributed as would be expected if the gas was related to flat, lying, shallow methane hydrate seabeds. Instead, the locations are clearly linear and match known fault trends. Why the media neglected to tell the public that methane emissions are related to deep ocean faults is not too difficult to fathom. The more alarmist and hysterical the headlines become, the more papers and clicks they get. Journalists have a higher duty to their readers and themselves to actually investigate the simplistic press releases they get (and then print verbatim). For some reason, the words 'naturally occurring' has become a dirty phrase in the mainstream media, when it should be the first item they research.

## Cyber

#### No cyber escalation---data shows its net-moderating and is met with de-escalation the majority of the time---scenarios that escalate are met economically and diplomatically with the worst case being tit for tat escalation, but never goes kinetic---that’s Jensen

#### Cyber attacks can’t undermine deterrence

**Caylor ’16** – Air Command and Staff College (Matt, “THE CYBER THREAT TO NUCLEAR DETERRENCE”, <http://warontherocks.com/2016/02/the-cyber-threat-to-nuclear-deterrence/>, dml)

The perception that cyber threats will ultimately undermine the relevance or effectiveness of nuclear deterrence is flawed in at least three keys areas. First among these is the perception that nuclear weapons or their command and control systems are similar to a heavily defended corporate network. The critical error in this analogy is that there is an expectation of IP-based availability that simply does not exist in the case of American nuclear weapons — they are not online. Even with physical access, the proprietary nature of their control system design and redundancy of the National Command and Control System (NCCS) makes the possibility of successfully implementing an exploit against either a weapon or communications system incredibly remote. Also, whereas the cyber domain is characterized by significant levels of risk due to a combination of bias toward automated safeguards and the liability of single human failures, nuclear weapon safety and surety are predicated on balanced elements of stringent human interaction and control. From two-person integrity in physical inspections and loading, to the rigorous mechanisms and authority required for weapons release, human beings serve as a multi-factor safeguard while retaining the ultimate role to protect the integrity of nuclear deterrence against cyber threats. To a large degree, the potential vulnerabilities caused by wireless communications and physical intrusions into areas holding nuclear material are already mitigated via secure communications that are not linked to the outside and multiple layers of physical security systems. While there has been a great deal of publicity surrounding the Y-12 break-in of 2012, the truth is that the three people involved never got near any nuclear material or technology. Without state-level resourcing in the billions of dollars, the technical sophistication required to pursue a Stuxnet-like attack against nuclear weapons is most likely beyond the capability of even the most gifted group of hackers. For all intents, this excludes terrorist organizations and cyber criminals from the field of threats and restricts it to those nations that already possess nuclear weapons. Nuclear-weapon states, however, have the full-spectrum cyber threat capability referenced in the Defense Science Board report and would most likely be influenced by an understanding of the elements of classic nuclear deterrence strategy. In the case of first strike, no cyber weapon could be expected to perform at a rate higher than any conventional anti-nuclear capability (i.e., not 100 percent effective). Therefore, an adversary’s nuclear threat would be perceived to endure, thereby negating and dissuading the effort to use and employ a cyber weapon against an adversary’s nuclear force. Additionally, just as missile defense systems have been historically controversial due to perceived destabilizing effects, it is reasonable to conclude that these nuclear-weapon states would view the attempt to deploy a cyber capability against their nuclear stockpiles from a similar perspective. Finally, the very existence of nuclear weapons is often enough to alter the risk analysis of an adversary. With virtually no chance of remote or unauthorized detonation (which would be the desired results of a sabotage event), the most probable cyber threat to any nuclear stockpile is that of espionage. Attempted cyber intrusions at the U.S. National Nuclear Security Agency (NNSA) and its efforts to bolster cybersecurity initiatives provide clear evidence that this is already underway. However, theft of design information or even more robust intelligence on the location of stored nuclear weapons cannot eliminate the potential destruction that even a handful of nuclear weapons can bring to an adversary. Knowledge alone, particularly the imperfect knowledge that cyber espionage is likely to offer, is incapable of drastically altering an adversary’s risk calculus. In fact, quite the opposite is true. An adversary with greater understanding of the nuclear capabilities of a rival is forced to consider courses of action to prevent escalation, potentially increasing the credibility of a state’s nuclear deterrence. Despite the growing sophistication in cyber capabilities and the willingness to use them for espionage or in concert with kinetic attack, the strategic value of nuclear weapons has not been diminished. The insulated architecture combined with a robust and redundant command-and-control system makes the existence of any viable cyber threat of exploitation extremely low. With the list of capable adversaries limited by both funding and motivation, it is highly unlikely that any nation will possess, or even attempt to develop, a cyber weapon sufficient to undermine the credibility of nuclear weapons. In both psychological and physical terms, the threat of the megabyte will never possess the ability to overshadow the destructive force of the megaton. Although the employment of cyberspace for military effect has brought new challenges to the international community, the role of nuclear weapons and their associated deterrence against open and unconstrained global aggression are as relevant now as they were in the Cold War

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#### The plan shifts the farming paradigm away from intensive ag towards nostalgic ideas of the farm that are less efficient and incapable of feeding the planet, but more importantly use a great deal more land, turning all of their environment internals and preventing our ability to hit peak cropland

Blomqvist ‘16 - Director of Conservation @ The Breakthrough Institute   
[Linus and David Douglas, "Is Precision Agriculture the way to peak cropland," Dec 7, thebreakthrough.org/issues/the-future-of-food/is-precision-agriculture-the-way-to-peak-cropland]

But today, robots, drones, sensors, and AI software are beginning to make it possible to employ the sort of intensive, fine-grained management practiced by poor farmers and yield contest winners at scales that have been previously unimaginable.26 Soil properties that affect crop performance on the scale of weeks or even days may one day be measured or remotely sensed in ten-square-meter units as compared to every 10 or 100 hectares. Application of fertilizers may be adapted to each little corner of a field, as opposed to a uniform rate across an entire farm. In short, global agriculture might follow the evolution of global manufacturing from hand crafting to mass production to mass customization, giving each plant the benefit of hand crafting, but with the efficiency of mass production. The 30 odd years from now until 2050 is a long time in the fast-paced world of innovation. There is no reason to believe that our vision of 2050 agricultural practice will be any more accurate than a 1980’s corn farmer walking into a corn farming operation today. Our GPS-driven tractors, harvesters that create detailed yield maps, and seeds that resist common diseases and pests and can thrive at unheard-of plant densities would all seem other-worldly to a 1980s time traveler. And remember that our 1980s corn farmer had never heard of the Internet. As a result, there is no reason to believe that we can even enumerate all of the technologies that will be making a difference in crop yield or demand in 2050. Maybe some important ideas will come out of indoor farming and be successfully adapted at mass scale. Maybe our increasing insight into the role of the microbiome in the health of all macro-organisms will yield a wonder, pro-biotic seed coating. Or maybe, like the Internet or GPS, an innovation will be so fantastic that, sitting here 30 years prior, we can’t even see it coming. In the end, none of these technologies, evolutionary or revolutionary, will be adopted overnight, and their diffusion will depend not just on their cost but also on broader socioeconomic factors.76 Neither success nor failure is inevitable – a lot depends on the choices that are made today by farmers, corporations, nation-states, and international organizations. Progress in breeding and agronomy have been, and will likely continue to be, closely correlated with the resources invested in technological innovation through research in both the public and private sectors, and in agricultural extension to ensure rapid technology transfer.17,77–80 Much work remains to be done to reach peak farmland while minimizing agriculture’s harmful impacts on the environment. Yet the technologies and practices that are being developed and adopted today give us plenty of hope that this can ultimately be achieved.

#### Their hippy claims oversimplify the fact that demand for meat is inevitable, it is a question of how its production has on the environment

Ogle ‘16 - historian and the author of In Meat We Trust  
[Maureen, "A Meatier Story A Response to Breakthrough’s Essay on Meat Production," Dec 19, https://thebreakthrough.org/index.php/issues/the-future-of-food/responses-the-future-of-meat/a-meatier-story]

For that, I blame the conventional narrative. Its flabby simplicity has lured generations of consumer, environmental, and rural activists who’ve railed against “industrial” livestock production. They’re convinced that large-scale production is the problem, and “big food” the perpetrator. As a result, they’re ~~blinded~~ to the long view of the big picture. They don’t see that scale is a consequence, not a cause. As a result, their proposed solutions are nostalgic projects aimed at reviving an imagined small-scale “family” farming. When it comes to the problem of meat, it’s hard to imagine a more useless idea. Imagine, instead, a perspective that calculates demand as a given, and large-scale livestock production as a necessity. Perhaps that would inspire critics to channel their energy into projects that transform problematic necessities into environmental benefits. Maybe someone would finally figure out how to use anaerobic digestion to tame manure emissions. As long as the conventional narrative shapes our politics (and our research dollars), meat’s environmental drawbacks will remain a plague on the land. It’s time for a new story, one rooted in the realities of human history and behavior.

#### Land-use is down and production is up.

Grunewald '19 - Food and Ag Analyst @ Breakthrough   
[Caroline and Dan Blaustein-Rejto, Dec 9, "Big, not broken," https://thebreakthrough.org/issues/food/big-not-broken]

How do we measure agricultural sustainability?

The idea that the US agricultural system is broken and getting steadily worse is often treated as self-evident in environmental circles. After all, the environmental impacts of US agriculture are massive. Farming spans 40% of US land and produces 9% percent of our greenhouse gas (GHG) emissions.

But this reasoning confuses scale with sustainability. Measures of total impacts are determined not just by how farmers produce food, but also by how much they must produce to meet consumer demand. The impacts of US farming are huge in large part because we produce a lot of food — the total value of US agricultural production has increased by over 125% since 1961 and is around 11 times greater than the UK’s total value of production.

Nonetheless, such statistics are often proffered as conclusive evidence that US farming is broken and in need of a revolution, with critics often calling for mass adoption of specific practices such as organic farming, cover cropping, or grass-fed cattle grazing. But a fixation with practices supplants an empirical approach to the question of whether the impacts of US agricultural production are indeed headed in the wrong direction.

If we care about agricultural sustainability, we should care enough to measure it, holding constant confounding trends that say nothing about the environmental performance of food production itself. We can accomplish this by tracking intensity measures. Unlike total impacts, intensity measures — the environmental impact or quantity of inputs per unit of agricultural production — isolate the environmental performance of farmers and other agricultural producers.

Once we hone in on the environmental intensity of agricultural production, we can see that US farmers have steadily been improving for the last half-century.

However much better we might think agricultural sustainability would be in a radically different vision of food production, intellectual honesty dictates that we acknowledge what has actually been occurring, and that the further improvements we desire would continue or accelerate, rather than reverse, the historical trajectory.

### prices

#### Plan will increase prices

Foscolo 2014- the principal attorney at Jason Foscolo LLC, a general practice law firm for farmers and food entrepreneurs   
Jason and Michaekl Zimmerman, "ALTERNATIVE GROWTH: FORSAKING THE FALSE ECONOMIES OF INDUSTRIAL AGRICULTURE," 25 Fordham Envtl. L. Rev. 316 2013-2014

At least in the short term, any tightening of environmental regulations on conventional farms will almost certainly raise food prices, which have already been on the rise in recent years.92 Lawmakers could soften this blow by pairing stricter regulations with cuts in the federal programs that prop up food prices, such as feed crop subsidies, but are still likely to pay a considerable political cost before consumers realize any tangible benefits. But this calculation becomes less one-sided as conventional agriculture's environmental harms-and the public's awareness of them-continue to build. The trends that have brought alternative agriculture from the margins to the mainstream show no sign of abating. The market has led the way-it is now the law's responsibility to catch up.

### Link

#### Ag consolidation is necessary to further innovation and feed the world.

Lang '16 - president of The Prairie Strategy Group, former president of the Iowa Farm Bureau Federation   
[Craig, Aug 29, "Consolidation, innovation in agriculture requires strong leadership," https://www.desmoinesregister.com/story/opinion/columnists/iowa-view/2016/08/29/consolidation-innovation-agriculture-requires-strong-leadership/89544952/]

With the world population expected to grow by an estimated 2.5 billion people by 2050, new thinking will be required to better manage cyclical challenges such as fluctuating commodity prices, insects and weeds to not only sustain current levels, but to advance growth potential. This is where the intersection between traditional farming techniques and new technologies must find a balance. The new catch phrase in farming is precision agriculture.

Today, biotechnology is applied to nearly all corn, soybeans, and cotton grown in the U.S., advanced genetics are applied to livestock helping farmers to combat environmental threats and allowing for food to be grown, in more challenging conditions. Farmers are also running more efficient farms thanks to automated machinery, global positioning, finely tuned livestock and poultry rations, crop protection, and more sophisticated data collection.

While these types of advancements are providing lasting benefits within the agricultural community, concern about consolidation within the crop science industry is leading to questions about how innovation may affect the farmer’s bottom line.

When two companies offering similar products and services take steps to eliminate duplication and strengthen market share, concern over how such consolidation would impact farming communities seems justified. This concern sometimes overshadows the positive impacts of such actions, however, and it’s important that they be considered. In reality, collaboration between innovators and scientists is necessary if we want to see the kind of major advancements needed to fill the demand of a growing population.

Often farmers in the ag industry, which offer different but complimentary products, explore the opportunity to combine their expertise and apply greater resources to develop the next generation of technologies and services. We have seen these types of collaborations in all sectors of the agriculture industry. For instance, California dairy producers were the leaders in the dairy field when I was in college. Their expertise in balancing rations and using new technology in producing more milk per cow was copied by dairymen across the country.

The advancements in agriculture since I was a young boy on the farm are mind-boggling. Other examples are equipment manufacturers both in Iowa and beyond who have partnered with producers and patent holders to acquire technology that complements their existing products. Bauer Built Manufacturing in Paton is an example of a farmer shop that built and patented tool bars for large row crop planters when farmers asked for larger row units to plant corn and soybeans. And the equipment industry had missed the trend. John Deere eventually partnered with Bauer Built Manufacturing to build their large row crop planters. These partnerships allow them to more effectively meet the needs of the farming community.

Partnerships like these protect the farmers because the companies are not eliminating a product or service, but actually improving two separate offerings. This allows companies to bolster research and development of new, more effective products and streamline the decision-making and buying process for farmers.

As we read about further merger and acquisition within the crop and livestock industry, it becomes extremely important that the farmer and farm community weigh in on the trends of the future. If the consolidation is good, both the farmers and the consumers benefit. Hopefully they will benefit and realize opportunity by new thinking that would not only help decrease operational costs for farmers, but would also encourage stronger investment in the research and development of more effective products to meet ever evolving agricultural needs.

The future of Iowa farming will depend on our ability to learn from the past while embracing new options for advancement. The potential for growth will be realized through hard work and the development of integrated and efficient technologies that solve the problems farmers face season after season, while providing real cost savings throughout the entire system.

#### Regulations destroy animal ag - precludes expansion and prices CAFO’s out of the marketplace

Boudreau 16 [Catherine, “Feds hit brakes on loans to big farms,” Politico, October 24, 2016, http://www.politico.com/story/2016/10/slow-loans-over-green-woes-put-cafos-in-limbo-230234]

Dave Coggins, an agricultural lender at Investors Community Bank in Wisconsin, said five of the six projects his bank is financing with SBA have been in limbo for more than a year. Without the assurance that their loan rates are locked in, those farmers are finding it hard to plan ahead. “The most frustrating part is that there is no predictability,” Coggins said, noting that the costs of the environmental assessments, which farmers have to pay, could go up after SBA finishes its review. “I hope that in the end it will still be a viable program for animal agriculture and that it isn’t priced out of our marketplace.” While organizations such as Coggins’ and Hitt’s are trying to impress upon the SBA that Wisconsin already has stringent environmental standards for CAFOs, the agency seems to be undervaluing those standards, they say. “There’s a lot going on regarding agriculture and the environment, and I think this is a program that is getting unnecessarily caught in the crossfire,” Coggins said. Coggins said his bank hasn’t had difficulty obtaining guaranteed loans from the FSA, although that could change as a result of a final rule the agency published in August that made minor changes to its NEPA regulations. He and his colleagues plan to meet with the FSA at the end of the month to go over implementation. But in New York, the FSA has been extremely cautious about guaranteeing large loans to dairy farms because of environmental concerns, said Edward Coates, regional agriculture banking manager for NBT Bank in Norwich, N.Y. When his bank applied for the agency’s backing to reduce its risk on a $1 million loan for a 1,000-cow family farm, what would typically take 30 days dragged out for eight months — and cost the farm $400,000 in lost revenue — as the FSA conducted its own review of the farm’s waste-management plan, Coates said. In the past, the agency has relied on documents showing the farm is in compliance with the state’s Department of Environmental Conservation nutrient management requirements, he said. “I have had discussions with regional credit officers, and the stories are virtually identical,” Coates said, noting that there hasn’t been any trouble with smaller projects. “We’ll continue to have conversations with FSA to see if there can be more consistency so lenders and applicants know what they need to do and not be blindsided.” A similar situation is playing out in Arkansas, where farmers trying to get into the poultry business are struggling to get loan guarantees, especially in the northeastern part of the state, where processor Peco Foods recently built a new plant, said Travis Justice, the state Farm Bureau’s chief economist and director of commodity and regulatory affairs. “The agencies are caught between an industry ripe for expansion and those concerned about environment, so farmers, bankers and poultry companies are all in a quagmire trying to navigate the rules of the game,” he said.

#### Economies of scale are necessary for innovation

SeedWorld '20 [Jul 24, "Researcher Highlights Trends in Consolidation of U.S. Agriculture," https://seedworld.com/researcher-highlights-trends-in-consolidation-of-u-s-agriculture/]

So what’s behind these trends? According to MacDonald, the widespread and persistent pace of this shift in the data suggests that technology plays an important role in the consolidation process. For instance, new labor-saving equipment, materials, and organizational changes now allow a single farmer or farm family to manage more acres or more livestock. Advances in technology are often expensive to implement, but cheaper in the long run, so larger operations are at an advantage and have lower overall operating costs.

MacDonald thinks that we may be on the cusp of continuing technological changes, particularly in crop agriculture, through the application of precision agriculture technologies in farming. Precision agriculture technologies allow farmers to collect, analyze, and apply finely detailed information from field and herd operations. Some precision agriculture applications may favor smaller operations, but others could provide advantages to very large farming organizations. At USDA-ERS, MacDonald managed farm surveys designed to track the adoption of such technologies, and he hopes to use that survey data in the future to assess how farmers can use precision technologies, and how these technologies will affect the business of farming.

### disease

#### Intensification solves disease by increasing yields and reducing the number of exposed animals

Swain 2016 - Senior Analyst @ the Breakthrough Institute   
Marian, "An Outlook on Omnivorism and the Environmental “Hoofprint” of Livestock," Dec 14, https://thebreakthrough.org/index.php/issues/the-future-of-food/the-future-of-meat

Environmental impacts are, of course, not the only consideration; for many people, concerns over animal welfare outweigh concerns about emissions or productivity. Conditions like high stocking densities, confinement, and lack of outdoor access can restrict natural animal behaviors and are common in many intensive livestock systems. While trade-offs do exist between improving animal welfare, reducing environmental impacts, and increasing productivity, however, there are also some synergies. Because poor animal welfare can lead to the spread of disease and lower quality meat, for instance, producers share an interest in the wellbeing of their animals.79 Many of the practices that drive efficiency in intensive systems do not come at the expense of animal welfare or environmental impacts. Breeding for larger animals allows for more meat to be produced with fewer animals, which becomes starkly obvious when comparing the size of livestock in poor countries to those in modern livestock operations (although selective breeding can also be taken to an extreme when animals are rendered virtually handicapped).80 Nutritionally optimized feeds and regular veterinary care (including judicious use of antibiotics) boost productivity and ensure animal health. Many of the practices that draw objections from an animal welfare perspective, like unhealthy manure accumulation and extreme confinement, can be improved upon without major consequences for productivity,81 although they do usually come at some cost.82

### turns case

#### Intensive ag is necessary to solve warming

Swain ‘16 - Senior Analyst @ the Breakthrough Institute   
[Marian, "An Outlook on Omnivorism and the Environmental “Hoofprint” of Livestock," Dec 14, https://thebreakthrough.org/index.php/issues/the-future-of-food/the-future-of-meat]

Greenhouse Gas Emissions

The difference in productivity between extensive and intensive production systems has major climate implications. Growing animals to slaughter weight faster can dramatically reduce emissions, most notably for beef. Fully two-thirds of all greenhouse emissions from global beef production consist of methane from enteric fermentation, a natural process that occurs during digestion.39 Cows belch out enteric methane emissions throughout their lifetime, so getting cows to slaughter weight faster also reduces the amount of time they are emitting methane. Intensive systems realize these environmental gains; in the United States, for example, grain-finished cattle take a fraction of the time to reach slaughter weight compared to grass-finished cattle.40 Feedlot-finished cattle are also usually larger than pastured cattle, which means each cow’s emissions are divided by a larger amount of meat.41

Producing feeds for intensive beef production also generates greenhouse emissions, but since animals only occupy feedlots for a short period, the added emissions from feed production are dwarfed by the savings from months of avoided enteric fermentation emissions.42 Feed emissions result from general agricultural practice (fertilizer production, machinery), but can also be attributed to land-use change if the feeds are sourced from a region undergoing deforestation for agricultural conversion.

When it comes to the question of emissions reductions, the role of carbon sequestration in cattle grazing has gained increased attention in recent years. Although well-managed pasturelands can help soils sequester carbon43 an equilibrium in soil carbon is reached fairly quickly,44 and the carbon benefits are not enough to offset the overall higher emissions in grazing-based ranching systems.45 Furthermore, the benefits of good pasture management can accrue to both grass-finished and feedlot cattle, since both spend time on pasture. Ultimately, due to the difference in productivity and thus in enteric fermentation emissions, feedlot-finished cattle generate fewer emissions per unit of meat than pastured cattle (Figure 2).

#### Empirical proof

Swain ‘16 - Senior Analyst @ the Breakthrough Institute   
[Marian, "An Outlook on Omnivorism and the Environmental “Hoofprint” of Livestock," Dec 14, https://thebreakthrough.org/index.php/issues/the-future-of-food/the-future-of-meat]

The relevance of the relationship between productivity and GHG emissions is best demonstrated with a regional example: the livestock sector in South Asia generates the same level of greenhouse emissions as North America, but produces only half the amount of protein.50 In extensive systems found in developing countries, animal mortality is generally higher, feeds are lower quality, and animals are slaughtered older and smaller, all of which increase emissions intensities.51 Many of the interventions producers would implement to improve their productivity would also result in decreased emissions intensities, demonstrating an important win-win characteristic of intensification.

#### Industrial ag is necessary to solve Methane, that’s Capper. Only large producers have the economic strength to solve it

Strongin ‘16 – Bloomberg  
[Jason L, "Could Less Gassy Livestock Be a Cash Cow?," Aug 18, www.bloomberg.com/news/articles/2016-08-18/could-less-gassy-livestock-be-a-cash-cow]

But while many agree lower emissions are an important goal for the livestock industry, just how they get there is still up for debate. It doesn't help that there isn't even a uniform way to measure cow-produced emissions. For meat producers, “monitoring greenhouse gas emissions from cattle is challenging as there are more than 700,000 cow-calf stocker ranches in the U.S.” beef supply chain, Cargill Inc. spokesman Michael Martin said in an e-mail. Isolating the impact of direct livestock emissions versus indirect emissions such as fertilizer, crop production, and transport for animal feed is also a challenge, companies and investors say. "The issue for agriculture is identifying the actors and creating levers for change,” Cynthia Simon, senior manager of investor initiatives at CDP, a not-for profit focused on corporate carbon and water measurement, said in an e-mail. Stronger Together Some big producers are banding together to try to tackle the issue. The U.S. Roundtable for Sustainable Beef, which includes companies such as McDonald's Corp., Wal-Mart Stores Inc., Tyson Foods Inc., JBS USA Holdings Inc. and Cargill, launched in 2015 with the aim of finding better ways to measure the environmental impact of cattle. Greenhouse gas emissions is one of its six "high priority" indicators for sustainability, but “it is a challenge to align the entire value chain,” to get emissions measurements, said John Butler, chair of the roundtable, in an interview. Some companies are also taking matters into their own hands, getting creative when it comes to cutting emissions from their herds. Cargill, for example, uses domed lagoons to capture some of the methane released from biodegrading cow manure. Yogurt maker Danone found through its research that adding Omega-3 fatty acids to a cow’s diet — largely through infused flax seed — can reduce methane emissions from cows by up to 30 percent. Further research, however, found that while the flax additive reduced methane, it also reduced milk production, pushing Danone to focus on other ways to cut farm emissions. "We’re really actively engaged in supporting research in this area," said Britt Lundgren, Director of Organic and Sustainable Agriculture at Danone-owned Stonyfield Farm Inc. "Our understanding of this I think is still just at the tip of the iceberg and we’ve got a lot to learn before we feel like we have all the answers on how to reduce emissions from our farms." Cow Backpacks In Argentina, home to over 50 million cows, researchers from the Argentina National Institute of Agricultural Technology (INTA) are attempting to use "methane backpacks," plastic contraptions attached to cows, to capture methane from a cow’s digestive tract. The technology is in its early stages, but so far the backpacks have been able to extract 300 liters of methane a day, enough to power a car or refrigerator, according to INTA. Creating tools that will help farms identify opportunities to reduce emissions, while maintaining or improving profitability is "the holy grail," Lundgren said.

### impact

#### Amazon deforestation causes extinction

Tuthill, 13—AccuWeather, citing Meg Symington, director at the World Wildlife Fund (Samantha-Rae, “Deforestation of Amazon Could Alter Global Weather”, <http://www.accuweather.com/en/weather-news/amazon-climate-change/20184965>, dml)

Over the course of the past 40 years, almost 20 percent of the Amazon rainforest has been lost due to deforestation. Some experts worry that the rapid depletion of this vast ecosystem could eliminate what remains in the next 40 years. While the safety and longevity of the Amazon is important for its own sake, weather patterns and the climate can also be affected on a global scale by the increased loss of this area.

"The issue is that the Amazon is so big that it affects weather at the continental and even the global scale," Meg Symington, Amazon director at the World Wildlife Fund-U.S. (WWF), said.

According to Symington, researchers have been looking for teleconnections, the impacts such a massive forest can have beyond on just its immediate environment. The World Bank released a report in 2011, Assessment of the Risk of Amazon Dieback, which discusses how changes in the Amazon could transform it from a carbon sink to a carbon source. The density of the trees in the rainforest absorb a great deal of carbon dioxide, 0.8 to 1.1 billion metric tons of it. As the ecosystem changes, however, it could begin to release more of the greenhouse gas than it takes in, which could affect global temperatures.

Because of the size and location of the Amazon, as well as the amount of rain that it produces, the effects it has on weather patterns reach well beyond its immediate area.

"Studies have shown that rainfall in southern South America is actually impacted by the Amazon and could decrease significantly if you have additional deforestation," Symington said. "Maybe even the American Midwest, parts of North America, in terms of the weather pattern, could be affected."

Symington said that trade winds bring 50 percent of all the rain that falls in the Amazon from evapotranspiration, which is a crucial part of the water cycle that includes water evaporated from plants; as precipitation falls in the rainforest into the lush vegetation, the evaporation of that rain from the plants creates more rain to fall. Fifteen percent of the atmosphere's water vapor comes from this process.

"All of this has to do with a tipping point," Symington said. "With deforestation, if you go beyond a certain point in the Amazon there's an issue of where the whole system becomes destabilized and you would switch from a tropical, moist forest system, to something that was much drier and more like the Cerrado of central Brazil, sort of a dry forest, savanna system. If that happened it would have a huge impact on species in the Amazon and also on the climate."

About 20 percent of the fresh river water in the world comes from the Amazon River, and drying of the forest can negatively influence that water source. Symington told Accuweather.com that changes to this freshwater output would affect the entire current off the coast of South America, which could affect the jet stream, which would ripple into a change in weather patterns across the globe.

There is also an immediate issue of how the balance of the rain forest affects its own ecosystem.

"The Amazon is home to at least 10 percent of the world's species, probably more, because there are a lot of species that have not been discovered yet that live in the Amazon," Symington said.

"The most fish species in the world are found in the Amazon. Too much deforestation and you lose not only the terrestrial species, but you would completely change the hydrological system in the Amazon with flooding. The river comes up meters in the rainy season and that would all change if you had this forest dieback as well."

Without the trees to absorb the river's flooding, the soil and landscape around the river would be drastically altered. In Brazil, where a large percentage of their electric energy comes from hydropower, a change to the flow of the river would affect the amount of gigawatts that the hydropower dam produces. Moderate, careful and controlled use of the Amazon also supports local food sources, livelihoods and pollinating animals and insects that agriculture depends on. Some scientists and researchers seek out genetic resources that could be used for global medicinal purposes.

Too much unnecessary change to an ecosystem can create a chain reaction on its species and on the general environment, and we may not fully know the extent of where this chain reaction may go.

"We always talk about conservation in terms of 'don't throw away the rivets,'" Syminton said. "If you pull rivet by rivet out and throw them away, the whole system falls apart, so we need to be careful. People may think, 'What's one species?' but then you never know what happens when the whole system falls apart."

The World Bank's assessment supports the same idea, stating, "Changing forest structure and behavior would have significant implications for the local, regional and global carbon and water cycles. Amazon forest dieback would be a massive event, affecting all life-forms that rely on this diverse ecosystem, including humans, and producing ramifications for the entire planet."

#### Smaller farms in more developed countries structurally decimate yields --- and they preclude rewilding landscapes which solves biodiversity and sequestration arguments better

**Nordhaus et al. 15** [Ted Nordhaus, economist and Sterling Professor of Economics at Yale University, Michael Shellenberger and Linus Blomqvist, “George Monbiot is wrong to suggest small farms are best for humans and nature,” The Guardian, September 25, 2015, <https://www.theguardian.com/environment/2015/sep/25/george-monbiot-is-wrong-to-suggest-small-farms-are-best-for-humans-and-nature>]

However, in his column yesterday, he rejects ecomodernism by making a sweeping claim. There is, he writes, “an inverse relationship between the size of farms and the crops they produce. The smaller they are, on average, the greater the yield per hectare.” The implication is that agricultural modernisation is neither land-sparing nor beneficial to the poor.

Nothing could be further from the truth. There are, it is true, many studies showing an inverse relationship between yields and farm size in developing regions. But the relevant comparison is not between small farms and slightly larger ones in poor countries. It is between smallholder farms in developing nations and farms of any size in developed nations (which are almost always larger than farms in poor countries).

One widely cited study found that the smallest African farms produced about 25% more yield per hectare than the largest African farms. But the average American farm produced about 10 times more yield per hectare than either. Yield gaps between farmers in rich nations and those in poor countries are profound. US farmers harvest five times more per hectare than African farmers in maize and more than three times in rice. To suggest that smallholder farmers, particularly those in subsistence rain-fed agriculture, are more productive per unit of land than large-scale modern farmers is simply wrong.

Monbiot acknowledges that the reason that small farms in poor countries have higher yields than larger ones is because they have higher labor inputs, but fails to consider the implications of this fact. In poor nations, the lack of access to alternative livelihoods for large rural populations is the reason that labor is cheap and relatively high yields can be achieved on very small farms. Awash in cheap labor and lacking access to capital, markets, and infrastructure, farmers raise yields by applying more labor.

But any nature and land-sparing vision predicated on this model of agriculture would require maintaining large rural populations throughout the developing world in a state a of deep agrarian poverty, with no alternative livelihoods to speak of. Could you, in theory, raise yields dramatically through high inputs of labor (albeit also with healthy inputs of synthetic fertiliser, irrigation, and pesticides as well)? Perhaps. But doing so would only be possible given a very large pool of cheap or free (eg family) labor.

This seems to us to be neither a particularly plausible way to reduce human impacts on the environment nor an acceptable future for the billion people today living on less than a dollar a day. To suggest, as Monbiot does, that poor farmers are better off remaining on the farm is to suggest that they are better off remaining poor.

Without question, the journey from subsistence economies to modern livelihoods is not an easy one and moving from the farm to the city does not guarantee a better life, at least in the short term. But the last two centuries offer ample evidence that by just about every metric of human health, freedom, and material well-being, urbanisation, industrialisation, and agricultural modernisation are processes that have been overwhelmingly positive for humans.

Moreover, as a leading proponent of rewilding, we hope that Monbiot will think a bit harder about where all those rewilded landscapes in which, he hopes “nature is allowed to do its own thing, in which it can be to some extent self-willed, driven by its own dynamic processes” are likely to come from. On a planet of 7, going on 9 billion people, agricultural modernisation and intensification are clearly the most plausible path to leaving more of the Earth to nature.